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Chapter 4: Response to Individual Comments

4.1 Overview

This Chapter contains responses to each comment received during the public review period. Responses are numbered corresponding to bracketed numbers printed on the comment letters included in Chapter 2. Revisions to the Draft EIR were developed in response to comments received during the public review period. The revisions appear as indented text in the responses. These revisions are compiled in Chapter 5. Where the responses indicate additions or deletions to the text of the Draft EIR, additions are indicated in underline and deletions in ~~strikeout~~.

4.2 Agencies

4.2.1 Federal Agencies

| Commenter | Date of Comment | Signatory and Title |
|--|-----------------|--|
| US Department of Interior Bureau of Land Management <i>California State Office</i> | 02/13/2012 | James G. Kenna Director |
| US Department of Interior Bureau of Reclamation <i>Lower Colorado Regional Office Resources Management Office</i> | 02/02/2012 | Valerie E. Thomas Chief |
| US Department of Interior National Park Service <i>Mojave National Preserve</i> | 02/13/2012 | Stephanie R. Dubois Superintendent |
| US Marine Corps <i>Marine Air Ground Task Force Training Command Marine Corps Air Ground Combat Center</i> | 03/19/2012 | Colonel J.P. Granata Assistant Chief of Staff G-4 |

US Department of Interior Bureau of Land Management

A_BLM-1 The commenter requested copies of the Project plan considered in the Draft EIR, a copy of the referenced 99-year lease agreement between Cadiz Inc. and the Arizona and California Railroad Company (ARZC), and any documents or plans related to the ARZC's uses of Project water. This information was provided to the commenter on March 16, 2012 and is included in the Final EIR as Appendix M3.

US Department of Interior Bureau of Reclamation

A_USBR-1 This comment does not state a specific concern about the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

US Department of Interior National Park Service

A_NPS-1 The commenter states that the natural recharge rate of the groundwater system and evaporation rates from the Dry Lakes have been overestimated. The Draft EIR fully discloses the various available historical recharge estimates. Please refer to **Master Response 3.1** Groundwater Recharge and Evaporation. CH2M Hill's 2010 analysis is the most comprehensive to date, based on the most advanced modeling tools and driven by conservative assumptions and site specific data. The modeled recharge estimate of 32,000 AFY is supported by substantial evidence. Nevertheless, for purpose of a conservative analysis in the

environmental review, three recharge scenarios were considered including a worst case 5,000 AFY recharge scenario as well as a 16,000 AFY scenario. In addition and to test CH2M Hill's modeling results, an evaporation study was conducted by measuring actual evaporation rates on the Dry Lakes over a 6-month period. The evaporation study results are consistent with and confirm the reasonableness of the 32,000 AFY recharge rate. Both reports are appended to this Final EIR as Appendix L2 Quantifying Evaporative Discharge from Cadiz and Bristol Dry Lakes and Appendix L1 Estimated Evaporation from Bristol and Cadiz Dry Lakes.

A_NPS-2

The commenter states that the springs in the Watershed area are somehow hydraulically connected to the aquifer system and requests a study of selected springs within the Mojave National Preserve as part of the Project's monitoring and management plan. Please refer to **Master Response 3.4 Springs**. While there is no evidence demonstrating a connection between the springs and the aquifer system, the Project takes a conservative approach, and in compliance with the San Bernardino County Desert Groundwater Management Ordinance (County Ordinance),¹ Bonanza, Whiskey, and Vontrigger springs will be monitored a management feature under the Groundwater Management, Monitoring and Mitigation Plan (GMMMP) which is attached in its updated form (Updated GMMMP) to the Final EIR Vol. 7, Appendix B1 Updated GMMMP. Bonanza spring, being the closest, will undergo quarterly monitoring as an "indicator spring." Whiskey and Vontrigger springs (both located in the Mojave National Preserve and beyond the Project's projected effects on groundwater levels) will be monitored to compare any variations in spring flow to variations in Bonanza spring flow to determine whether changes are attributable to regional climate conditions or operations of the Project. If changes in seasonal and annual spring flows at Bonanza spring are attributable to Project operations, corrective actions are required under the GMMMP.

A_NPS-3

The commenter suggests that a Project alternative of limiting pumping in the Watersheds to the perennial yield would increase the conservation efficiency of the Project, decrease adverse impacts in the Project watersheds, and allow the Project to achieve many of its objectives. The commenter further suggests that the current objective of trying to maximize the retrieval of fresh groundwater that is already down-gradient of the proposed wellfield should be abandoned. Please refer to **Master Responses 3.3 Groundwater Pumping Impacts and 3.14 Alternatives**, as well as **Response A_NPS-8**. The "Green Compact" stewardship principles are addressed in **Response A_NPS-13**. The

¹ San Bernardino County Code of Ordinances, Title 3, Div. 3, Ch. 6, Art. 5, § 33.06551, et seq.

fundamental purpose of the Project is to save substantial quantities of groundwater that are presently wasted and lost to evaporation by natural processes. This requires a managed groundwater drawdown to retrieve water from storage before it is lost and reverse the flow of groundwater to the Dry Lakes. Therefore, to maximize the beneficial use of the aquifer water within the aquifer's safe yield, pumping beyond the natural recharge rate is necessary to meet the most basic objectives of the Project. See also **Master Response 3.15** Terminology for a discussion of safe yield.

A_NPS-4

The commenter states that estimated evaporation from the Dry Lake surfaces is overestimated. Please refer to **Master Response 3.1** Groundwater Recharge and Evaporation and **Response A_NPS-1**.

A_NPS-5

The commenter states that the use of the INFIL3.0 modeling program is overestimating recharge. Please refer to **Master Response 3.2** Groundwater Modeling. Particularly, the commenter references a United States Geologic (USGS) Study near Joshua Tree National Park, a watershed far south of the Project claiming the results of this study based upon an outdated version of INFIL3.0 undermine the Project's recharge estimates. CH2M Hill conducted the most comprehensive site specific modeling of the Fenner Watershed to date, including the updated version of INFIL3.0, analyzing local geologic, hydrologic and geophysical data. See the Draft EIR Vol. 4, Appendix H1, Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix A. The model results determined a recharge rate based on local atmospheric, climate hydrogeologic, soil, vegetation, and root zone parameters based on currently available data bases. The commenter assumes and elevates, without analysis, the relevance of the USGS model results despite the fact that it was developed for an entirely separate watershed. Every watershed system is unique and requires site specific data and local model parameters. The commenter also suggests that the Project model may be underestimating the amount of surface water runoff and evapotranspiration, thereby overestimating the amount of water infiltrating past the root zone. The Project model is based on soil and vegetation parameters for site-specific conditions of the Fenner and Orange Blossom Wash Watersheds. In addition, the evaporation study conducted to measure actual evaporation rates on the Dry Lakes further confirm and support the estimated recharge rate. Both reports are appended to this Final EIR in Appendix L2 Quantifying Evaporative Discharge from Cadiz and Bristol Dry Lakes and Appendix L1 Estimated Evaporation from Bristol and Cadiz Dry Lakes.

A_NPS-6

The commenter states that the use of the INFIL3.0 modeling program and the assumption of a 15 foot extinction depth (the depth below which evaporation is negligible) is overestimating evaporation. Extinction depths of 10 to 15 feet are the typical values used for Evapotranspiration input. The value is characteristic of other studies conducted in arid locations. An extinction depth of 15 feet was used by Danskin et al.² Shallower estimates have been used by other investigators. For instance an extinction depth of 10 feet was used by Leighton and Phillips.³ However, use of the deeper extinction depth does not overestimate evaporation but rather avoids limiting the evaporation potential. To be conservative, the model uses 15 feet to ensure that the depth interval within which significant evaporation could be occurring is accounted for in the model. The actual depth could be less. Please refer to **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.2** Groundwater Modeling for additional discussion.

A_NPS-7

The commenter requests that monitoring and mitigation measures developed for the earlier Metropolitan Water District of Southern California (Metropolitan) Project also be included in this Project. The comment further questions the effectiveness of certain mitigation measures included in the Draft EIR and requests that the NPS have a participatory role in the GMMMP. The earlier Metropolitan Project consisted of storing Colorado River water for use during dry years. The mitigation measures for that project were developed over a decade ago and addressed a different pipeline route, pumping facilities, well configurations, and spreading basins. Accordingly, many of the measures developed for the previous Metropolitan Project address impacts that do not arise from the current Project. For example, the Project's use of the ARCZ Right-of-Way (ROW) eliminates many of the environmental effects that would have resulted from the prior pipeline route on disturbed land. In addition, the mitigation measures proposed in the Draft EIR for the Project include an extensive monitoring program that focuses on "early warning" action criteria to avoid impacts to critical resources. The Updated GMMMP, which includes provisions identical to EIR Mitigation Measures **AQ-5, GEO-1, HYDRO 1, HYDRO-2, and MIN-1**, addresses potential impacts to third party wells, water quality, subsidence, and air quality to fully mitigate any impacts on the basin to a less than significant level. Independently, and as an added level of protection, the Updated GMMMP includes a management "floor" on the level of groundwater drawdown and action criteria and corrective actions

² Danskin, W.R., McPherson, K.R. and Woolfenden, L.R., 2006. Hydrology, *Description of Computer Models, and Evaluation of Selected Water-Management Alternatives in the San Bernardino Area, California*, USGS Open-file Report 2005-1278.

³ Leighton D.A. and Phillips S.P., 2003. *Simulation of Ground-Water Flow and Land Subsidence in the Antelope Valley Ground-Water Basin, California*. USGS Water-Resources Investigations Report 03-4016.

for springs. Please refer to **Master Response 3.8** GMMMP. Finally, as shown in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, Figures 4.9-8, 4.9-9, and 4.9-10, the northernmost extent of groundwater drawdown for all three scenarios does not extend into the Mojave National Preserve and therefore does not warrant the participation of the NPS.

A_NPS-8

The commenter states that the Project should adhere to a sustainable yield concept and that the Project not affect resources within NPS park units (Mojave National Preserve). As described in the Draft EIR Vol. 1, Chapter 3 Project Description, the goals of the Project are to conserve and put to beneficial use water that would otherwise become super saline and evaporate to the atmosphere. The comment acknowledges that this fundamental goal is appropriate. Pages 3-10 to 3-13 of the Project Description describe how pumping volumes above the annual recharge amount increases hydraulic control of the groundwater flow and increases the amount of water conserved. Given this, reducing the annual pumping rate would not result in a more “sustainable” project since evaporation would not be curtailed to the same extent as under the proposed Project. Rather, pumping at lower rates would simply reduce the volume of water that is conserved (saved from evaporation). See **Master Responses 3.7** Water Rights and **3.15** Terminology for more on safe yield. Table 4.9-11 of the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality outlines the amount of water conserved by the Project assuming different recharge estimates.

The Draft EIR analyzes the potential effects of the proposed Project to local and regional resources including within the Mojave National Preserve, located approximately 20 miles from the Project. A key feature of the analysis is drawdown modeling conducted for a wide range of recharge estimates. The Draft EIR provides impact analyses for the lower range of recharge estimates in order to capture the worst case scenario. The groundwater modeling efforts included in the Draft EIR are extensive and provide an understanding of the groundwater basin far superior to any previous efforts. Given this modeling, the comprehensive environmental analysis contained in the Draft EIR and the corrective action measures and monitoring efforts included in the GMMMP, there is no evidence to suggest that another study of the drawdown effects would result in a different or more accurate conclusion regarding groundwater flow, environmental impacts, or the effectiveness of the proposed mitigation measures⁴ (*see also* CEQA Guidelines § 15204(a) [a lead agency is not required to conduct every test or perform all research, studies or experimentation a commenter requests]).

⁴ Pub. Res. Case § 21091(d)(2)(B)

Please refer to **Master Responses 3.1** Groundwater Recharge and Evaporation, **3.2** Groundwater Modeling, and **3.3** Groundwater Pumping Impacts.

A_NPS-9

The comment suggests that the Project is “unsustainable” due to insufficient power supplies and that the environmental effects of potential transmission lines were not evaluated. As stated in the Draft EIR Vol. 1, Project Description, Power Supply and Distribution, p. 3-39, three power options were examined to provide pumping capacity at the wellfield: a natural gas option, a natural gas/solar power option, and an electricity option (hybrid approaches were also considered). Since natural gas can be accessed from an existing natural gas line which is located near the proposed wellfield and runs across Cadiz Property, this option is preferred since it would result in fewer physical impacts to the environment. However, construction and operation of each of the potential options were analyzed throughout the Draft EIR. Due to the remote location of the Project, its relatively small project footprint within the existing ARZC ROW and Cadiz wellfield, and the existing natural gas and electrical facilities, construction and operation of any one of the potential options would not result in any environmental impacts that could not be mitigated. As stated in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-40, power would be distributed to the well pads either underground or on 30-foot overhead power poles and connected to existing Southern California Edison power lines. These poles would not significantly affect visual resources (Draft EIR Vol. 1, Section 4.1 Aesthetics, pp. 4.1-16 to 4.1-23) and would be within the disturbed wellfield area analyzed throughout the Draft EIR.

As stated in Draft EIR Section 4.13, Public Services and Utilities (see Final EIR Vol. 6, Chapter 5 Draft EIR Text Revisions, p. 18 for modified text), under the Groundwater Conservation and Recovery Component, the proposed Project would require approximately 3,112 kWh/MG to convey water from the wellfield to the Colorado River Aqueduct (CRA). Based on comments received from the Metropolitan Water District (Metropolitan), the Draft EIR has been revised to include the energy requirements of the CRA to accommodate the Project water. Assuming that Metropolitan’s assertion is correct that the Project would actually increase energy demands of the CRA, increases in the overall amount of energy per gallon required to convey water to the Project Participants would be approximately 6,998 kWh/MG. This amount is approximately 664 kWh/MG less than the State Water Project (SWP) energy requirements (7,672 kWh/MG). Overall, even under the conservative assumption that the CRA energy usage would increase as Metropolitan suggests, the net energy use for water delivery to Project participants

would be slightly less than the energy needed for the same volume of water to be conveyed through the SWP. Therefore, the Project would not result in wasteful use of electricity or substantially increase energy use compared to existing energy demands for importing water to Southern California. The Project provides Southern California with an opportunity to reduce overall energy consumption for water conveyance promoting principles of sustainability. See **Response A_MWD-6**.

A_NPS-10

The comment suggests that the Project is “unsustainable” due to insufficient supply of water. The commenter states that the recharge to the basin has been overestimated and that earlier recharge estimates should be considered. The Project captures water that would otherwise become highly saline before evaporating to the atmosphere. It therefore provides an opportunity to access potable water without significantly affecting previous uses of that water. This promotes principles of sustainability. Please refer to **Master Responses 3.1** Groundwater Recharge and Evaporation, **3.2** Groundwater Modeling, and **3.15** Terminology. Past recharge estimates are also considered and discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-32 to 4.9-39. Specifically, in a conservative approach to analyzing Project impacts, the Draft EIR modeling includes a range of recharge estimates. Please refer to **Response A_NPS-1**.

A_NPS-11

The commenter states that the conclusion that the springs are not hydraulically connected to the aquifer is not supported and requests that the Monitoring and Management Plan include a component to study selected springs in the Mojave National Preserve (MNP or Preserve). Please refer to **Master Response 3.4** Springs. As noted in **Response A_NPS-2**, Whiskey and Vontrigger springs will be monitored as part of the Updated GMMMP. Bonanza spring (outside the Preserve), being the closest, will undergo quarterly monitoring as an “indicator spring”. Whiskey and Vontrigger springs (both located in the Preserve and beyond the Project’s projected effects on groundwater levels) will be monitored to compare any variations in spring flow to variations in Bonanza spring flow to determine whether changes are attributable to regional climate conditions or operations of the Project. The Updated GMMMP’s management feature for springs includes action criteria and corrective measures if a reduction in flows at Bonanza spring is attributable to Project operations.

A_NPS-12

The commenter expresses the opinion that limiting pumping in the Watersheds to the perennial yield amount would likely increase the conservation efficiency of the Project, decrease adverse impacts in the Project watersheds, and allow the Project objectives and “Green

Compact" stewardship principles to be achieved. Limiting pumping to the perennial yield would not achieve the fundamental objective of the Project to conserve groundwater that currently flows underground to the Dry Lakes and evaporates. Limiting the pumping to the perennial yield will not halt the continued flow of groundwater south of the Fenner Gap and wellfield to the Dry Lakes. The estimated freshwater zone south of the Fenner Gap in the Orange Blossom Wash and the northern portion of the Bristol Watershed is estimated to contain between 4 and 10 million acre-feet (MAF) of water, not including water stored in the carbonate and fractured portion of the bedrock units beneath the alluvium. See Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-32. Absent pumping beyond the recharge rate, stored freshwater will continue to flow underground towards the Dry Lakes and be lost to evaporation. Please refer to **Master Responses 3.1** Groundwater Recharge and Evaporation, **3.3** Groundwater Pumping Impacts, and **3.15** Terminology. With regard to the "Green Compact" stewardship principles, please refer to **Response A_NPS-13**.

A_NPS-13

The commenter requests clarification on the "Green Compact" Memorandum of Understanding (NHI MOU) executed between Cadiz Inc. and the Natural Heritage Institute (NHI), specifically in regards to the stewardship principles identified in the NHI MOU as follows: Long-Term Sustainability Pledge, Renewable Energy Commitment, Groundwater Banking, Groundwater Management Principles, Independent Resource Evaluation Study, and Local Priority of Water Use. The NHI MOU is a formal agreement between the two parties that expresses their mutual determination to move forward with stewardship principals that will guide the administration and implementation of activities on the Cadiz Inc. properties. The NHI MOU documents the parties' preliminary agreement which lays the foundation for subsequent and specific activities.

In order to implement stewardship principles, NHI applies a wide array of tools and strategies including predictive simulations of water resource systems, on-the-ground ecological restoration projects, the design of improved management and institutional arrangements, policy analysis, and legal advocacy and intervention. As noted in the Draft EIR Vol. 1, Chapter 2 Project Background, p. 2-5, NHI has committed to assist Cadiz Inc. in designing groundwater banking projects, identifying Project Participants, and auditing the management of Cadiz Inc.-owned property in keeping with the Green Compact. To date, the NHI has not prepared an implementation package for the proposed Project to effectuate the stewardship principals discussed in the NHI MOU. The principles of NHI MOU are not binding principles of the Project Description and are

therefore not relevant to the analysis conducted pursuant to CEQA. Rather the NHI MOU has independent utility above and beyond Project design features and mitigation measures, intended to promote and implement the stewardship principles.

A_NPS-14, 15

The commenter states that the natural recharge rate of the groundwater system has been overestimated and that groundwater discharge at the Dry Lakes should be verified through physical measurement, groundwater level measurements, and other “lines of evidence” including performing a chloride mass balance of precipitation and groundwater to estimate recharge and isotopic age-dating analysis. On the one hand, the commenter states that the Project proponents need to show how evaporation from the playa could be occurring at all based on groundwater depths, and on the other hand the commenter estimates (based on an extrapolation from discharge rates in Death Valley, a distinct and unconnected hydrological system in the western Mojave) that total groundwater discharged from the Dry Lakes is probably 4,650 to 7,750 AFY at best. Project modeling estimates that the discharge is over 30,000 AFY. This is further confirmed by actual physical measurements of groundwater discharge through evaporation. However, for purposes of the environmental analysis, the Draft EIR includes a recharge scenario of 5,000 AFY (in-line with the commenter’s extrapolated estimate) and determines that impacts to the groundwater and critical resources would be mitigated to a less than significant level (with the exception of short term construction impacts on NOx levels). Please refer to **Master Response 3.1** Groundwater Recharge and Evaporation and **Response A_NPS-1**.

A_NPS-16

The commenter state that the recharge estimate and aquifer modeling should include recharge from areas to the west, south, and east of the Dry Lakes, and that the hydraulic connectivity of the carbonate unit in the subsurface at the Fenner Gap with carbonate rock outcroppings occurring throughout the rest of the Watershed should be further evaluated since the commenter believes Project pumping is targeted for the carbonate aquifer.

With regard to recharge from areas west, south, and east of the Dry Lakes, as explained in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-46 to 4.9-47 and Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, the focus of the modeled area is from the Fenner and Orange Blossom Wash Watersheds, where groundwater is flowing towards the Fenner Gap area, to the proposed wellfield at the Fenner Gap, and finally to the Dry Lakes where the groundwater is evaporating. As discussed in the Draft EIR

Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-48 to 4.9-80, the potential impacts ranged from less than significant with mitigation to no impact.

As discussed further in **Master Response 3.2** Groundwater Modeling, the areas to the west, south, and east are not included in the modeled area because the Dry Lakes represent a terminal boundary condition beyond which groundwater originating from the Fenner and Orange Blossom Wash Watersheds cannot flow, but must instead evaporate and leave the aquifer system and the Watershed. Evaporation from the Dry Lakes is a boundary condition because they are the only outlet for groundwater discharge from the basin other than wells. Furthermore, the contribution of groundwater from the west, south, and east to the closed basin is minimal compared to that from the Fenner Valley to the north and northeast, because the area west, south, and east of the Dry Lakes is much smaller than the area of the Fenner Valley.

The comment does not provide any evidence or rationale to support the theory that adding recharge water from the areas west, south, and east of the Dry Lakes to the modeling approach would result in a finding of increased impacts. Indeed, if the modeling approach were to have taken the less conservative approach of adding recharge water from the areas west, south, and east of the Dry Lakes, then the addition of that water would have resulted in reducing the level of potential impacts by reducing the amount of groundwater drawdown and thus reducing the significance. See also **Response A_NPS-17**.

With regard to the hydraulic connectivity of subsurface carbonate rocks with surface outcrops of carbonate and the targeting of the carbonate aquifer, the Project estimates for storage and recoverable groundwater do not include groundwater in the carbonate aquifer (Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-24). This would be an additional source of groundwater for recovery, thus making the estimate for recovery conservative. Excluding this additional source results in an underestimation of storage and recoverable water and is a conservative approach to the analysis. Please refer to **Master Responses 3.2** Groundwater Modeling and **3.3** Groundwater Pumping Impacts. See also **Response A_NPS-73**.

A_NPS-17

The commenter states that (1) not all of the area of the New York Mountains, Woods Mountain, and Hackberry Mountain would contribute recharge to the Watershed and that (2) groundwater in the southwesterly portion of the Lanfair Valley flows to the Piute Valley and does not contribute recharge to the Fenner Valley. The commenter also believes

the commenter's analysis of water level data in the NWIS database supports this conclusion. The NWIS is the USGS National Water Information System. Overall, their concern appears to be whether the Fenner, Bristol, and Cadiz Watersheds, (collectively, the Watershed), form a closed basin such that surface and groundwater cannot pass across its boundaries with adjacent basins.

As discussed in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Appendix A, p. 2-1 and Figure 2-3, the footprint of the Watersheds is based on the National Hydrologic Unit Codes (HUCs) and were extensively reviewed to match, to a minimum, the elevation contours shown on USGS topographical 7.5 minute quads. Figure 4.9-6 in the Draft EIR illustrates both the boundary of the Watershed and the groundwater contours, and thus the flow directions of groundwater within the Watershed. A close inspection of USGS topographic maps and aerial photography clearly shows that the watershed boundary used in this study lies immediately southwest of the Grotto Hills in the Upper Lanfair Valley. The topographic map shown on Figure 4.9-1 illustrates the Watershed boundaries. Surface water and groundwater flow east of the Grotto Hills (outside the subject watershed) flows east of the Vontrigger Hills to Sacramento Wash and to Piute Valley. Surface water and groundwater flow west of the grotto Hills flows to Fenner Valley. A line between the Bobcat Hills and the Grotto Hills is likely underlain at shallow depths by bedrock.

A groundwater contour is used to represent the elevation of the groundwater surface the same way a topographic contour represents the elevation of the land surface at a given location. The direction of groundwater flow is perpendicular to the groundwater contours flowing under the power of gravity from higher elevations to lower elevations. By reviewing Figures 4.9-1 and 4.9-6 (Draft EIR, Vol. 1, Section 4.9 Hydrology and Water Quality) simultaneously the reader can see how groundwater contour elevations generally mimic the overlying topographic contours. Please refer to the Draft EIR Vol. 4, Appendix H1, Sub-Appendix A, p. 2-9.

The boundaries of the Watershed are shown in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, Figure 4.9-6. The boundary is defined by the highest elevation that separates surface water runoff between adjacent basins. For example, the New York Mountains are located at the far northern extent of the Watershed. Precipitation that falls on the southern side of the New York Mountains must, by gravity, drain southward into the Fenner Watershed and is therefore included in the recharge estimate. All precipitation falling on the western, northern, and

eastern sides of the New York Mountains was excluded from the recharge estimate because that precipitation would drain into other basins to the west, north, and east. The Woods and Hackberry Mountains are located south of the New York Mountains, entirely within the Fenner Watershed, so all precipitation falling on those mountains would stay within the Fenner Watershed. This analysis is described in detail in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis.

The commenter believes that the NWIS database supports groundwater flow from the southern portion of the Lanfair valley (the area between the New York Mountains and the Woods and Hackberry Mountains) to the Piute Watershed to the east. However, the NWIS does not show data for this area.

Even though the evidence shows the Watershed is a closed system, the Updated GMMMP nonetheless includes monitoring features that will assess any potential effects of the Project on neighboring groundwater basins. A monitoring well will be placed in the neighboring Piute Watershed, located adjacent and east of the Fenner Watershed, which is tributary to the Colorado River. An additional monitoring well will be installed near Danby Dry Lake southeast of Cadiz Dry Lake and outside of the Cadiz Watershed. These monitoring features enable the County of San Bernardino (County) and the Lead Agency to further demonstrate that the groundwater basins are distinct and not hydrologically connected and that the Project operations have no impact on neighboring basins. The Updated GMMMP is further discussed in **Master Response 3.8** GMMMP.

A_NPS-18

The commenter again states that the model may have overestimated the recharge to the Watershed and cites a USGS study done near Joshua Tree to argue that the Project may be overestimating recharge by a factor of 2 to 10 times. Please refer to **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.2** Groundwater Modeling as well as **Response A_NPS-5**.

A_NPS-19

The commenter requests clarification as to whether the evapotranspiration (ET) rates reported for the model represent the ET rates prior to simulating Project pumping, a constant ET rate used throughout the modeling simulations, or if the ET rate varies as water levels decline. The relationship between ET rate and water level was provided in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 5.4. ET is also discussed further in **Master Response 3.2** Groundwater Modeling.

The commenter states that the ability of the numerical groundwater flow model to accurately simulate groundwater discharge by evapotranspiration. Please refer to **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.2** Groundwater Modeling.

A_NPS-20

The commenter requests that monitoring and mitigation measures developed under the earlier Metropolitan Project be included in this Project. The commenter requests an active role in the monitoring process, questions the effectiveness of the proposed mitigation measures, and suggests that, due to the uncertainties in projects such as this, the Project proponent practice adaptive management. The GMMMP is an adaptive management plan that, once approved, will be implemented by the Fenner Valley Mutual Water Company (FVMWC) and enforced by the County of San Bernardino (attached as the Updated GMMMP in the Final EIR Vol. 7, Appendix B1). Although objective protective standards must be met, flexibility is provided in choosing the best set of implementing measures to protect critical resources in the basin as monitoring of operations progresses. The Updated GMMMP includes comprehensive “early warning” monitoring features (signal wells, air monitoring and land subsidence equipment, soil testing, and periodic visual observation) to address potential effects before they reach a level of significance. Please refer to **Master Response 3.8** GMMMP and **Response A_NPS-7**.

A_NPS-21

The commenter states that groundwater flow may occur across the border between the Fenner and Lanfair Valley Basins. Please refer to **Response A_NPS-17**.

A_NPS-22

The commenter states that the sentence in the Draft EIR Vol. 1, Executive Summary p. ES-2, “The proposed conservation is not dependent upon future rainfall, snow pack or the needs and demands of others: the groundwater is already in storage” might be confusing the concepts of storage and flow. The purpose of the sentence was only to confirm that the groundwater currently in storage will continue to flow towards the Dry Lakes and evaporate (regardless of surface conditions), and therefore constitutes water that can be recovered for beneficial use.

A_NPS-23

The commenter asks how a project that extracts more water than is recharged can be termed “sustainable.” The recharge flowing underground through the Fenner Gap is only a portion of the fresh water that is flowing to the Dry Lakes. The Project proposes to stop the flow of fresh water to the Dry Lakes south of the Fenner Gap as well as capture the recharge entering into the Fenner Gap. The Project would actively manage the basin to avoid the naturally occurring loss of fresh water to

the Dry Lakes and evaporation. The Project is sustainable because the fresh groundwater that would otherwise be stored underground between the Fenner Gap and the Dry Lakes would remain intact during the term of the Project. Once pumping is completed, the existing natural condition would be restored with groundwater levels returning to their pre-pumping conditions and fresh water would again flow to the Dry Lakes and be lost to evaporation. Please refer to **Master Responses 3.3** Groundwater Pumping, **3.7** Water Law, and **3.15** Terminology.

The commenter also asks how the term “sustainable” applies to the use of natural gas to power the pumps. Please refer to **Response A_NPS-9**.

A_NPS-24

For the statement that “participating entities may join the Project at any time until the established Project capacity is reached,” the commenter asks to define the established Project capacity. As discussed in the Draft EIR Vol. 1, Chapter 3.4.1 Project Description, pp. 3-10 to 3-14, the Project capacity for the conservation portion of the Project is an annual average of 50,000 AFY over the 50 year life of the Project. The actual volume pumped in any given year may vary between 25,000 and 75,000 AFY. As discussed in the Draft EIR Vol. 1, Chapter 3.4.2 Project Description, pp. 3-14 to 3-16, the Project capacity for the storage portion of the Project (Phase 2, Imported Water Storage Component) is 1 MAF.

A_NPS-25

The commenter requests the rationale for the Project not triggering National Environmental Policy Act (NEPA) review and asks how the Project supports a railroad purpose. As described in the Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-20 and 3-40, ARZC has reserved rights for and identified the use of water from the Project for fire suppression and vehicle maintenance, among other uses. Due to the remote location of train tracks, trestle fires can be difficult to fight, can last for days and have significant effects on air quality and public safety. Train trestle material is known to exacerbate fires. Most trestles are coated in creosote, which is an oily combustible substance used to seal to extend lifeline of the material. In addition to being highly flammable, the sealant is rich in polycyclic aromatic hydrocarbons (PAHs), a carcinogen which causes cancer. When the creosote burns, it releases these toxic chemicals and other particulate matter which can produce negative cumulative effects to sensitive receptors and air quality standards. For fire suppression activities, fire hydrants would be installed at several locations along the rail corridor, primarily at trestle bridge locations. In addition, ARZC has reserved rights for the use of water from the Project for washing railcars, controlling vegetation, serving its offices, and other improvements and future operations such as a steam-powered excursion locomotive, new warehouses (if any), bulk transfer facilities, or other

railroad-related facilities on the line. All of these uses directly support rail operations and would be subject to additional environmental review as they are developed. With respect to the NEPA process, it is initiated when a proposal for federal action exists. NEPA is not triggered in connection with this Project because there is no federal action. All Project facilities will be constructed on land that does not require federal approval, including within the ARZC easement. See also **Master Response 3.13** Right-of-Way and NEPA.

A_NPS-26

The commenter requests clarification on the MOU executed between Cadiz and the Natural Heritage Institute (NHI), specifically in regards to the Stewardship principals identified in the NHI MOU. The commenter is referred to **Response A_NPS-13** above.

A_NPS-27

The commenter requests information on carry-over storage, its limitations, and whether the pumping operation would be shut down if all participants forego their entire annual water delivery. As described in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-13 and in the Draft EIR Vol. 4, Appendix H1, Cadiz Groundwater Modeling and Impact Analysis, Section 7.2, there will likely be years when Project Participants do not need their full contracted allotment of groundwater for a variety of reasons, such as a rainy winter or increased supplies from other sources. In order to provide Project Participants the flexibility to forego some or all of their scheduled groundwater delivery in a given year, hydraulic control of the groundwater at the wellfield would allow them to delay delivery. With the hydraulic control mechanism, the portion of their allotment they forego would remain in groundwater storage south of the Fenner Gap. That stored water is called carry-over storage and would be protected from loss to the Dry Lakes and evaporation. In order to assess this variation in deliveries, the Draft EIR uses projected SWP deliveries as an indication of the frequency of wet and dry periods that a Project Participant might defer its deliveries from the proposed Project or pull its deferred water from storage. The model simulations limit deliveries to a minimum of 25,000 AFY and a maximum of 75,000 AFY. The assumptions used in the model are that at least 25,000 AFY would be extracted annually in order to accommodate carry-over storage. If less water is pumped in any given year, drawdown would be less than modeled. This practice emulates groundwater management practices in many basins in Southern California and would give Project Participants some operating flexibility by allowing them to maximize conjunctive use of Project groundwater with other supplies in their portfolios, further improving reliability and their ability to manage their water supply.

- A_NPS-28 The commenter asks whether carry-over storage is included in the maximum annual extraction capacity of 75,000 AFY. The answer is yes, 75,000 AFY is the annual maximum capacity of the Project and all carry-over storage delivery requests would be limited to this annual delivery amount.
- A_NPS-29 The commenter asks whether currently unused natural gas pipelines in the Project area cross federal land, and if they do cross federal land, would conversion and use of these pipelines trigger the need for environmental review under NEPA. The comment also asks whether pipelines to be converted for water conveyance have been used in the past for transport of oil and/or gas and whether there is any chance of oil or gas contamination.
- As discussed in the Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives, p. 7-33, the existing natural gas pipeline connecting to Barstow does traverse BLM land. The Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-41 to 3-42 and Chapter 7 Analysis of Alternatives, pp. 7-29 to 7-34, describe how the existing pipelines traversing Cadiz Inc. property would be converted and used. Under this alternative, the pipeline would be cleaned and retrofitted to accommodate water conveyance. Should the alternative be selected, the conversion of the pipeline for water delivery could require BLM approval. Whether the conversion would constitute a federal action triggering NEPA review and the extent of any federal environmental review would ultimately be decided when federal approval is sought. Subsequent design and environmental analysis would describe and analyze this process in detail to ensure that water can be safely conveyed using this alternative so that water quality is not jeopardized. See also **Responses O_NPCA-CBD *et al.*-15 and -25** and **Master Responses 3.12** Project vs. Program Level Analysis, **3.13** Right-of-Way and NEPA, and **3.14** Alternatives.
- A_NPS-30 With regard to the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-6, first paragraph, the commenter requests that the cumulative net water saving model-predicted sensitivity scenario results be included in the text. The Project description reflects the best estimate of recharge based on the data and groundwater modeling to calculate the cumulative net water savings. The Draft EIR includes a sensitivity analysis in Section 4.9 Hydrology and Water Quality that assesses potential recharge scenarios of 16,000 AFY and 5,000 AFY recharge. Table 4.9-11 summarizes the volume of conserved water.
- These scenarios were developed to conservatively analyze potential environmental effects of pumping at the lower recharge rates. The

groundwater flow modeling and evidence predicts a much higher recharge rate and the conserved water figure is based on this best (not the highest) estimate of recharge, which is approximately 32,000 AFY. However, as shown in Table 4.9-11, at 16,000 AFY, approximately 674,000 AFY would be conserved and even if recharge is only 5,000 AFY, the Project would conserve fresh water that would otherwise flow to the Dry Lakes and evaporate without significant impact to the groundwater basin.

A_NPS-31 The commenter questions whether the Watershed is a closed basin at the border between the Fenner and Lanfair Valleys. Please refer to **Response A_NPS-17**.

A_NPS-32 The commenter states that a discussion of other previous recharge estimates is not presented in Section 3.3.2 of the Draft EIR. This discussion can be found in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-32 to 4.9-39. Please refer to **Master Response 3.1** Groundwater Recharge and Evaporation.

A_NPS-33 The commenter states that some studies for projects located in the Chuckwalla Valley suggested inter-basin flow between the Chuckwalla and Cadiz Valleys. The northernmost portion of the Chuckwalla Valley is located about ten miles south of the southern boundary of the Cadiz Watershed. The Coxcomb and Granite Mountains intervene. This is addressed in **Response A_NPS-17**. The Chuckwalla Valley is outside of the Project area and is not connected to the watershed's tributary to the Project area. Figure 4.9-1 in the Draft EIR illustrates the topographic map and watershed boundaries for the Project. As shown at the southernmost border of the watershed boundary, there is a topographic divide between the Cadiz Valley and the area to the south. Since the direction of groundwater flow generally mimics the overlying topographic contours, this further illustrates that groundwater does not pass between the two valleys. Please refer to the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix A, p. 2-9.

A_NPS-34 The commenter states that the natural recharge rate of the groundwater system has been overestimated. Please refer to **Master Response 3.1** Groundwater Recharge and Evaporation.

The commenter expresses the opinion that limiting pumping in the Watersheds to the perennial yield amount would likely increase the conservation efficiency of the Project, decrease adverse impacts in the Project watersheds, and allow Cadiz Inc. to achieve many of their Project objectives and "Green Compact" stewardship principles. The commenter

further argues that pumping beyond the perennial yield creates negative trade-offs, e.g. increased drawdown and depletion of the groundwater storage. For example, in analyzing the effects of pumping 50,000 AFY assuming a 5,000 AFY recharge scenario, the Draft EIR considered potential impacts resulting from groundwater drawdown and determined impacts to be less than significant with implementation of Mitigation Measures **AQ-5, GEO-1, HYDRO 1, HYDRO-2, and MIN-1**, which are also included in the Updated GMMMP. The mitigation measures include early warning monitoring through sentinel wells that will gauge the migration of saline groundwater from the Dry Lakes toward the wellfield and requires modifications to Project operations, including reduced pumping, and a strict limit on the migration of the saline-freshwater interface. See also **Master Response 3.15** Terminology.

Second, limiting pumping to groundwater flowing through the Fenner Gap would not meet the fundamental objective of the Project, which is to reverse the flow of fresh groundwater currently south and west of the Fenner Gap to the Dry Lakes to prevent the loss of water to the Dry Lakes through hydraulic control of the basin. Without hydraulic control, fresh groundwater would continue to be lost to the Dry Lakes and evaporation. Please refer to **Master Response 3.3** Groundwater Pumping Impacts. Regarding "Green Compact" stewardship principles, please refer to **Response A_NPS-26**.

A_NPS-35

The commenter suggests the use of the word “interception” instead of “conservation.” As discussed in the Draft EIR Vol. 1, Chapter 3 Project Description, Section 3.2 Project Objectives, the overall objective of the Project is the conservation of fresh groundwater that would otherwise migrate to the Dry Lakes and evaporate. This evaporation results in a loss of the beneficial use of the water. Therefore, the use of the word conservation is appropriate. See **Master Response 3.15** Terminology.

A_NPS-36

The commenter requests supporting information for the determination that pumping rates in excess of natural recharge are expected to generally result in higher conservation benefits. The supporting information is located in the Draft EIR Volume 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Appendix H2 Supplemental Assessment of Pumping Required, and Appendix H5 Addendum to September 1, 2011 Cadiz Groundwater Modeling and Impact Analysis. Please also refer to **Master Response 3.3** Groundwater Pumping Impacts and **Response A_NPS-8**.

A_NPS-37

With regard to the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-14, the commenter expresses confusion regarding the benefits of implementing

the Groundwater Conservation and Recovery Component prior to the Imported Water Storage Component and requests clarification on the reasons why this approach is preferred.

This section of the Draft EIR addresses the relationship between the two Project Components. As noted in previous responses, the Groundwater Conservation and Recovery Component allows for hydraulic control of the groundwater and reversal of the natural flow of fresh groundwater to the Dry Lakes. Under existing conditions, the natural gradient is towards the Dry Lakes. If only the Imported Water Storage Component were implemented, the added water would create mounding that would increase the downslope pressure to the Dry Lakes accelerating loss of fresh groundwater. In contrast, pumping under the Groundwater Conservation and Recovery Component would create a cone of depression that will hydraulically control (i.e., stop) the flow to the Dry Lakes resulting in reverse-gradient flow toward the wellfield. By reversing the natural gradient towards the Dry Lakes, imported water can then be used to artificially recharge the groundwater at the spreading basins North and East of the wellfield where natural recharge is flowing through the Fenner Gap. By recharging imported water “above” the wellfield, the new water would travel down-gradient and gradually fill the cone of depression or storage space created by Groundwater Conservation and Recovery Component pumping.

The commenter asks how much steeper the groundwater gradient would be from artificial recharge mounding versus the gradient of the cone of depression created by dewatering the aquifer under Phase 1 (Groundwater Conservation and Recovery Component) and suggests the dewatering would produce a steeper gradient. As previously stated, the gradient created by the Groundwater Conservation and Recovery Component draws water to the wellfield and away from the Dry Lakes thus reversing flow that would otherwise occur based on the natural gradient. The gradient created by the wellfield pumping is beneficial because it stems the natural flow to the Dry Lakes and creates a space into which natural and artificial recharge can be stored. Absent the Groundwater Conservation and Recovery Component, the artificial recharge of imported water would steepen the existing natural gradient that causes groundwater to flow to the Dry Lakes.

The commenter notes that Phase 1 will proceed even if Phase 2 (Imported Water Storage Component) does not and that conserved water will be put to beneficial use regardless of whether Phase 2 is implemented. This is true. The conservation benefits will occur under Phase 1 independent of Phase 2 implementation.

Finally, the commenter asks, assuming the groundwater gradient produced under Phase 1 is steeper than that produced by mounding of artificially recharged water introduced in Phase 2, couldn't Project participants have the problem of finding a short-term beneficial use of the artificially recharged water since it would be migrating faster down-gradient. The commenter's assumption is not correct. The Groundwater Conservation and Recovery Component would create a cone of depression that would slow the migration of water recharged under Phase 2. This is demonstrated in the Draft EIR Figures 4.9-11a and 4.9-11b. The location of the recharge basins northeast of the Fenner Gap is important since recharged water would be up-gradient of the wellfield. Thus, the steepening of the gradient would only occur between the recharge basins and the wellfield where the groundwater would then be captured. The gradient in the area from downgradient of the wellfield to the Dry Lakes would remain relatively flat because the wellfield would still be capturing the groundwater and preventing its flow to the Dry Lakes. The operational pumping requirements of Phase 2 would be developed to minimize losses of recharged water.

A_NPS-38

The commenter asks if the substantial loss of water recharged to the aquifer system under the Imported Water Storage Component of the Project had been quantified in the event that the Conservation and Recovery Component of Project is not implemented. In addition, the commenter asks that if there were no Conservation and Recovery Component to the Project, could the losses to water recharged to the aquifer be controlled using the interceptor wellfield that presumably would be in place to extract this water and recycle the water back to the infiltration basins for re-introduction into the aquifer. See **Master Response 3.12** Project vs. Program Level Analysis.

No participants have yet been identified to pursue implementation of the Imported Water Storage Component. It is not being considered as a standalone option because it would not meet the fundamental purpose of the Project, i.e., to save substantial quantities of groundwater that are presently wasted and lost to evaporation. A stand-alone Imported Water Storage Component would not retrieve the substantial quantities of groundwater (approximately 3 MAF) that currently are held in storage between the wellfield and the Dry Lakes and would become saline and evaporate over the next 100 years, as stated in the Draft EIR Vol. 1, Executive Summary, p. ES-2. Pumping water from the wellfield to the spreading basins and pumping water from the CRA to the spreading basins would create a larger impact area, increase energy demands and would not maximize the reasonable and beneficial use of the save water.

- A_NPS-39 The commenter asks whether the Technical Review Panel (TRP) would be a hydrologic TRP and what stakeholders might comprise the TRP. As discussed in the Final EIR Vol. 7, Appendix B1 Updated GMMMP, Chapter 8, all members of the TRP shall have professional technical qualifications appropriate to the tasks of the TRP (e.g., state certifications in engineering, hydrology, or geology) and will be required to have a minimum of ten years professional experience in the groundwater field. Please refer to **Master Response 3.8** GMMMP.
- A_NPS-40 The commenter requests that the boundary with the Mojave National Preserve be represented on Figure 3-4 and all other appropriate figures. The southern boundary with the Mojave National Preserve passes from west to east across the Fenner Valley along Interstate 40 until it reaches Fenner where it passes to the northeast along the railroad tracks. It is depicted on Figures 1-1 and 5-2 in the Draft EIR.
- A_NPS-41 The commenter requests that inconsistencies between the number of observation wells and cluster wells described in Section 3.4.3 and shown on Figure 3-4 be corrected. The locations and numbers of observation wells and cluster wells are described in detail in Sections 5.3 and 5.4 of the Updated GMMMP, as amended, Final EIR, Vol. 7, Appendix B1 Updated GMMMP. The Updated GMMMP includes additional monitoring wells and monitoring features and are depicted in detail in Figures 5-1 and 5-2. See **Master Response 3.8** GMMMP.
- A_NPS-42 The commenter notes that the land survey benchmarks are not depicted in Figure 3-4 as stated in the Draft EIR text. The land survey benchmarks were depicted in the Draft GMMMP and are again depicted in Figure 5-2 in Section 5.6 of the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP).
- A_NPS-43 The commenter contends that there are inconsistencies in the amount of time the pumps would operate in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-26 (24 hours a day, 365 days a year, which the commenter concluded means 100 percent) and p. 3-13 (10 months each year, which the commenter concluded means 83 percent) and Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, p. 46 (which cites 70 percent). The above-referenced pump operation scenarios do not represent inconsistencies, but rather reflect potential maintenance limitations which may alter pump operations. The pumps would run 24 hours per day. For sizing purposes, the Draft EIR assumes that deliveries may be limited to 10 months based on Metropolitan's maintenance activities on the CRA. The proposed Project might be able to deliver water all 12 months in some years and as few as 10 months in

other years, depending on Metropolitan's maintenance activities in a given year (Appendix H1, p. 46). The Draft EIR also assumes that individual wells may be down for maintenance (as much as 30 percent down time for any given well), so wells are needed online to operate while other wells are being maintained. Because the Draft EIR analyzes a conservative scenario for each resource area, for energy use and air emissions, the 12-month operational period is used to ensure a conservative analysis.

A_NPS-44 The commenter states that the Project's power supply and infrastructure is not well defined. This is addressed in **Response A_NPS-9**.

A_NPS-45 The commenter noted a clerical error in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-40, last paragraph. In this paragraph it incorrectly states that Figures 3-6a and 3-6b identify the location of proposed observation wells. The text should have stated that the locations of these wells are actually found on Figures 3-4 and 3-5. The Draft EIR is revised as follows:

Figures ~~3-6a~~3-4 and ~~3-6b~~3-5 identify the location of these wells.

A_NPS-46 The commenter requests clarification as to whether or not the State of California or the County of San Bernardino will require that imported water be treated before its introduction into the basin, and, if this is a requirement, how this will be achieved. Under Phase 2 of the Project, it is expected that water would be conveyed to the Cadiz Inc. property from the CRA or SWP and recharged into the aquifer through spreading basins. Currently, the CRA and SWP water have somewhat higher TDS concentrations (500 to 600 mg/l) as compared to the indigenous groundwater (300 to 400 mg/l) (Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-76 to 4.9-77).

The CRA water, SWP water, and the groundwater in the Fenner Gap area currently meet all of the existing State and federal MCL drinking water standards before treatment, and as such the Draft EIR concludes that water quality impacts are less than significant. Subsequent project-level environmental analysis would be conducted prior to implementing Phase 2 and would provide more detailed information on CRA water quality (and on SWP water quality if this water source is also pursued). See **Master Response 3.12** Project vs. Program Level Analysis.

A_NPS-47 The commenter asks if the expected infiltration rate of the proposed spreading basin is known at this time, and if so, please provide an estimate and how it was derived. Infiltration rates have not been determined at this conceptual stage of Phase 2, the Imported Water

Storage Component. However, pilot recharge basins operating on the Cadiz Inc. property have provided exceptional recharge rates. As part of the investigations completed for Metropolitan's dry-year storage project in 1999, Geoscience Support Services, Inc. conducted an 8-month infiltration test.⁵ Infiltration rates varied between 0.5 to 5 feet per day. GSSI used a 2 feet per day design rate for full-scale infiltration basins. Further details and analysis of the recharge basins would be provided in the subsequent CEQA project-level analysis. See **Master Response 3.12** Project vs. Program Level Analysis.

- A_NPS-48 The commenter states that the Fenner Valley is in a topographically-bounded drainage basin asserting that surface flow features depicted on Figure 4.9-1 indicate water flowing out of the Fenner Watershed and into Lanfair flowing east to Piute Valley. Please refer to **Response A_NPS-17**.
- A_NPS-49 The commenter requests that the boundaries of the Mojave National Preserve be denoted on figures. Please refer to **Response A_NPS-40**.
- A_NPS-50 The commenter states that the New York Mountains were not shown on Figure 4.9-2 in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality. The full map including the New York Mountains is included as Figure 2-1 of Vol. 4, Draft EIR Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix A. Importantly, Figure 4.9-2 does include the relevant southern portions of the New York Mountains that are within the Watershed and would receive precipitation that would drain into the Watershed. Figure 4.9-1 shows a slightly expanded view that identifies the New York Mountains at the farthest northern point of the Watershed.
- A_NPS-51 The commenter enquires as to the relevance of the observation by Davisson and Rose that precipitation versus elevation is higher east of the 116° W longitude than west of it and asks how much higher the precipitation is and how far east of the longitude do the effects become pronounced. As discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality pp. 4.9-7 to 4.9-9 and Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix A p. 2-3, the modeling of the precipitation throughout the Watershed is based on 1) data from local weather stations and 2) modeled data from the Climate Prediction Center (CPC) of the National Oceanic and Atmospheric Administration (NOAA). These data are used in INFIL3.0 to provide precipitation and maximum and minimum temperatures at

⁵ GEOSCIENCE Support Services, Inc., *Cadiz Groundwater Storage and Dry-Year Supply Program, Environmental Planning Technical Report, Groundwater Resources, Volume 1 and 2, Report No. 1163*, November 1999.

each grid cell. The reference to Davisson and Rose was one of several studies used in review of the technical analysis completed for the 2002 Metropolitan storage project.

A_NPS-52

The commenter states that the potential impacts climate change may have on the form of precipitation (rain versus snow) in the Watershed and whether this may affect the volume of recharge to the Watershed. Commenters expressed concern that if climate change results in increased temperatures that, in turn, would result in less snow and more rain, the change could reduce seepage into the aquifer and thus reduce recharge. Winter precipitation that falls as rain instead of snow will still fall within a closed watershed (Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-18). As such, the runoff will still flow over the same bedrock fractures and permeable alluvial cover that the melted snow would have flowed over once it had melted when temperatures warmed up in the spring and summer. In addition, during the winter, the relatively cooler temperatures would also result in relatively low evaporation rates, which in turn would result in greater infiltration of surface water runoff into the aquifer system to depths. Furthermore, the groundwater to be extracted by the Project is already in storage, flowing toward the Dry Lakes as indicated by the hydraulic gradient from the upper Watershed to the Fenner Gap (illustrated in Figure 4.9-6 of the Draft EIR Vol. 1). Yearly precipitation in the upper elevations of the Watershed over the next 50 years will not substantially affect the flow rates through the Fenner Gap during the same period. Given this, the impacts of groundwater extraction, even considering a precipitation pattern change, would remain less than significant with implementation of the recommended Mitigation Measures **HYDRO-2** and **HYDRO-3**.

A_NPS-53

The commenter states that the use of the 16,000 and 5,000 AFY sensitivity analyses is not appropriate to assess impacts of climate change. As discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-46, the purpose of the sensitivity analyses was to model the potential impacts in the event that recharge is significantly less than anticipated. This provides a useful tool to better understand the potential effect of reduced recharge should it be affected by climate change. The Draft EIR provides an overview of current research on climate change in Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-10 to 4.9-15.

The Draft EIR also concludes that there is already a vast amount of groundwater in storage flowing through the aquifer on its way to the Dry Lakes. Once precipitation falling in the mountains infiltrates and

becomes groundwater, the water moves very slowly down to the valley. Groundwater beneath the Project area has been found to be hundreds, and in some cases thousands, of years old,⁶ therefore any decline in precipitation or change in the type of precipitation is unlikely to significantly affect the Project area over the 50-year life of the Project. However, to conservatively analyze the Project impacts, and because very little research has been conducted on the impact of climate change on groundwater, two additional recharge scenarios were analyzed, one assuming 16,000 AFY and one assuming 5,000 AFY. As discussed in Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, the modeling showed that even if the next 100 years were dry and this significantly reduced natural recharge, the Project would still result in a less than significant impact to the groundwater resources.

A_NPS-54

The commenter states that an evaporation study should be conducted on the Dry Lake surfaces to further support the recharge estimate and references a USGS report prepared to estimate groundwater discharge by evapotranspiration in Death Valley for comparison purposes. In April 2012, the compilation of field data measuring evaporation from the Bristol and Cadiz Dry Lakes (Evaporation Study) was conducted by Desert Research Institute (DRI) from May to November 2011. The Evaporation Study was conducted in order to assess the magnitude of groundwater discharge in the Watershed and to compare that with previous estimates of recharge. The evaporation study results are consistent with and confirm the results of the modeling. Please refer to **Master Response 3.1** Groundwater Recharge and Evaporation and see the Final EIR Vol. 7, H1 Estimated Evaporation from Bristol and Cadiz Dry Lakes and Appendix H2 Quantifying Evaporative Discharge from Cadiz and Bristol Dry Lakes.

A_NPS-55

The commenter states that the conclusion that there is no hydraulic connectivity between the springs and the aquifer system and specifically raises a concern about interconnectivity to springs and seeps in the vicinity of Mitchell Caverns located in the Providence Mountains. Please refer to **Master Response 3.4** Springs.

A_NPS-56

The commenter states that the Watershed boundaries depicted in Figures 1-1 and 4.9-3 appear to be different. Figures 1-1 and 4.9-3 depict different things. Figure 1-1 shows the Watershed boundaries while Figure 4.9-3 shows the hydrologic study area. Not all parameters of the Watershed are included in the hydrologic study area. The Updated GMMMP provides monitoring and management for the entire

⁶ *Summary of Age-Dating Analysis in the Fenner Basin, Eastern Mojave Desert, California*, M.L. Davisson, LLNL, June 1, 2000.

Watershed. The two figures show the same watershed boundaries except that Figure 4.9-3 shows a larger area for the Bristol Watershed to the west of the Dry Lake.

A_NPS-57

The commenter requests additional information on the water-bearing characteristics of the fanglomerate geologic unit and its potential importance as an aquifer. This unit is discussed in the Draft EIR Vol. 1, Section 4.6 Geology and Soils, pp. 4.6-8 to 4.6-9 and in the site specific geologic mapping investigation in Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix B.

A_NPS-58

The commenter asks if the water levels observed in the Dry Lake trenches created by the salt mining companies represent static water levels or the levels of water pumped into the trenches for the purpose of adding additional salt. As described in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, the observed water levels represent both levels. The trenches are initially excavated deep enough to expose the saline groundwater close to the surface. Thus, at that time, the observed water levels would represent the static depth to groundwater. Then, as the saline water evaporates and the salt crystallizes, additional saline water is pumped into the trenches to maintain the level and create higher levels of salinity. The commenter further asks if there are any wells within the central portions of the playa areas that can provide a reliable indication of the static groundwater beneath the two Dry Lakes and asks if the three wells shown in the center of Bristol Dry Lake on Figure 4.9-5 have water level measurements that would represent the shallowest depths to water. The salt production operations and the area of the Dry Lake with the lowest elevation are to the west of the referenced wells (see the Draft EIR Vol. 1, Section 4.11 Mineral Resources, Figure 4.11-1) and are thus at higher topographic elevations not representative of the Dry Lake low point.

A_NPS-59

The commenter requests information regarding whether the hydraulic conductivity and storage coefficient estimates for the aquifer units at the site are pump test derived estimates or model calibrated estimates. If they are pump-test derived, then the commenter would like additional information. The commenter also asks whether the model was calibrated to existing water levels by maintaining the original hydraulic conductivity and storage coefficient estimates calculated from pump tests and adjusting the recharge amount in the model. Their concern is that the model has been calibrated with an uncertain recharge parameter by holding it constant while varying the parameters of hydraulic conductivity and storage (which they claim are more reliable and were

measured conducting aquifer pump tests). They are also interested in a discussion of the parameters to which the model is the most sensitive.

The hydraulic conductivity values determined from field testing were used to prepare a range of upper and lower values for model calibration for 32,000, 16,000, and 5,000 AFY recharge scenarios from the Fenner Watershed and Orange Blossom Wash. Calibration with known historical groundwater levels in the study area was conducted using the range of aquifer parameters determined from on-site field data. The range of hydraulic conductivity and storage coefficient estimates can be found in the Draft EIR Vol. 4 Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix A, Table 1 and Sub-Appendix C, Table 2. The range of recharge scenarios were based on the results from an updated assessment of natural recharge conducted by CH2M Hill using a modern watershed modeling approach. See **Master Response 3.2** Groundwater Modeling.

As discussed in Section 6.4 of Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, the model is most sensitive to the recharge, hydraulic conductivity and maximum evapotranspiration rate. Model sensitivity to these parameters was done by reducing the estimated natural recharge of 32,000 AFY to 16,000 AFY and 5,000 AFY. The model is not sensitive to changes in specific yield/storativity or vertical leakance.

A_NPS-60

The commenter requests clarification as to whether the 17 to 34 MAF of water in storage represents the total volume of water in storage or the recoverable volume of water. In other words, does this estimate include groundwater contained within the interstitial pores of finer grain sediments such as clay and silt which is not easily recoverable? The 17 to 34 MAF of groundwater in storage represents the total volume of water from the coarse grained sediments of sand and gravel as well as fine grained sediments of clay and silt. Draft EIR Vol. 4, Appendix H1, Appendix A, Table 3-1 provides the calculations used to estimate these storage values.

A_NPS-61

The commenter states that the approach to reporting earlier estimates of recharge from 1960 and 1975; more specifically, the commenter requests that the EIR consider recharge estimates originally made in 1975 and cited in DWR (California Department of Water Resources) Water Bulletin 118. Please refer to **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.2** Groundwater Modeling as well as in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-32 to 4.9-39.

In addition, as discussed in the **Master Response 3.1** Groundwater Recharge and Evaporation, the recharge estimates used in the modeling for the Project are based on data acquired from recent onsite investigations and the latest USGS modeling software. The “1960s” recharge estimates refer to a 1964 report by Schafer and a 1967 report by the California Department of Water Resources (DWR), both referenced in the Draft EIR, and noted as relying on limited and incomplete data, a small number of scattered water well records, and no modeling. The 1975 report cited by the commenter refers to the DWR Bulletin 118, which also states that the degree of knowledge cited by the DWR in 1975 (37 years ago) was “superficial for geology and limited for hydrology and water quality.” Therefore, these estimates are not as accurate as those used in the modeling for the Project, because as noted in the Draft EIR, earlier efforts to estimate recharge were either general in nature (descriptive but with no actual recharge calculations) or relied on minimal sets of data, and were consequently forced to make assumptions to account for the lack of extensive site specific data. Therefore, these earlier studies are not reliable and do not provide usable data.

A_NPS-62

The commenter states that the 1 percent and 10 percent assumptions used for estimates of average annual precipitation from 1980 to 1984, and asks from which study are they taken and on what basis they were made. The 1 to 10 percent assumptions are from the Geothermal Surveys report discussed in the last paragraph of page 4.9-33. No basis for their assumption was provided. As discussed in **Master Response 3.1** Groundwater Recharge and Evaporation, all previous recharge estimates were general in nature (descriptive but with no actual recharge calculations) or relied on minimal sets of data and were consequently forced to make assumptions to account for the lack of extensive site specific data.

A_NPS-63

The commenter asks which model is referred to in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-34 and 4.9-35, with regard to 1995 to 1998 Modeling. The model is the earlier 2001 Metropolitan EIR/EIS, which is specifically referenced in that same paragraph.

A_NPS-64

The commenter states that the 1995 to 1998 Modeling and asks how the regional water balance was determined. This was a general water balance accounting and estimated a total outflow of 76,000 AFY compared to the model result of 84,000 AFY for this earlier modeling effort.

A_NPS-65

The commenter notes that, in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, the last sentence of the first paragraph on

p. 4.9-37 was duplicated. This comment is correct and the second sentence should be considered deleted.

A_NPS-66 The commenter requests additional information regarding aquifer volume, percent of aquifer saturated thickness and estimated specific yield used in the recharge estimate. Please refer to the Draft EIR Vol. 4, Appendix H1 Groundwater Modeling and Impact Analysis, Sub-Appendix A, Table 3-1 and **Master Response 3.2** Groundwater Modeling.

A_NPS-67 The commenter notes that if the estimated average annual recharge is 32,000 AFY and the pumping is at 50,000 AFY, then there would be a reduction in storage and the last half sentence of the first full paragraph on page 4.9-38 should be deleted (Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality). The cited sentence refers to the interception of the groundwater flowing through the Gap which is approximately equal to the recharge estimate not the strategic pumping necessary to reverse the natural gradient towards the Dry Lakes. However, to clarify and address the commenter's confusion, this concluding phrase has been deleted as shown below.

By intercepting this groundwater flow through the Gap, a reduction of evaporation from Bristol and Cadiz Dry Lakes is expected, ~~but there would be no reduction in groundwater storage.~~

The reader is directed to Tables 4.9-10 and p. 4.9-71 which provides information on the model-predicted changes in storage.

A_NPS-68 The commenter states that the reliance on the USGS INFIL3.0 model, the lack of a physical measurement of natural discharge and failure to account for soil evaporation from surface water runoff. The report referenced in the comment was reviewed and considered in the analysis, and is listed in the references for Appendix H2 of the Draft EIR under Nishikawa et. al., 2004. The results from previous uses of INFIL3.0 do not reflect on the usefulness of accuracy of the model in every setting. Please refer to **Master Response 3.2** Groundwater Modeling. Furthermore, the results have been verified and supported by physical measurements taken on the Dry Lakes as discussed in **Master Response 3.1** Groundwater Recharge and Evaporation.

A_NPS-69 The commenter requests a table summarizing previous recharge estimates. Although the previous recharge estimates are not as accurate as the recharge estimate developed for the Project as discussed in **Master**

Response 3.1 Groundwater Recharge and Evaporation, a table summarizing previous estimates is included in the Master Response.

A_NPS-70

The commenter requested that additional lines of evidence for the recharge estimates be incorporated into the recharge estimate developed for this Project, that carbon dating aquifer samples to verify the age of the aquifer as predictive of the current-day recharge rate, and other estimating methods such as the chloride mass balance be used.

As discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-37 to 4.9-39, the Project recharge estimate is based on the most comprehensive modeling and analysis of the Watershed to date that includes extensive site-specific field investigations and the latest modeling software, none of which was available to earlier researchers. Assimilating results from earlier studies would not add any more reliable data to the analysis. Furthermore, as discussed further in **Master Response 3.1** Groundwater Recharge and Evaporation, carbon age dating and CMB methods are very approximate estimating methods only used when detailed site-specific data and modeling software is not available. Many of the prior studies were shown to be limited in scope or based on insufficient data. CEQA does not require an analysis of every possible scenario or inclusion of every suggested methodology. Moreover, the EIR does not rely solely on the recharge estimate but utilized extremely conservative recharge scenarios of 5,000 and 16,000 AFY for its impacts analysis.

An additional line of evidence has been completed by conducting a six month evaporation study that collected physical measurements on Bristol and Cadiz Dry Lakes, as discussed in **Master Response 3.1** Groundwater Recharge and Evaporation. The results support the recharge estimate of 32,000 AFY.

A_NPS-71

The comment asks how the Quantification Settlement Agreement (QSA) will affect Phase 2 of the Project. The Draft EIR assesses Phase 2 at a program-level of detail, and therefore does not speculate on future application of water agreements that may alter the availability of water. Under current conditions (which include QSA implementation), there is water available for storage during wet years. Further analysis will be conducted as part of the subsequent, project-level environmental review of Phase 2 if and when participants for the Imported Water Storage Component are identified. See **Master Response 3.12** Project vs. Program Level Analysis.

A_NPS-72

The commenter asks why the 16,000 and 5,000 AFY pumping simulations still assume a 50,000 AFY pumping rate. The Project

pumping is for an average rate of 50,000 AFY over 50 years. The pumping rate of 50,000 AFY is necessary to establish hydraulic control, by lowering the cone of depression and reversing the gradient from Dry Lakes (See Figures 4.9-11a and 4.9-11b). The purpose for the 16,000 and 5,000 AFY recharge scenarios was to evaluate the potential impacts for the proposed Project in the event that the estimate of recharge is less than modeled. Utilizing the 50,000 AFY pumping rate provides the most conservative analysis of Project impacts under each of the two recharge scenarios. An objective of the project is to reduce losses of groundwater in transit to the Bristol and Cadiz Dry Lakes, where it would evaporate, so pumping beyond the recharge rate is necessary in all scenarios in order to capture groundwater that is already downgradient of the proposed wellfield.

The analysis showed that conservation of evaporative losses increases with increased Project pumping by retrieving water that was moving down-gradient towards the dry lakes. That is to say Project pumping of 50,000 AFY will result in increased conservation of evaporative losses above the natural recharge (32,000 AFY) and Project pumping of 75,000 AFY will further increase conservation by reducing outflows to the Dry Lakes. However, due to Project uncertainties with natural recharge, a pumping rate of 50,000 AFY was selected for the Project to balance the objective of retrieving water before it can evaporate with the intent to minimize impacts. Pumping of less than the proposed 50,000 AFY will result in an increase of loss to the Dry Lakes relative to Project pumping of 50,000 AFY. See Draft EIR Vol. 4, Appendix H5, p. 2. Hydraulic control provides a barrier that prevents outfall of fresh water to the brine zone due to the large amount of existing water in storage. See **Master Response 3.3** Groundwater Pumping Impacts.

A_NPS-73

The commenter asks why recharge from the west, south, and east are not included in the model. Please refer to **Master Response 3.2** Groundwater Modeling and **Response A_NPS-16**.

The commenter asks that if there is substantial recharge from the areas west, south, and east of the Dry Lakes, would this recharge serve to drive saline water towards the cone of depression created by groundwater pumping. As noted in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-46, by not including recharge that occurs south, west, and east of the Dry Lakes, the groundwater model provides a conservative aquifer response as the inclusion of recharge from other watersheds would artificially reduce predicted groundwater level drawdown. The majority of these areas south, east, and west of the Dry Lakes are all down-gradient from the Fenner Gap area where the

wellfield will be located and are on relatively flat gradients as opposed to the steeper gradient for groundwater flow through the Fenner Gap, as shown on Figure 4.9-6. Given the topography and groundwater levels, recharge from south, east, and west of the Dry Lakes is not anticipated to act as a significant hydrologic influence to drive hyper-saline water toward the wellfield cone of depression. Nevertheless, the Updated GMMMP includes early warning monitoring features to track the saline-fresh water interface migration and includes a fixed limit on the total migration that is well within model predictions that showed no significant adverse effects. Please refer to **Master Response 3.2** Groundwater Modeling and **Response A_NPS-16** for further information.

A_NPS-74

The commenter notes that two wellfield configurations were used in the modeling and requests clarification as to whether the two configurations were analyzed in each modeling scenario. The commenter requests that all results be presented and discussed. The commenter also requests clarification on how the wellfield configurations helped to address the potential range in recharge estimates and the transmissivity variations. The results were presented for the wellfield configurations that were analyzed, so there was no omission. See Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, p. 8; Draft EIR Vol. 4, Appendix H5, pp. 3-4. The purpose of the two well configurations was to develop and analyze operational scenarios which took into account both transmissivity and recharge. See Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-47. Please refer to **Master Response 3.2** Groundwater Modeling and Draft EIR Vol. 4, Appendix H5.

A_NPS-75

The commenter states that the potential saline water/freshwater interface migration distance under the 32,000 AFY recharge scenario being greater than with the 16,000 and 5,000 AFY recharge scenarios is counterintuitive because the lower recharge rates under the same pumping conditions should result in a greater interface migration. Although it may be counterintuitive, the lower recharge rate estimates require a lower hydraulic conductivity value for the underlying aquifers. As a result of these tighter soils with lower hydraulic conductivity values, the water moves at a slower flow rate and therefore less migration or travel of the freshwater/saline water interface occurs during pumping period. The lower recharge volume scenarios of 16,000 AFY and 5,000 AFY require lower hydraulic conductivity values to calibrate the model. The lower hydraulic conductivity values result in a smaller seepage velocity. As a result, the saline migration under the 16,000 AFY

and 5,000 AFY recharge scenarios is less than the under the 32,000 AFY recharge scenario because the latter has a higher conductivity.

A_NPS-76

The commenter states that the corrective measures described in Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-56, Table 4.9-7, bullets 5 and 6 may not be as effective as presumed in the Draft EIR since the saline water/ freshwater interface migration will continue for some time even after the pumping is stopped. The commenter requests additional analysis be devoted to determining the potential effectiveness of these corrective measures as well as more detailed analysis on implementing an injection or extraction scheme to manage the migration. First, please note that Mitigation Measures **HYDRO-2** and **HYDRO-3** have been clarified in the Final EIR (see the Final EIR Vol. 6, Chapter 5 Draft EIR Text Revisions). Please also refer to **Master Response 3.8** GMMMP. Mitigation Measures **HYDRO-2** and **HYDRO-3**, as well as the Updated GMMMP which include early warning “sentinel wells” on the freshwater side of the saline-freshwater interface. See Updated GMMMP Figures 5-1 and 5-2 depicting the approximate location of the brine migration wells. The wells will be monitored quarterly, and if TDS levels at any of the wells exceed 6,000 mg/l, corrective measures will be triggered to ensure that the saline-freshwater interface does not migrate more than 6,000 feet from pre-Project conditions. The use of extraction/injection wells is a potential corrective measure that, if implemented, would be required to comply with the same mitigation measures mandated for the Project’s production wells. The data from the migration of the saline-freshwater interface would be used to refine the groundwater model. The refined ground water model would be used to select precise locations that would limit saline water through construction of a hydraulic barrier through a series of injection wells. A hydraulic barrier constructed through the use of injection wells has been successful in halting seawater intrusion in the coastal basin of Southern California. The tentative location of the injection/extraction wells is depicted in the Updated GMMMP, Figure 5-1 (Final EIR Vol. 7, Appendix B1 Updated GMMMP). Water would be conveyed from the existing wellfield to the injection system.

A_NPS-77

The commenter asks why Table 4.9-7 has two bullets (bullet numbers 5 and 6) that list potential modifications to Project operations while the corrective measures in Mitigation Measure **HYDRO-2** only list the fifth bullet. Mitigation Measure **HYDRO-2** and Updated GMMMP Design Feature 6.4 have been revised and clarified in the Final EIR and are identical. The County will enforce the GMMMP Design Features pursuant to the GMMMP and MOU. For Mitigation Measures that are included in both the Mitigation Monitoring and Reporting Plan (MMRP)

and the Updated GMMMP (**AQ-5, GEO-1, HYDRO-2, HYDRO-3** and **MIN-1**), SMWD will retain oversight authority over their implementation, but will delegate enforcement authority to the County of San Bernardino, the responsible agency with approval authority over the GMMMP. Further, for those provisions of the GMMMP that are also adopted mitigation measures, SMWD will, as lead agency, have the right to terminate the Project's approvals for violations of the Mitigation Monitoring and Reporting Program. Please refer to **Master Response 3.8 GMMMP**.

A_NPS-78

The commenter states that the statement of "Less than significant with mitigation" that appears in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality at the bottom of page 4.9-58 stands alone and is not followed with supporting data and discussion. The supporting data and discussion begins at page 4.9-48 with the Significance Threshold statement and continues through page 4.9-58, covering all three Mitigation Measures (**HYDRO-1, -2, and -3**). Each section of the chapters regarding the CEQA impact analysis begin with the Significance Threshold statement, and are then followed by the supporting data and impact analysis and end with the concluding significance determination.

A_NPS-79

The commenter states that a reference to the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, Figure 4.9-2 found in the middle of the first paragraph in the Springs Impact Analysis on page 4.9-59 does not depict the items discussed in the paragraph. This is a typographical error. The reference should be to Figure 4.9-4 and has been changed as follows:

As shown on ~~Figure 4.9-2~~ Figure 4.9-4, proportion of precipitation recharging the mountain bedrock....

The commenter also requests a table or figure representing the proportion of precipitation recharging the mountainous bedrock and the volume of precipitation that migrates vertically downward through the rock formations to the aquifer. The information requested is included in Tables 4-1 through 4-8 representing assumed and calculated parameters of the INFIL3.0 model included in Draft EIR Vol. 4, Appendix H1, Groundwater Modeling and Impact Analysis, Sub-Appendix A. The model uses these parameters to estimate the amount of vertical migration occurring.

A_NPS-80

The commenter expresses concerns regarding the legal framework discussion in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-62 and 4.9-63 and how the concept of safe yield, as

defined by the California Supreme Court, will be implemented. The commenter asks how SMWD proposes to determine whether or not an undesirable result has resulted under this ambiguous description of safe yield. First, safe yield under the *San Fernando* definition is not a static term or a rigid calculation of recharge. There is flexibility in calculating overdraft in order to provide the opportunity for different management techniques to fluctuate water deliveries over time for the beneficial use of water. Applied to the management of groundwater, the California courts have emphasized the importance of using groundwater supplies responsibly to avoid long-term deleterious impacts to the renewable resource.⁷ Therefore, when called upon to adjudicate competing groundwater right claims, the courts typically limit extractions from a groundwater basin to no more than the safe or perennial yield, which the courts define as "the maximum quantity of water which can be withdrawn annually from a ground water supply under a given set of conditions without causing an undesirable result."⁸ Examples of undesirable results include uneconomic pump-lifts, chronic lowering of groundwater levels, inducement of seawater intrusion or other water quality degradation, land subsidence, etc.⁹ The emphasis on "undesirable results" is an important element of the definition of safe yield. Just as the Constitutional standard of maximum beneficial use/waste-avoidance is a case specific inquiry, so too is the determination of a basin's safe yield. A basin's safe yield is not determined by a strict water balance accounting detached from actual basin implications, but rather a safe yield determination must be based upon an inquiry into the actual basin impacts likely to result from a given quantity of extraction. Similarly stated, the courts do not establish groundwater extraction limits for the purpose of maintaining a full groundwater basin or any specific groundwater level, but rather to avoid "undesirable results."¹⁰ SMWD will use the processes set forth in the May 11, 2012 MOU, the final GMMMP and the EIR to determine whether or not an undesirable result has occurred. The Updated GMMMP and the mitigation measures are designed to monitor and avoid impacts before they occur, including addressing issues such as local water supplies and recharge. See Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-66-71.

The commenter asks how these concepts and the rest of the legal framework discussion ties into the CEQA significance thresholds defined in the Draft EIR on page 4.9-59. The commenter also asks, in the case of these CEQA significance thresholds, how is "substantially depleting

⁷ *City of Barstow*, supra, 23 Cal.4th at 1240-1242.

⁸ *City of Los Angeles v. City of San Fernando* (1975)14 Cal.3d 199, 278.

⁹ See J.F. Mann, Jr., Safe Yield and Overdraft: Concepts and Methods of Evaluation, *Journal (American Water Works Association)* Vol. 60, No. 12 (Dec. 1968), pp. 1336-1344.

¹⁰ See *City of San Fernando*, supra, 14 Cal.3d at 278.

groundwater supplies,” or “interfering substantially with recharge such that there would be a net deficit in aquifer volume,” or “significant lowering of the local groundwater table level” defined with respect to evaluating whether or not these thresholds have been exceeded by the Project? As explained above, “undesirable results” is an important element of the definition of safe yield. The CEQA thresholds set forth these “undesirable effects” which are addressed in the Updated GMMMP and EIR. As explained in detail in the Draft EIR, the Project will not substantially deplete groundwater supplies or interfere with groundwater recharge. First, the Project’s temporary drawdown of water will not result in a significant adverse impact to any critical resource, including vegetation. Second, pumping of groundwater under the proposed Project would have no impact on springs and therefore no mitigation is required. Third, the loss of storage in the basin would not adversely affect future management or beneficial use of the basin and is therefore considered less than significant effect. Fourth, the Project will have no impact on the recharge areas, runoff, or percolation of rainfall and snowmelt in the upper areas of the watershed. Lastly, the effects of drawdown on third party wells would be less than significant with implementation of Project Design Features 6.2 and 6.4 as confirmed in Mitigation Measures **HYDRO-3** and **HYDRO-2**. Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-73-74.

The legal framework provides for individual basin management, which will be accomplished through the final GMMMP. The Updated GMMMP is designed to monitor and avoid impacts before they occur, including addressing issues such as local water supplies and recharge. See Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-66-71.

The commenter also points out that the discussion at the top of page 4.9-63 of the Hydrology Chapter provides another definition of safe yield established by the San Bernardino County Desert Groundwater Ordinance. It questions how this definition of safe yield fits into the overall legal framework discussed in the EIR document with respect to this definition superseding the State of California’s definition of safe yield and the ability of the Project not to exceed the established significance thresholds.

As explained in the Draft EIR, like the California Supreme Court’s definition of safe yield, the San Bernardino County Desert Groundwater Ordinance also applies a dynamic, and fact specific approach to its definition of safe yield. The County defines “Groundwater Safe Yield” as the “maximum quantity of water that can be annually withdrawn from a groundwater aquifer (i) without resulting in overdraft (ii) without

adversely affecting aquifer health and (iii) without adversely affecting the health of associated lakes, streams, springs and seeps or their biological resources. The safe yield of an aquifer can be increased by management actions such as artificial recharge, including infiltration and other similar actions.” Thus, this definition is consistent with State policy and the Supreme Court’s definition and the Project is consistent with these definitions as it seeks to increase the recoverable safe yield by strategic management of basin groundwater levels.

The County exercises its management authority over County groundwater resources through the Desert Groundwater Management Ordinance (Ordinance). The Ordinance does not apply to the operation of groundwater wells where the operator has developed a groundwater management, monitoring, and mitigation plan approved by the County that is consistent with guidelines developed by the County and the County and the operator have executed a memorandum of understanding that complies with the provisions of the Ordinance.¹¹ SMWD, the County, Cadiz Inc., and FVMWC entered into an MOU on May 11, 2012 to establish the framework for working together to finalize the Updated GMMMP. The MOU is a first step, and it does not obligate SMWD to proceed with the Project or to presume that the environmental documentation for the Project will be certified, nor does it require the County to approve the GMMMP. No obligation included in the MOU is binding on SMWD or the County until such time as SMWD and the County complete their respective environmental reviews of the Project and approve the Project and the GMMMP. The MOU provides a framework for managing the basin consistent with both the California Supreme Court precedent and the County’s Ordinance. The aquifer will be monitored and managed through implementation of the GMMMP. Please refer to **Master Responses 3.3** Groundwater Pumping Impact, **3.8** GMMMP, **3.10** Lead Agency, and **3.15** Terminology.

A_NPS-81

The commenter asks if the participants actually intend to close the Project after 50 years. As stated in Draft EIR Vol. 1, Executive Summary, p. ES-3 the life of the Project consists of pumping for 50 years at an average annual rate of 50,000 AFY. At the end of the 50-year term, without subsequent discretionary review and approval, the Project would terminate with the exception of contracted deliveries remaining outstanding due to unforeseen circumstances and continued monitoring and compliance with the GMMMP. Should Project operators elect to extend the Project beyond the 50-year term, new purchase agreements

¹¹ San Bernardino County Code of Ordinances, Title 3, Div. 3, Ch. 6, Art. 5, §33.06552(b)(1).

would be required and full environmental review under CEQA would be developed prior to approval, including the development of a new groundwater management, monitoring, and mitigation plan.

- A_NPS-82 The commenter suggests changing the first conceptual cross-section (i.e., Time 0) in Figure 4.9-11b to be consistent with the last conceptual cross-section (i.e., Time 4) in Figure (Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 64 and 65). The commenter is correct. Time 4 of Figure 4.9-11 is meant to depict the same condition as Time 0 of Figure 4.9-11 b. However, both time scenarios clearly depict a state of no evaporation from the Dry Lakes so the difference is not substantive.
- A_NPS-83 The commenter requests an explanation, including figures, as to why the 16,000 and 5,000 AFY pumping simulations still assume a 50,000 AFY pumping rate. Please refer to **Response A_NPS-72** and **Master Response 3.2** Groundwater Modeling.
- The second paragraph of the comment requests that the recovery times for the 16,000 and 5,000 AFY be referenced and discussed in Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-66. The recovery times for each of the scenarios are listed in Table 4.9-10 at 103 and 390 years. Discussion of these other two sensitivity scenarios is continued throughout the Impact Analyses, where pertinent.
- A_NPS-84 The commenter requests that the location of all wells that might be affected by groundwater drawdown be shown on Figures 4.9-12, 4.9-13, and 4.9-14 (Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality). These Figures are updated to identify existing known locations of third party and Cadiz Inc. wells. They are included in this Final EIR Vol. 6, Chapter 5 Draft EIR Text Revisions. Also note that SMWD attempted to locate additional wells and address related concerns in the following ways: 1) CH2M Hill conducted field spotting, 2) SMWD tried to access information about existing wells through the California Department of Water Resources' (DWR) website but Water Code Section 13752 prohibits distributing well completion reports to anyone but the landowner, his or her designee, or a government agency without the owner's permission, 3) the wells for which information is available were plotted on a drawdown map as referenced above, and 4) third-party well owner concerns have been addressed through monitoring and mitigation features including Mitigation Measure **HYDRO-3**. See also **Master Response 3.8** GMMMP.
- A_NPS-85 The commenter requests clarification in the discussion on how the cumulative change in volume estimates reported in the second and fourth columns of Table 4.9-10 were calculated and what these volumes

represent; specifically whether these volumes represent excess pumped water in storage beyond the amount of natural recharge destined for evaporation from the Dry Lakes. These volume figures represent the reduction in storage at the end of 50 years and at the end of 100 years under the Project scenario and each of the sensitivity scenarios. Please refer to the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Volume 1. The cumulative change in volume is calculated based on the cell-by-cell flow budgets from the results of the groundwater model for each model scenario. These volumes represent the difference between the total inflow (i.e., natural recharge) and total outflow (i.e., evaporation from the Dry Lakes and Project pumping).

A_NPS-86

The commenter requests clarification on how the cumulative reduction of evaporative loss estimates reported in Table 4.9-11, column 3, were calculated and what this volume represents (Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality). The commenter asks how the cumulative reduction in evaporative losses can exceed 100 percent of the amount of recharge occurring over the 50-year period. The volume of water listed in Table 4.9-11 includes all of this water. As shown in the Draft EIR on Figure 4.9-6, the groundwater contours show that there is a gradient from the Fenner Valley towards and into the Dry Lakes. This means that there is already a volume of groundwater flowing to the Dry Lakes in addition to the volume of water added each year to the system from annual precipitation. The Project strategically lowers the groundwater level to reverse the natural-gradient of the aquifer to pump water that would otherwise migrate to the Dry Lakes and be lost to evaporation. Therefore, the Project not only collects the natural recharge entering into the Fenner Gap but also pulls back the stored freshwater south and west of the wellfield that, without implementation of the Project would become super saline and eventually lost to evaporation.

As discussed in Section 3.1 of Vol. 4 Appendix H2 Supplemental Assessment of Pumping Required, the cumulative reduction of evaporative loss was calculated as the difference between the evaporative loss under No Project conditions (i.e., no pumping) and Project pumping conditions. The values shown in Table 4.9-11 represent the results at the end of 100 years. Therefore, for the 5,000 AFY recharge scenario, approximately 94 percent of the recharge occurring over the 100-year period is recovered (94 percent = $470,000 / 100 / 5,000 \times 100$ percent). It does not exceed 100 percent of the amount of recharge.

A_NPS-87

The commenter states that the discussion in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-73 line 2 incorrectly states that

the average annual recharge as 50,000 AFY and should be corrected to reflect 32,000 AFY. The cited parenthetical, i.e. “in excess of 50,000 AFY” does not refer to the natural recharge rate. It refers to pumping beyond 50,000 AFY. The discussion is about increasing pumping rates, in the initial years only to levels higher than the estimated recharge of 32,000 AFY *and* the Project plan of 50,000 AFY because the modeling predicts that this would conserve larger amounts of water (Draft EIR Vol. 4, Appendix H2 Supplemental Assessment of Pumping Required for the Cadiz Groundwater Conservation, Storage, and Recovery Project, Section 4). The Draft EIR has been corrected as follows:

For example, pumping rates in excess of ~~natural recharge (in excess of 50,000 AFY)~~ during the first 25 years would increase the quantity of groundwater conserved.

A_NPS-88

The commenter requests more information on water quality impacts from recharge of SWP water and use of abandoned oil/gas pipelines. The commenter also asks if California law allows for recharge of untreated water. The Draft EIR assesses Phase 2 at a program-level of detail due to the lack of participants. Currently, raw SWP water is conveyed around the state and recharged into groundwater basins throughout California.¹² No treatment is uniformly required to recharge SWP water if approved by a Regional Water Quality Control Board (RWQCB). SWP water and the groundwater in the Fenner Gap area currently meet all of the existing State and federal MCL drinking water standards before treatment, and as such the Draft EIR concludes that water quality impacts are less than significant. Subsequent project-level environmental analysis would be conducted prior to implementing Phase 2 and would provide more detailed information on SWP water quality if this water source is pursued (see **Master Response 3.12** Project vs. Program Level Analysis). Utilizing abandoned oil/gas pipelines for conveyance of SWP water to the Project spreading basins would also require project-level review and approval by the RWQCB and pilot tests to confirm water quality is not impaired.

A_NPS-89

The comment points out typographical errors in Chapter 5. In response to this comment the following changes are made.

This cumulative effects analysis generally covers the area bounded by the Old US 66 and I-40 corridor to the north; ~~SR-95~~ to the ~~east~~west; SR-62 to the south; and the Marine Corps Air Ground Combat Center, SR-247, and SR-62 through Yucca Valley to the ~~west~~east (see **Figure 5-1** on p. 5-10).

¹² DWR, 2009, California Water Plan Update 2009 (pg 8-23)

A_NPS-90

The commenter claims several mitigation measures are ineffective. The Draft EIR describes impacts and mitigation measures that reduce or avoid impacts. The lead agency has discretion under CEQA to evaluate the effectiveness of mitigation measures as described in the Draft EIR. The effectiveness of the mitigation measures is essential to result in less than significant impacts. The decision of whether to approve a project (as proposed or with required changes or mitigation) is for the local agency, exercising its informed judgment in compliance with the law and balancing a variety of public objectives. Please refer to **Master Response 3.8** GMMMP.

The commenter also suggests that the contribution of the Project to the cumulative condition should be acknowledged as considerable because other contributions to groundwater extraction are low in comparison. The Draft EIR Vol. 1 acknowledges in Chapter 5, Cumulative Impacts, Section 5.3.9, p. 5-36 that the Project results in greater groundwater extractions than other projects, and thus is essentially the cumulative condition as there are no other significant existing or reasonably foreseeable users of the basin. However, since the Draft EIR analyzes and finds that Project impacts to hydrology and water quality would be mitigated to less than significant, cumulative effects would similarly be less than significant. However, the following clarifying change is made to page 5-36 concluding the discussion on cumulative hydrology impacts.

Therefore, the direct and cumulative impacts to groundwater and surface water resources would be less than significant ~~and would not be cumulatively considerable.~~

A_NPS-91

The comment requests that the 5,000 AFY sensitivity scenario be analyzed in connection with the 25 percent Reduced Pumping Alternative in the Alternatives analysis. The assumption was made that the pumping requirements of the Reduced Pumping Alternative would result in substantial drawdown under the 5,000 AFY recharge scenario. For purposes of the Alternatives analysis, it was assumed that the Alternative would not be acceptable if recharge rates are below 16,000 AFY. However, as described in detail in Appendix H1 of the Draft EIR, recharge rates are estimated to be well above 16,000 AFY. Please refer to **Master Response 3.3** Groundwater Pumping Impacts.

A_NPS-92

The commenter states that the 32,000 AFY estimate of recharge has not been substantiated with physical measurements at the Dry Lake. Please refer to **Master Response 3.1** Groundwater Recharge and Evaporation and **Responses A_NPS-1** and **A_NPS-54**.

A_NPS-93

The commenter states that the Draft GMMMP does not take into consideration the “momentum of groundwater aquifers.” Specifically, the commenter is concerned that deleterious impacts such as land subsidence, water level drawdown, and brine movement will continue for a period of time after impacts are identified and before the modifications to operations can take effect, thereby failing to prevent impact(s). The Draft GMMMP (as updated) is forward looking based on observed monitoring data and model projections. The groundwater flow, transport, and subsidence model has been used to project conditions for over 100 years based on the extensive field work in the area. There are no adverse impacts projected to occur for the three scenarios of recharge and wellfield pumping configurations that were examined. Extensive monitoring will take place during operations and post-operations to ensure that there are no conditions (water level changes, groundwater salinity changes, or subsidence) occurring beyond those projected by the model assessments. As described in the Draft GMMMP (see also the Updated GMMMP in the Final EIR Vol. 7, Appendix B1 Updated GMMMP), every 5 years, the Project operations will be assessed, with updated projections based on the data gathered, to evaluate whether there are any projected trends in groundwater levels, salinity, or subsidence that are different (worse) than those projected as a part of the EIR. Again, these projections will be for 100 years into the future at the time the projections are made. So, the technical analysis is designed to not only observe what is happening through monitoring, but to also continue to assess the potential for adverse impacts well into the future, so that any corrections or mitigation can be identified and implemented well in advance of any adverse impacts actually occurring. Please also refer to **Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP.

A_NPS-94

The commenter states that there may be a conflict of interest with having any preparers of the groundwater modeling and impact analysis on the Groundwater Stewardship Committee (GSC) as well as potential beneficiaries of the Project, e.g. Golden State Water Company. Dennis Williams of Geoscience Support Services, Inc. and Terry Foreman of CH2M Hill participated in GSC discussions as subject-matter experts. Mr. Williams and Mr. Foreman were the principal authors of the hydrologic modeling report (Draft EIR Vol. 4, Appendix H Hydrology Reports). The role of these two principal authors on the GSC was to provide details and technical assistance in presenting information which was considered, and respond to questions from the other members of the GSC. The GSC was composed of 12 committee members, each with professional experience, in which is documented in the Draft EIR Vol. 2, Appendix B2 Groundwater Stewardship Committee October 2011

Summary of Findings and Recommendations (also see Final EIR Vol. 7, Appendix B1, Sub-Appendix A Groundwater Stewardship Committee April 2012 Summary of Findings and Recommendations, for the same information). The consultants participation ensured consistency in the application of the GSC recommendations for the Project overall, as well as inclusions in the Updated GMMMP.

A_NPS-95

The commenter states that the geographical parameters used for the groundwater flow model and the model used to estimate recharge are inconsistent and therefore the data does not definitively show that groundwater flows from as far up as the Woods and Hackberry Mountains into the Fenner Valley. For groundwater flow, the model evaluated the nature of flow within the area of the Watershed beginning south of the Woods and Hackberry Mountains because those parameters would more accurately determine aquifer response to pumping under various recharge and well configuration scenarios. The northern boundary of the model contains a recharge boundary condition which allows water to enter the groundwater basin from northern portions of the Fenner Watershed. This same recharge boundary condition occurs in other areas of the model as well to account for mountain front runoff recharge. For the estimate of recharge, the model evaluated the entire Watershed area because the recharge contributing water to the Fenner Gap originates there. This is discussed further in **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.2** Groundwater Modeling.

A_NPS-96

The commenter hypothesizes that the volcanic rock of the Woods Mountains form a hydrogeologic barrier and that therefore, recharge from this area flows east toward Piute Gorge. The commenter goes on to suggest that there is a lack of evidence to refute their proposition. A detailed review of USGS topographic mapping and aerial photography shows clearly that alluvial areas extend from the upper Lanfair Valley around Woods Mountains and to the Fenner Valley. In addition, Groundwater contour elevations developed for the area around Woods Mountains, also shows that groundwater flow is around south from the upper Lanfair Valley; south around Woods Mountains to the Fenner Valley. Please refer to **Response A_NPS-17**.

A_NPS-97

The commenter requests information on physical measurements taken at the Dry Lake surfaces to support the estimated recharge. Physical measurements have been taken on the Dry Lake surface and support the recharge estimate. The Desert Research Institute has completed the peer-review Evaporation Study at the Dry Lakes and found evidence to

support the recharge estimate.¹³ Please refer to **Master Response 3.1** Groundwater Recharge and Evaporation, **Response A_NPS-54**, Appendix L2 Quantifying Evaporative Discharge from Cadiz and Bristol Dry Lakes, and Appendix L1 Estimated Evaporation from Bristol and Cadiz Dry Lakes.

- A_NPS-98 The commenter states that Vol. 4, Appendix H, Section 3.2 does not discuss the fine-grained sediments at the Dry Lakes. This information is provided in the Draft EIR Vol. 1, Section 4.6.1 Geology and Soils, pp. 4.6-6 to 4.6-7 and Section 4.9 Hydrology and Water Quality, pp. 4.9-15 to 4.9-18.
- A_NPS-99 The commenter states that the areas west, south, and east of the Dry Lakes were not included in the model. Please refer to **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.2** Groundwater Modeling as well as **Response A_NPS-16** and **A_NPS-73**.
- A_NPS-100 The commenter requests additional information regarding the boundary conditions used in the model. The large area of recharge in the middle of the Fenner Valley is a projected by the INFIL3.0 watershed modeling. The recharge in this area is relatively small, representing about 50 AFY. The recharge on either side of this area represents inflow from the surrounding bedrock areas into the alluvial aquifer as opposed to recharge directly on the surface of the alluvial aquifer from direct infiltration and streamflow runoff.
- Evaporation from the Dry Lakes is a boundary condition, which in an undisturbed condition, is the only outlet for groundwater discharge from the basin. As the groundwater flow system must be in equilibrium, i.e., groundwater recharge must equal groundwater discharge, evaporation has to be equal to recharge. The use of a few cells along Cadiz Dry Lake was used to represent this boundary condition as opposed to expanding the model grid to cover the whole Dry Lake and beyond. The model simulation results would be the same under both model configurations, so using the smaller number of grid cells saves model run time without sacrificing any impacts to model results.
- A_NPS-101 The commenter requests clarifying information regarding the layer thickness of 10 feet used in the model for layers 4, 5, and 6. The thickness of 10 feet used in the model for layers 4, 5, and 6 was assumed due to no available data. The groundwater flow model consists of 6 layers. In some areas, the alluvium is very thick, so more model layers

¹³ *Quantifying Evaporative Discharge from Cadiz and Bristol Dry Lakes*, Desert Research Institute, February 2012 and *Estimated Evaporation from Bristol and Cadiz Dry Lakes*, CH2M HILL, May 2012.

are used to subdivide the thicker sections of alluvium in order to maintain a reasonable thickness of each layer (up to several hundred feet in most cases). However, in some areas, the alluvium is thin and does not require subdivision into more than 1 or 2 layers, so the remaining layers are applied to the bedrock below and made a nominal thickness (such as 10 feet). This allows for assignment of some water transmitting and storage properties even though these layers may not be significant in terms of overall flow and storage of groundwater relative to the alluvial aquifer. These layers represent the weathered granitic rocks that exceed a depth greater than 1,200 feet below ground surface. Therefore, there is no dewatering problem.

A_NPS-102

The commenter states that Table 14 from a Geoscience 1999 report is cited but not provided. The referenced report is also known as the EIR/EIS prepared for the previous Project and is therefore publically available (Cadiz Groundwater Storage and Dry-Year Supply Program, Final Environmental Impact Report). Table 14 from this report is a readily available document and included in the record of this Final EIR.

The commenter also requests clarification on hydraulic conductivity values used in the model. Although it is generally expected that coarse-grained sedimentary materials would be present close to mountain front areas, the Fenner Watershed is characterized by a multiplicity of complex historical geologic and geomorphic conditions. As an example, although the Fenner Valley now drains to Cadiz and Bristol Valleys, in the geologic past, closed based conditions were present in the Fenner Valley. This is noted by well defined fine-grained units at depth in the gap, indicating closed basin conditions. In some of the model layers, near the mountain front, fanglomerate materials of relatively low hydraulic conductivity are present in the zone of saturation. In the geologic past, these materials (debris) shed along the mountain front would have been of much greater permeability, but lithification of the unit since Miocene time has resulted in a much lower permeability. In addition, tectonic activity in all of the Eastern California Shear Zone combined with Quaternary climatic changes has resulted in coarse grained and fine-grained alluvial fan deposits in the subsurface in various areas south of the Fenner Gap. Therefore, the lower hydraulic conductivity values for the model layers shown on Figure 13, 14, and 15, of the Draft EIR Vol. 4 Appendix H1, Cadiz Groundwater Modeling Impact Analysis could not be simply generalized as coarse-grained near the mountain front and fine-grained near the center of valleys. The hydraulic conductivities were based on descriptions of lithologic materials from well logs, pumping test data from wells in the study area where available, as well as the assignment of hydraulic conductivity values to subsurface sediments

based upon the detailed geologic cross-sections and geologic mapping commissioned for this study (see Draft EIR Vol. 4 Appendix H1, Cadiz Groundwater Modeling Impact Analysis).

A_NPS-103

The commenter requests clarity on how the evaporation rates were used in the analysis. The Cadiz groundwater model uses the Evapotranspiration Package to simulate the evaporation from the Bristol and Cadiz Dry Lakes.¹⁴ The model calculates the evaporation based on model-calculated groundwater levels. The maximum evaporation rate is used when the water level is at the land surface. No evaporation occurs when the water level is below the specified maximum extinction depth (See **Response A_NPS-06** for discussion on extinction depth). In between these two extremes, the evaporation rate is assumed to be linear. The model-calculated evaporation from the Dry Lakes varies based on the model-calculated water levels in the Dry Lakes.

The model-calculated evaporation is equivalent to the amount of recharge only under predevelopment conditions (i.e., no groundwater pumping). Groundwater storage recovers fully in Year 117, as stated in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, p. 53 which is the equivalent of pre-Project groundwater storage (i.e., existing Cadiz Inc. agricultural pumping conditions). See also Draft EIR Vol. 4, Appendix H1, Table 4.9-10. Therefore, the model-calculated evaporation would be less than the amount of natural recharge even after groundwater storage has fully recovered.

There is no evaporation if the depth to water exceeds the estimated maximum extinction depth of 15 feet as explained in **Response A_NPS-6**. The depth to water of 18 feet, as reported in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, p. 52 only represents one model cell located near the center of Bristol Dry Lake. Water levels are shallower than 15 feet in the western and southern portions of Bristol Dry Lake.

The Evapotranspiration Package was used in the Cadiz groundwater model for the purpose of providing a “sink” boundary condition to remove water from the model, consistent with the amount of natural recharge used for the model. Since the only discharge is evaporation from Dry Lakes under predevelopment conditions, the model-calculated evaporation should be 32,000 AFY, 16,000 AFY, and 5,000 AFY for a

¹⁴ Harbaugh, A.W., Banta, E.R., Hill, M.C., and McDonald, M.G., 2000, *MODFLOW-2000, the U.S. Geological Survey modular ground-water model -- User guide to modularization concepts and the Ground-Water Flow Process*: U.S. Geological Survey Open-File Report 00-92, p. 121.

natural recharge of 32,000 AFY, 16,000 AFY, and 5,000 AFY, respectively. The maximum evaporation rate and extinction depth used for the model were based on the results from steady state model calibration. Please refer to **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.2** Groundwater Modeling.

A_NPS-104

Regarding Scenario 2, the commenter asked if 5,000 AFY was selected because this is the historical Cadiz Inc. agricultural pumping volume or if it was selected because it matches some of the previous recharge estimates. As described in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, p. 39, Sensitivity Scenario 2 with natural recharge of 5,000 AFY provides a sensitivity analysis for hypothetical assessment irrespective of other estimates or existing uses. The 5,000 AFY is consistent with historical agricultural uses and also consistent with lower estimate ranges. The lower amount provides an assessment of 85 percent less than predicted by the recharge model. This is described in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, page 4.9-46.

A_NPS-105

The commenter states that there is a discrepancy between the proposed pumping rate of 50,000 AFY and the data provided in Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 7.4.1. The commenter states that the referenced data results in pumping rates of 52,500 AFY for Configuration A and 51,000 AFY for Configuration B. However, the commenter did not provide their calculations and it is unclear how the commenter came up with those pumping rates. It appears that the commenter may have attempted to use the well capacity and general operating times to compute specific production values, which are likely resulting in the different values. However, just because a proposed production well may have a well capacity of 2,000 gallons per minute (gpm), that does not mean each and every well will be pumped at 2,000 gpm for the entire operating time. The wells will be pumped enough time to provide the desired annual production which will be limited to the annual values given in the Draft EIR. The overall annual average over the 50-year lifespan of the Project is 50,000 AFY, and can range between 75,000 AFY in dry years to 25,000 AFY in wet years.

A_NPS-106

The commenter states that there are discrepancies between the concentrations of TDS in Figures 57 and 3 of Appendix H1. Figure 57 shows the initial TDS concentrations used for the modeling simulations. The upper range of TDS concentrations shown on Figure 3 were simplified using a maximum value of 35,000 mg/L (i.e., average TDS concentration of seawater). This simplification was necessary due to the

limitation of SEAWAT's dispersive term in the transport equation for variable-density groundwater flow (a requirement for TDS concentrations that exceed seawater ranges), which has not been incorporated into the program (Guo and Langevin, 2002¹⁵ and Langevin, et al., 2003¹⁶). Since the brine water was confined by successive layers of fine-grained sediments (i.e., silt, clay and, evaporites), this simplification would not change the model-predicted movement of the saline water/freshwater interface. Furthermore, the Draft GMMMP includes an annual review of monitoring data and updates to the groundwater modeling assessments every five years (see also the Updated GMMMP in the Final EIR Vol. 7, Appendix B2 Updated GMMMP). These 5-year updates will use the monitoring data to make any refinements to the models and actual operations of the Project. The groundwater models will be used to update projections of saline water migration to assess if there are any differences (meaning more adverse impacts) between the updated projections and projections completed for the EIR. The purpose of these 5-year updates are to ensure compliance with the findings of the EIR and address potential impacts before they happen as opposed to after they happen.

A_NPS-107

The commenter asked if there are more recent data to present regarding the shallow depths to groundwater beneath the playas. The most recent information is presented in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-31 and includes data from as recently as September 2011.

A_NPS-108

The commenter states that the full extent, potential yield, and storage capacity of the carbonate aquifer unit has not been quantified at this time and that if the extent and character of the carbonate aquifer is unknown at this time, then the potential impacts from pumping this aquifer cannot be fully evaluated. The commenter believes that given its stratigraphic positioning, it is likely that it will be a confined aquifer and therefore, pumping effects could potentially be transmitted greater distances.

As discussed in the Draft EIR Vol. 1, Section 4.6.1 Geology and Soils, pp. 4.6-6 to 4.6-10, the carbonate aquifer unit is not confined. With respect to the movement of groundwater through the Fenner Gap, the existence of extensive faulting, tilting, and folding of both Paleozoic and Jurassic bedrock units, along with accompanying joint and fracture

¹⁵ Guo, W and Langevin, C.D., 2002. User's Guide to SEAWAT: A Computer Program for Simulation of Three-Dimensional Variable-Density Ground-Water Flow. U.S. Geological Survey, Technical of Water-Resources Investigation 6-A7.

¹⁶ Langevin, C.D., Shoemaker, W.B., and Guo, W. 2003. MODFLOW-2000, the U.S. Geological Survey Modular Ground-Water Model – Documentation of the SEAWAT-2000 Version with Variable-Density Flow Process (VDF) and the Integrated MT2DMS Transport Process (IMT). U.S. Geological Survey, Open-File Report 03-426.

systems, provide extensive secondary groundwater flow paths within the bedrock. As discussed further in the Draft EIR Vol. 1 Section 4.9.1 Hydrology and Water Quality, pp. 4.9-22 to 4.9-24, the geologic units are in hydraulic continuity with each other and the separations are primarily due to stratigraphic differences only. While the Draft EIR does state that the full extent of the carbonate aquifer, as identified in the Fenner Gap, is not known, we do know that it is not regionally continuous throughout the Watershed, due to faulting, folding, and erosion. Based on the geologic data, the carbonate aquifer is limited to the vicinity of the Fenner Gap, so groundwater model simulations are considered to represent the worse-case extent of drawdown impacts. Also, the carbonate aquifer is not connected to any springs due to its limited extents in the Fenner Gap vicinity. See **Master Response 3.4** Springs.

A_NPS-109

The commenter identifies six bulleted issues regarding the Groundwater in Storage analysis in Draft EIR Vol. 4, Appendix H1, Sub-Appendix A (Section 3.0 of CH2M Hill, *Cadiz Groundwater Conservation and Storage Project*, July 2010). Each of the issues are addressed below.

The commenter requests a summary of recharge estimates used by the DWR Bulletin 118. Please refer to **Master Response 3.1** Groundwater Recharge and Evaporation.

The DWR Bulletins for these ground water basins were last updated in February 2004. In reference to the Fenner Valley groundwater basin, DWR states: “ground water information is not extensive or available for much of the basin. The 2004 update includes the results of the GSSI 1999 investigations and no doubt the results of the recent extensive investigations conducted in 2009 through 2011 will be used to update Bulletin 118. The commenter’s calculation of 16.9 MAF storage for all three basins is close to the lower estimate of 17 MAF of ground water in storage presented by this Project.”

The commenter requests clarification on the statement, “These estimates are for groundwater in storage in the alluvial aquifers and should not be taken as a total volume that could be pumped out of these alluvial aquifers” and asks whether this could mean that less water might be available for recovery. As discussed in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-22 to 4.9-24, much more water is present in the deeper portions of the basins than can or needs to be recovered. The water to be pumped from the Project is present in permeable alluvial deposits well within the range of current drilling technology and well design.

The commenter requests clarification on how Table 3-1 (Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Conservation and Storage Project, Sub-Appendix A, Section 3.0) estimates for the variables “Percent of Saturated Thickness which is Aquifer” and “Specific Yield” were determined. Specifically, the commenter asks whether the total volume of water in the basin should be calculated including only that water that can be reasonably reached at maximum well depths (the depths to which it is economically feasible to drill wells considering the fact that alluvial sediments in portions of the Valley reach several thousand feet down and therefore below reasonable extraction depths). In addition, the commenter posits that below a few thousand feet, compaction results in substantially lower levels of permeability and storativity. The estimates of groundwater in storage represent a range that varies by 100 percent, i.e., 17 to 34 MAF. The upper end of the range uses the volume of saturated alluvial sediments and reasonable, if not conservative, values of specific yield, then discounts these storage values by a reasonable factor of percent Saturated Thickness which is Aquifer values to account for decreasing storativity with depth and variation in lithology. In other words, the reduction in specific yield and thickness was applied to all zones in the alluvial aquifer. Then, to be much more conservative, very conservative values of specific yield and percentage Saturated Thickness which is Aquifer values were applied to compute the low-end storage values (see Draft EIR, Vol. 4 Appendix H2).

As stated in the Draft EIR Vol. 4, Appendix H2 Supplemental Assessment of Pumping Required, the Project does not propose using all ground water in storage. Under the 5,000 AFY recharge scenario, the maximum volume of depletion of storage is realized at 1,870,000 AF over a 100 year period. This represents 11 percent of the total storage using the least estimate of recharge volume and the lowest estimate of the volume of ground water in storage and 1.3 percent of total storage using a recharge value of 32,000 AFY. The depletion in storage would be 5.6 percent, 2.5 percent, and <1 percent for the respective recharge scenarios if the higher estimate of total storage is considered.

The commenter requests that the discussion of the potential volume of water available from the carbonate unit summarized in Table 3-1 be removed from the discussion because the full extent, potential yield, and storage capacity of the carbonate unit has not been fully quantified at this time. As discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-22 to 4.9-24, the Tertiary fanglomerate, fractured and faulted granitic rock, and Paleozoic carbonates, located beneath the lower alluvial aquifer, also contain groundwater and the geologic units

are all in hydraulic continuity with each other. However, the results of the pump tests of wells screened in the carbonate unit verify that additional water is available and pumping will access some of this water. The extent of carbonates in the Fenner Gap area is depicted on geologic cross-sections which were developed based on extensive detailed surface geologic mapping correlated to data collected from deep exploratory borings. Therefore, to account for the additional water known to be available from units in addition to the alluvial units, Table 3-1 provides both a low and a high estimate, which is reasonable.

The commenter also requests more information on over storage zone depictions expressed in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Conservation and Storage Project, Figure 3.1. This zonation was originally developed by Geoscience Support Services Inc. in 1999, and still represents reasonable findings based on the geologic and hydrogeologic data, which is why it continues to be used.

A_NPS-110

In reference to the Groundwater in Storage analysis in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Conservation and Storage Project, Sub-Appendix A, Section 4.1.2, the commenter requests a separate discussion on the evapotranspiration values used in the model, similar to Sections 4.1.1 through 4.1.6 for other parameters. And that the estimates for evapotranspiration are underestimated so that the amount of recoverable water is overestimated. Evapotranspiration is not an input parameter, it is one of the values calculated by INFIL3.0, which is why there is no discussion of it as an input parameter. The commenter is referred to the INFIL3.0 documentation for details of the model calculations. INFIL3.0 can be obtained from the USGS web site¹⁷. Please refer to **Master Response 3.2** Groundwater Modeling. In addition, the estimate of recharge was verified by the onsite evapotranspiration study described in **Master Response 3.1** Groundwater Recharge and Evaporation.

A_NPS-111

In reference to the Groundwater in Storage analysis in Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Conservation and Storage Project, Sub-Appendix A, Section 4.1.2, the commenter noted that a reference is made to Hevesi (2008) at the top of p. 4-4, but this reference is not included in the References Cited section at the end of Appendix A, and requests the citation. Hevesi (2008) is the same as the U.S. Geological Survey (USGS) 2008 reference provided in the list of references. This reference is the INFIL3.0 computer code documentation.

¹⁷ U.S. Geologic Survey, *USGS Groundwater Software*, <http://water.usgs.gov/nrp/gwsoftware/Infil/Infil.html>, accessed April 2012.

- A_NPS-112 In reference to the Groundwater in Storage analysis in Vol. 4, Appendix H1 Cadiz Groundwater Conservation and Storage Project, Sub-Appendix A, Section 4.1.8.1, the commenter questions some of the model input values. Both values for IROUT=0 and IROUT=1 have been reported and discussed in Appendix H1, Sub-Appendix A, p.4-9, Section 4.1.8.1. Please refer to **Master Response 3.2** Groundwater Modeling.
- A_NPS-113 In reference to the Groundwater in Storage analysis in Vol. 4, Appendix H1 Cadiz Groundwater Conservation and Storage Project, Sub-Appendix A, Section 4.1.8.1, the commenter stateshe study's rebuttal to the USGS review of recharge estimates, specifically the discussion of a unique precipitation-elevation relationship and disputes the CH2M Hill report findings by discussing a 2004 USGS Joshua Tree area study in some detail. Please refer to **Master Response 3.1** Groundwater Recharge and Evaporation and **Response A_NPS-5**.
- A_NPS-114 In reference to the Groundwater in Storage analysis in Vol. 4, Appendix H1 Cadiz Groundwater Conservation and Storage Project, Sub-Appendix A, Section 4.1.8.2, the commenter states that the moist soils observed at the Dry Lakes might be due not just to capillary rise but to surface water runon. This is correct as discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-15 to 4.9-18. After rainstorms, water does pool on the Dry Lakes and typically evaporates over a short period of time. The commenter further requests that physical measurements be conducted at the Dry Lake. An Evaporation Study was conducted at the Dry Lakes and the results verify the recharge estimate. This is discussed in **Master Response 3.1** Groundwater Recharge and Evaporation and **Response A_NPS-54**. The model developed by CH2M Hill is a watershed model and was used to estimate the amount of natural recharge. The model constructed by GSSI is a groundwater model and was used to evaluate the nature of flow within the defined subsurface area to predict the aquifer response to pumping under various recharge and well configuration scenarios. Please refer to **Response A_NPS-54** and **A NPS- 97**.
- A_NPS-115 In reference to the Groundwater in Storage analysis in Vol. 4, Appendix H1 Cadiz Groundwater Conservation and Storage Project, Sub-Appendix A, Section 4.1.8.2, the commenter requests that discussion regarding the USGS 1997 to 2001 study of evapotranspiration at the floor of Death Valley be included. Please refer to **Master Response 3.1** Groundwater Recharge and Evaporation.

US Marine Corps

A_USMC-1 The commenter states the Project is located within the east study area and Alternative 3 of the USMC Land Acquisition and Airspace Establishment Study for a proposed base expansion plan (USMC Expansion Project), which contemplates a sustained, combined arms, live-fire and maneuver training. This USMC Expansion Project is included in the Draft EIR's cumulative impact analysis. The USMC Expansion Project Update Notice Number 11 released in February 2012 states the preferred Alternative for the proposed Land Acquisition and Airspace Establishment Study is Alternative 6, not Alternative 3. If the USMC Project proceeds with implementation of Alternative 6, the proposed Project will not be impacted. Nevertheless, as discussed in the Draft EIR Vol. 1, Chapter 5 Cumulative Impacts, pp. 5-23, if the USMC proceeds with implementation of Alternative 3 it would overlap substantially with the Project and would require eminent domain action on the part of the Department of Defense for the taking of private lands.

4.2.2 Native American Tribes

| Commenter | Date of Comment | Signatory and Title |
|---|-----------------|-----------------------------|
| Chemehuevi Indian Tribe | 03/14/2012 | Charles F. Wood Chairman |
| Twenty-Nine Palms Band of Mission Indians of California | 03/15/2012 | Darrell Mike Chairman |

Chemehuevi Indian Tribe

A/T_Chemehuevi-1 The commenter questions (1) the amount of time for the aquifer to return to pre-pumping levels, (2) the potential for the generation of dust from the potential drying of the Dry Lake surfaces, and (3) the potential to adversely impact springs in the area that bighorn sheep use for water supply. These comments are addressed in **Master Responses 3.3** Groundwater Pumping Impacts, **3.5** Dry Lakes and Dust, **3.4** Springs, and **3.9** Biological Resources respectively.

A/T_Chemehuevi-2 The comment states that CEQA has not been complied with, but does not identify a specific concern regarding the adequacy of the Draft EIR. The Draft EIR describes the Project and includes analysis of Project impacts and lists proposed mitigation measures. Without identifying a specific issue, a further response is not required pursuant to CEQA. The comment also states that CEQA should afford the fullest possible protection to the environment within reasonable scope of the statutory language.

- A/T_Chemehuevi-3 The comment states that the Draft EIR fails to adequately describe Project objectives, purpose and need, or alternatives, but does not specify in what way. Project objectives are listed in the Draft EIR Vol. 1, Chapter 2 Project Background, p. 2-10 and Chapter 3 Project Description, p. 3-6. The water demands in Southern California are substantial as identified in Metropolitan’s IRWMP summarized in Chapter 6. The Project would improve water supply reliability for Project Participants. Alternatives are adequately assessed pursuant to CEQA requirements in Chapter 7. This comment is also addressed in **Master Response 3.14** Alternatives. The purpose and need for the Project is described beginning on pp. 3-1 through 3-6 although the “purpose and need” analysis is a requirement for an Environmental Impact Statement under the National Environmental Policy Act, not CEQA. The comment also states that the EIR fails to describe or address opportunities to meet water demands through water recycling and groundwater recovery programs, including the Southern California Comprehensive Water Reclamation and Reuse Study. The Bureau of Reclamation’s Reuse Study was conducted in cooperation with 8 state and local agencies to evaluate the feasibility of creating a strategy for development of water reuse programs in southern California and to identify certain projects. This study was not addressed in the Draft EIR because it is a feasibility study that simply identified recycled water projects. The Draft EIR Vol. 1, Chapter 6 Growth-Inducement Potential and Secondary Effects of Growth, pp. 6-4, 6-12, 6-15 and Chapter 7 Alternatives, pp. 7-6 to 7-13, address the fact that several of the Project Participants are already utilizing recycled water supplies. For example, 17.9 percent of SMWD’s total irrigation demands are provided by its recycled water system. While recycled water is a key supply in southern California it is unavailable in sufficient quantities to meet existing demands and can only be used for nonpotable uses. Further, the foundation of this Project itself is conservation as described in **Master Response 3.15** Terminology. See also **Master Response 3.12** Project vs. Program Level Analysis.
- A/T_Chemehuevi-4 The commenter states that the natural recharge rate of the groundwater system has been overestimated. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.
- A/T_Chemehuevi-5 The commenter states that the Draft GMMMP is in violation of CEQA because it defers the identification and evaluation of actual and potential environmental effects to some future date. This is not the case. The Draft EIR fully evaluates the potential environmental impacts of the Project, including recommending the implementation of mitigation measures, including certain measures that are also contained in the Draft GMMMP. Further, the potential environmental impacts of the commitments in the

Draft GMMMP are evaluated throughout Chapter 4. The Draft GMMMP provides for management of the groundwater basin and provides “early warning” action criteria and provides objective performance standards that shall be met through implementation of clear and enforceable corrective actions. The Draft GMMMP does not defer identification of potential impacts of the Project. The Draft GMMMP is provided in the Draft EIR Vol. 2, Appendix B1 Draft GMMMP and an updated version of the Draft GMMMP (Updated GMMMP) is included in the Final EIR Vol. 7, Appendix B1 Updated GMMMP. Additional information regarding the Updated GMMMP is provided in **Master Response 3.8** GMMMP.

A/T_Chemehuevi-6 The commenter states that the Project might reduce spring water flow that bighorn sheep use and that the desert tortoise might be adversely affected. The comment regarding the use of springs by bighorn sheep is addressed in **Master Response 3.4** Springs, as well as **Master Response 3.9** Biological Resources which includes desert tortoise impacts, are addressed in **Responses O_NPCA-CBD et al.-61** and **O_MDLT-2** for desert tortoise impacts.

The commenter is also referred to **Response A/T_29PalmsIndians-35**. A statement regarding the traditional importance of desert tortoise and bighorn sheep to Native American groups in the vicinity of the Project area, including the Chemehuevi, has been added to the cultural resources section of the Final EIR (see Chapter 5). The Project would result in minimal effects to the land uses since the development would be low intensity. The pipeline corridor would be within 100 feet of the existing railroad at all times. As a result, the cultural values for the land expressed in the comment would not be adversely affected by the Project. The addition of this statement to the EIR does not alter the conclusions of the document with regard to potential impacts to Biological Resources.

A/T_Chemehuevi-7 The commenter states that the natural recharge rate of the groundwater system has been overestimated. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

A/T_Chemehuevi-8 The commenter states that cumulative impacts need to be assessed and that the Endangered Species Act and Clean Water Act apply to the Project. The commenter is referred to the Draft EIR Vol. 1, Chapter 5 for a detailed discussion of the cumulative impacts through Project implementation on environmental resources. The commenter is referred to the Draft EIR Vol. 1, Section 4.4 Biological Resources, pp. 4.4-8 through 4.4-28 and **Master Response 3.9** Biological Resources for a detailed discussion of environmental impacts on sensitive species,

including a discussion of potential impacts related to the Federal Endangered Species Act. The commenter is referred to the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-42 to 4.9-44 for a discussion of the Porter Cologne Act requirements and Project compliance.

Twenty-Nine Palms Band of Mission Indians of California

A/T_29PalmsIndians-1

The commenter requests that its comments and all attachments be included as part of the administrative record. The comments and all attachments will be included in the Final EIR. The commenter also requests that its comments on the 2001 Cadiz DEIR/S and SEIR/S be included as part of the administrative record. Those documents are included as a reference in the Draft EIR Vol. 1, Chapter 11 References, p. 11-14.

The comment also requests that all documents, articles, and reports cited in the comment letter and attached expert reports be included as part of the administrative record pursuant to Public Resources Code section 21167.6(e). However, as clarified recently in *Consolidated Irrigation District v. Superior Court of Fresno County; City of Selma*, “documents that are simply named in a comment letter or named along with a reference to a general Web site (such as “www.krcd.org”) have not been made readily available to the public agency and, therefore, are not “written evidence ... submitted” under section 21167.6, subdivision (e)(7).”¹⁸ As such, unless the comment has provided a specific web address where the referenced document can be located, those documents, articles, and reports that are not included in the comment letter and attachments are not considered part of the administrative record.

A/T_29PalmsIndians-2

The commenter states that the aquifer would take centuries to millennia to recover. As discussed in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-71 to 4.9-72 and Table 4.9-10, groundwater storage is anticipated to recover to pre-Project levels about 67 years after the pumping has stopped under the Project Scenario, and 103 and 390 years under the less likely Sensitivity Scenarios 1 and 2, respectively. Furthermore, with a recharge rate of 32,000 AFY, water stored in the aquifer would be reduced by no more than three to six percent over the 50-year term of the Project. This comment is further addressed in **Master Responses 3.1** Groundwater

¹⁸ *Consolidated Irr. v. Superior Court* (2012) 205 Cal.App.4th 697

Recharge and Evaporation and **3.3** Groundwater Pumping Impacts.

The commenter states that pumping above the natural recharge rate would result in the generation of additional dust similar to Owens Lake. This comment is addressed in **Master Response 3.5** Dry Lakes and Dust and **Response O_Tetra1-8**.

The commenter states that draining the aquifer could affect springs used by bighorn sheep. This comment is addressed in **Response O_MDLT-2**, **Master Responses 3.6** Vegetation, **3.4** Springs, and **3.9** Biological Resources.

The commenter states that the fresh water spreading basins for the Imported Water Storage Component of the Project would attract ravens and other birds that will prey on the desert tortoise population. The Imported Water Storage Component was analyzed on a programmatic basis. Desert tortoises were not observed at the conceptual spreading basin area during the 2010 surveys. However, habitat in this area was determined by CMBC to be more suitable for tortoises than the wellfield area. Although the area proposed for the recharge basin (Draft EIR Vol. 1, Chapter 3 Project Description, Figure 3-14) is located within desert tortoise critical habitat, the area does not currently support high-densities of desert tortoise (see Figure 4.4-3). For a few weeks of the year, the recharge basins would provide water sources for raven and other predators that could prey on tortoise. The rest of the year, however, the basins would not be full, and would not present a permanent water source for ravens. Fencing surrounding the spreading basins would also provide a perching substrate for raven. Once Phase 2 is more than conceptual and details about it are known, the effects of the spreading basins and surrounding fencing will be further evaluated at a project level. Impacts to desert tortoise are discussed in the Draft EIR Vol. 1, Section 4.4 Biological Resources, pp. 4.4-40 to 4.4-42, including the potential for increased predation due to ravens. Implementation of Mitigation Measures **BIO-1** through **BIO-13** would minimize impacts to sensitive species to less than significant, with Mitigation Measure **BIO-3** requiring measures to minimize the attraction of ravens. Refer also to **Master Response 3.9** Biological Resources. Further, the Project's potential impacts to desert tortoise were found to be less than significant with mitigation and are described in the Draft EIR Vol. 1, Section 4.4 Biological Resources, pp. 4.4-17 to 4.4-19

and 4.4-40 to 4.4-42. Prior to approving and implementing Phase 2 additional project-level environmental analysis and design details would be required. See **Master Response 3.12** Project vs. Program Level Analysis.

A/T_29PalmsIndians-3

The commenter expresses an opinion regarding the adequacy of the Draft EIR. The comment does not point to specific instances of inadequacy in the Draft EIR that can be remedied, but instead makes broad assertions concerning the document as a whole. For this reason a response pursuant to CEQA is not necessary.

A/T_29PalmsIndians-4

The commenter states that the need for the Project and its objectives are inadequately described in the Draft EIR. The Project objectives are listed in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-6. The Project purpose is described in the Draft EIR Vol. 1, Chapter 2 Project Background, Section 2.5. The water demands in Southern California are substantial as identified in Metropolitan's IRWMP summarized in Chapter 6. The proposed Project would improve water supply reliability for Project Participants. Also see **Response A/T_Chemehuevi-3**.

A/T_29PalmsIndians-5

The commenter states that demand projections and conservation alternatives are inadequately evaluated. The Draft EIR evaluates an Increased Conservation Alternative beginning on page 7-6 in Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives. The analysis summarizes demand control measures throughout the urbanized areas of use. Demand control measures are an integral part of each Project Participant's Urban Water Management Plans and they are included as key elements of water supply and demand with or without the Project. The Project would provide alternative water supplies to Project Participants to diversify water supply options that compliment on-going conservation efforts rather than as a replacement for conservation. The analysis concludes that a conservation-only Alternative would not reduce the need for the Project and so would not meet the basic Project objectives. This comment is also addressed in **Master Response 3.14** Alternatives.

The commenter states that the Project will result in a catastrophic overdraft of the groundwater basin underlying the Cadiz and Fenner Valleys. As discussed in the Draft EIR Vol. 1, Section 4.9.3 pp. 4.9-71 to 4.9-72 and Table 4.9-10, groundwater storage is anticipated to fully recover under the Project Scenario, and both of the less likely Sensitivity Scenarios. Upon full recovery,

there would be no permanent significant impacts. See also **Master Responses 3.3** Groundwater Pumping Impacts and **3.15** Terminology as well as **Response A/T_29PalmsIndians-2**.

A/T_29PalmsIndians-6

The commenter states that recycled water alternatives are not adequately evaluated and does not discuss the opportunities identified in the Southern California Comprehensive Water Reclamation and Reuse Study. Phase 2 of the Southern California Comprehensive Water Reclamation and Reuse Study was finalized in 2002 by the US Bureau of Reclamation. The report provides an overview of reclamation opportunities in Southern California and a plan to facilitate agency coordination and project implementation. The Draft EIR evaluates recycled water as a component of the Other Water Supply Sources Alternative, Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives, p. 7-10. Each Project Participant has identified different opportunities for recycling in its service area. These opportunities are available due to the long range planning and implementation provided by the US Bureau of Reclamation as outlined in the 2002 policy implementation document referenced in the comment. The proposed Project would provide water supply diversification options for Participants but would not reduce the need for water recycling in Southern California. Other water supplies including recycled water projects as listed in Table 7-1 will be pursued by Project Participants with or without the Project. Although recycled water projects could be a reliable source of water for some water providers and other users, recycled water and water conservation projects alone will not satisfy providers' water supply and reliability needs nor meet the basic objective of the Project; that is to save groundwater, avoid waste and maximize beneficial use by conserving substantial quantities of groundwater that are presently lost to evaporation.

A/T_29PalmsIndians-7

The commenter states that the Draft EIR fails to adequately describe the available water storage potential of the groundwater basins in Southern California and so other possibly more cost-effective and less environmentally harmful alternatives were not considered. The proposed Project identifies the Fenner, Bristol and Cadiz Watersheds as providing a unique opportunity to conserve water that would otherwise evaporate. The Project objectives are to develop water supply opportunities from this location. The Project does not preclude other projects in other areas from consideration by other lead agencies. The alternatives analysis in Chapter 7 of the Draft EIR concludes that use of other

groundwater basins for a Project with a similar intent of capturing water before it evaporates is infeasible. See **Master Response 3.14** Alternatives.

A/T_29PalmsIndians-8

The commenter states that the Project is inconsistent in that it describes a conservation component in some places but a storage component in others. As described in the Draft EIR Vol. 1, Chapter 3 Project Description, the Conservation and Recovery Component would be implemented first and would be limited to the 50-year life of the Project. The Imported Water Storage Component (Phase 2) would be implemented subsequently after project-level review, and only if surplus water is available through the CRA, the SWP or other sources for storage. See **Master Response 3.12** Project vs. Program Level Analysis. The commenter also summarizes comments below; please refer to **Responses A/T_ 29PalmsIndians-9** through **A/T_ 29PalmsIndians-48**.

A/T_29PalmsIndians-9

The commenter states that the recharge rate has not been adequately described and is different from previous recharge estimates. The comment makes reference to the *Cadiz Land Company Inc. v. Rail Cyle L.P.* 99 Cal.Rptr 2d 378, 392 (Cal.App.2000) stating that the system underlying Cadiz is already in a state of overdraft. The range of recharge estimates prepared for the Project Watersheds is clearly described in **Master Response 3.1** Groundwater Recharge and Evaporation. There is no evidence showing that the existing condition is in overdraft.

The commenter also states that the basin is already overdrafted, referring to a report by Boyle Engineering.¹⁹ This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

A/T_29PalmsIndians-10

The commenter states that the Project is not allowed under California water law. See **Master Response 3.7** Water Rights.

A/T_29PalmsIndians-11

The commenter states that the Project is not allowed under federal law. See **Master Response 3.7** Water Rights.

A/T_29PalmsIndians-12

The commenter states that the Draft EIR fails to adequately describe the costs, or cost-effectiveness, of the Project. The

¹⁹ Geoscience Support Services, Inc., *Comments on Boyle Engineering Corporation's 2-Nov-95 Letter to Waste management Inc. Regarding Technical Review of Cadiz Land Company Water Resources Investigations*, December 1995.

Project would be financed privately and the costs recouped through long-term water supply contracts. CEQA does not require that costs of a project be included in an assessment of environmental impacts or that the project's cost-effectiveness be demonstrated.

A/T_29PalmsIndians-13

The commenter states that the Colorado River Interim Guidelines are not mentioned in the Draft EIR as a potential limiting factor for Phase 2. As stated in the Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-14 through 3-16, implementation of Phase 2 would be dependent on the availability of water and water supplies would be identified before pursuing Phase 2. Phase 2 of the Project, which would include importing water to the Project area for storage, was analyzed at the programmatic level because the details of the Project, as well as participating parties, are yet to be determined. Once these details are known, project-level CEQA analysis will be completed prior to approval and implementation (see **Master Response 3.12** Project vs. Program Level Analysis).

A/T_29PalmsIndians-14

The commenter questions the economic viability of Cadiz Inc. The Project would be financed privately and the costs recouped through long-term water supply contracts. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

A/T_29PalmsIndians-15

The commenter states that the alternatives analysis is inadequate because it fails to include reasonable alternatives such as conservation, water recycling and groundwater recovery, and storage alternatives. Chapter 7 of the Draft EIR provides an extensive assessment of potential Project alternatives pursuant to CEQA requirements, including an Increased Conservation Alternative. See also **Master Response 3.14** Alternatives and **Responses O_NPCA-CBD et al.- 162** through **165**.

A/T_29PalmsIndians-16

The commenter suggests that Ward Valley be evaluated as a Project Alternative. The fundamental purpose of the Project is to extract groundwater from the Fenner Watershed (thereby saving substantial quantities of freshwater from evaporation) and convey it to support beneficial uses in the service areas of Project Participants. The feasibility of the conservation of groundwater relies on the unique characteristics of the Fenner Watershed and the Fenner Gap. Assessment of other groundwater basins in the Mojave Desert is not consistent with

Project objectives. Further, a Ward Valley alternative would be infeasible. Under CEQA Guideline section 15126.6 (f)(1), among the factors that may be taken into account when addressing the feasibility of alternatives are whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site. The proposed Project identifies the Fenner, Bristol, and Cadiz Watersheds as providing a unique opportunity to conserve water that would otherwise evaporate. The Project objectives are to develop water supply opportunities from this location. The Project does not preclude other projects in other areas from consideration by other lead agencies. The alternatives analysis in Chapter 7 of the Draft EIR concludes that use of other groundwater basins for a Project with a similar intent of capturing water before it evaporates is infeasible. See **Master Response 3.14** Alternatives.

A/T_29PalmsIndians-17

The commenter states that desalination be considered as a Project Alternative. The Draft EIR evaluates other water supplies including desalination as listed in the Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives, in the Other Water Supply Sources Alternative section on p. 7-10, Table 7-1. Desalination will be pursued by Project Participants with or without the Project. See also **Master Response 3.14** Alternatives.

A/T_29PalmsIndians-18

The commenter states that the analysis of conservation alternatives is inadequate. The Draft EIR evaluates an Increased Conservation Alternative beginning on page 7-6 in Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives. The analysis summarizes demand control measures throughout the urbanized areas of use. Demand control measures are an integral part of each Project Participant's Urban Water Management Plans and they are included as key elements of water supply and demand with or without the Project. The Project would provide alternative water supplies to Project participants to diversify water supply options that compliment on-going conservation efforts rather than replace them. The analysis concludes that conservation only would not reduce the need for the Project. The Increased Conservation Alternative was rejected since it does not meet any Project objectives and is complementary to the Project rather than an alternative. See also **Master Response 3.14** Alternatives and **Response A/T_29PalmsIndians-5**.

A/T_29PalmsIndians-19

The commenter states that the Draft GMMMP impermissibly defers the identification and evaluation of actual and potential

environmental effects, as well as mitigation measures to correct such effects, to some future date and to some other agency, specifically the Fenner Valley Mutual Water Company (FVMWC). This is not the case. The EIR fully evaluates the potential environmental impacts of the Project, including recommending the implementation of mitigation measures, certain of which are also contained in the Draft GMMMP in the Draft EIR and the Updated GMMMP in the Final EIR. The Draft EIR evaluates potential impacts of the Project in Sections 4.1 through 4.15, potential cumulative effects in Chapter 5, and potential growth-inducement effects in Chapter 6. The commenter specifically mentions the potential environmental effects on groundwater resources. These are addressed in Section 4.9 Hydrology and Water Quality. The impacts are defined and mitigation identified to minimize these specific effects. The commitments in the Draft GMMMP are evaluated throughout the Draft EIR Vol. 1, Chapter 4 (see also the Final EIR Vol. 7, Appendix B1 Updated GMMMP and Vol. 6, Chapter 5 Draft EIR Text Revisions). The Updated GMMMP provides for management of the groundwater basin and does not defer identification of potential impacts of the Project. Mitigation Measures **AQ-5, GEO-1, HYDRO-2, HYDRO-3** and **MIN-1** (included in the Draft EIR and Updated GMMMP), set specific “early warning” action criteria and objective performance standards that shall be met through implementation of clear and enforceable corrective action(s). As described in the Updated GMMMP, monitoring would be implemented by the FVMWC, an entity comprised of the Project’s participating public water systems, subject to review by the Technical Review Panel (TRP). The County of San Bernardino, a Responsible Agency with enforcement authority over the GMMMP, would review monitoring reports and both ensure and determine whether mitigation has been triggered and ensure preventative actions or remedies are appropriately implemented. This comment is further addressed in **Response O_Tetra1-7** and **Master Response 3.8** GMMMP.

A/T_29PalmsIndians-20

The commenter states that the Draft GMMMP impermissibly defers the identification and valuation of actual and potential environmental effects. See **Response A/T_29PalmsIndians-19**. See also **Master Response 3.8** GMMMP.

A/T_29PalmsIndians-21

The commenter questions how the Project will avoid chronic overdraft and yet also pump groundwater in excess of the

recharge rate. The commenter states that the recharge estimate is too high compared to estimates from previous studies. The natural recharge portion of this comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. The long-term impacts portion of this comment is addressed in **Master Response 3.3** Groundwater Pumping Impacts. Also see, **Responses O_PacificInstitute-3** and **O_MDLT-3**.

The commenter states that there is insufficient information about the groundwater elevation change over time. The Draft EIR provides this information in Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sections 8.1, 8.2, and 8.3.

The commenter questions which model was used to evaluate the hypothetical response of springs to aquifer pumping. See **Master Response 3.2** Groundwater Modeling and **3.4** Springs.

The commenter states that the drawdown beneath Bristol Dry Lake will be more severe at 100 years than at 50 years. The commenter is referred to **Master Response 3.3** Groundwater Pumping Impacts.

The commenter states that the saline water/freshwater interface will continue to migrate after 100 years. As noted in Section 8.4 of Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, the interface makes most of its migration in the first 50 years, and then (after pumping stops and the aquifer begins to return to its natural state) migrates a smaller amount more by year 100 as the cone of depression shrinks. This comment is further addressed in **Master Response 3.3** Groundwater Pumping Impacts and **Responses O_PacificInstitute-3, O_PacificInstitute-8, O_Tetra1-10, and O_Tetra1-Attachment-7**.

The commenter states that groundwater drawdown may impact springs used by bighorn sheep. This comment is addressed in **Master Responses 3.4** Springs and **3.9** Biological Resources.

The commenter states that the corrective measures described in the Draft GMMMP (Draft EIR Vol. 2, Appendix B1 Draft GMMMP) will be implemented too late to mitigate impacts. Monitoring is to begin prior to Project operations to accurately measure impacts as they occur attributable to the Project. As described in the Draft GMMMP and the Updated GMMMP

(Final EIR Vol. 7, Appendix B1 Updated GMMMP), each of the monitoring measures are designed to detect potential impacts before a critical resource has been impacted. Action triggers are identified that prompt action to avoid adverse impacts. The corrective measures are designed to mitigate impacts. The GMMMP further includes a management “floor” for drawdown (80 feet with the potential to increase to 100 feet) that will provide an additional tool to ensure that Project drawdown would not result in any significant unmitigated effect to critical resources in the watershed. See **Master Response 3.8** GMMMP.

The commenter states that there should be a rigorous spring monitoring program. This comment is addressed in **Master Responses 3.8 GMMMP** and **Master Response 3.4** Springs which discuss in detail the Updated GMMMP monitoring features, action criteria and corrective actions applicable to springs.

The commenter states that groundwater drawdown will continue even after extraction has stopped. This comment is addressed in **Master Response 3.3** Groundwater Pumping Impacts. Also see **Responses A_NPS-8** and **A_NPS-84**.

The commenter states that early warning signs will not be identified. As described in the Updated GMMMP, Section 1.44, FVMWC will operate the Project subject to review by the Technical Review Panel (TRP) and enforcement by the County of San Bernardino. The TRP members and responsibilities are additionally described in Section 8.1 of the Updated GMMMP; the oversight, management, and enforcement by the County is described in Section 8.2 (see Final EIR Vol. 7, Appendix B1 Updated GMMMP).

A/T_29PalmsIndians-22

The commenter states that the Draft GMMMP lacks sufficient independent oversight. On May 1, 2012, the San Bernardino County Board of Supervisors approved an MOU with SMWD, Cadiz Inc., and FVMWC to establish the framework for working together to finalize the GMMMP. The MOU is a first step, and it does not obligate SMWD to proceed with the Project, or to presume that the environmental documentation for the Project will be certified, nor does it require the County to approve the GMMMP. No obligation included in the MOU is binding on SMWD or the County until such time as the District and County complete their respective environmental reviews of the Project

and approve the Project and the GMMMP. The MOU provides a framework for managing the basin consistent with both the California Supreme Court precedent and the County's Desert Groundwater Ordinance. The aquifer will be monitored and managed through implementation of the GMMMP. Additionally, FVMWC will enter into a Joint Powers Agreement (JPA) with SMWD. The Joint Powers Authority shall oversee the management and operation of the Project and responsibility for day to day operations shall be allocated between FVMWC and the JPA, as appropriate. FVMWC will be responsible for obtaining and analyzing data required under the GMMMP and compliance with the conditions of the GMMMP, including notice of action criteria triggers and corrective action assessments and recommendations. The recommendations of FVMWC will be evaluated by a Technical Review Panel (TRP) consisting of three experts, one appointed by the County, one appointed by SMWD, and a third appointed by both the County and SMWD. The County would exercise enforcement authority over compliance with the GMMMP, while SMWD would retain oversight to ensure that Project Mitigation Measures are implemented. This comment is addressed in **Master Response 3.8 GMMMP** and in the **Response O_NPCA-CBD *et al.*-102**.

A/T_29PalmsIndians-23

The commenter expresses the general concern that the Draft GMMMP does not contain adequate triggers, thresholds, or goals to ensure that mitigation measures will be implemented. Mitigation Measures **AQ-5, GEO-1, HYDRO-2, HYDRO-3** and **MIN-1** (included in the EIR and Updated GMMMP), provide monitoring measures, action criteria, and corrective measures for all potential impacts. They are specifically designed to provide advance warning of potential impacts to critical resources.

The commenter states that the only response provided for in the event an early warning sign is triggered is a process of review and evaluation by the TRP and other bodies subject to the control of SMWD, the Lead Agency. As set forth in the Updated GMMMP, the County will have enforcement authority over the GMMMP and will appoint one of the three members of the TRP and jointly appoint a second member. All recommendations of the TRP are subject to County review and approval. This comment is addressed in **Response O_NPCA-CBD *et al.*-102** and **Master Response 3.8 GMMMP**.

The commenter claims that the Draft GMMMP makes the following assumptions (i) that the action criteria are accurate indicators of potentially adverse environmental impacts, (ii) that such impacts can be halted, reversed, or corrected with or without impact to other environmental or critical resources, and (iii) that the structure of the TRP will appropriately manage the Project despite the potential conflicts of interest. The GMMMP is not based on assumptions but on a comprehensive evaluation of data developed to review the potential effects of the Project on the environment and groundwater basin. The monitoring measures consist of physical and visual measurements that will provide actionable data and were specifically designed by groundwater management experts to provide advance warning of potential impacts to critical resources that were identified in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, p. 4.9-47. The action criteria are based on the monitoring measurements and are triggered by specific levels or events (see the Final EIR Vol. 7, Appendix B1, Updated GMMMP, Chapter 6). The corrective measures as reflected in Mitigation Measures **AQ-5**, **GEO-1**, **HYDRO-2**, **HYDRO-3**, and **MIN-1** (included in the Draft EIR and Updated GMMMP), set specific monitoring triggers for implementation of mitigation features and were specifically designed to prevent potential adverse Project impacts. The GMMMP further includes a management “floor” for drawdown and further action criteria and corrective actions for springs. See also **Master Response 3.8** GMMMP.

A/T_29PalmsIndians-24

The commenter expresses general concern regarding the estimate of recharge. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

The commenter states that there may be brine movement toward the Project site. As noted in Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 8.4, and as discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-49 to 4.9-53, the model-predicted migration of the saline-water-freshwater interface is not expected to reach the wellfield and there are no current wells in use in that area that were located other than the saline/brine water wells purposely pumped for the production of salts. Any migration of the saline/freshwater interface would be monitored as part of the GMMMP and subject to a limit of 6,000 feet (see Final EIR Vol. 7, Appendix B1 Updated GMMMP). This comment is further addressed in **Master Response 3.3**

Groundwater Pumping Impacts, **3.8 GMMMP**, and **Responses O_PacificInstitute-3, O_PacificInstitute-8, O_Tetra1-10, and O_Tetra1-Attachment-7.**

The commenter expresses the general concern that the water resources of the surrounding wilderness areas, national park units, and mountain areas may be affected. Impacts to these areas are not anticipated based on modeling and scientific analysis of water resources at the Project area. The Draft EIR evaluates the specific potential impacts to water resources in Section 4.9.3 Hydrology and Water Quality and describes mitigations measures to reduce any potential impacts to less than significant. This comment is further addressed in **Response A_NPS-8** and **Master Response 3.9** Biological Resources.

The commenter states that drawdown of the aquifer is likely to lead to subsidence, which could result in the permanent loss of an unknown but potentially significant amount of groundwater storage capacity from the aquifer. As described in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 8.6, the maximum land subsidence predicted under the three scenarios ranges from 0.9 to 2.7 feet (Draft EIR Table 4.6-4). The reduction in subsurface thickness would occur at the depths where groundwater is withdrawn, well over 100 feet below the ground surface. In Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-72, the text states that although subsidence could result in some permanent loss of aquifer storage, relatively small amounts of potential land subsidence (inches if any) relative to the overall aquifer thickness (on the order of hundreds to thousands of feet) would ensure that compaction of water bearing formations would not significantly reduce storage capacity of the groundwater basin and permanent subsidence at the surface would be less than significant. Also see **Response O_PacificInstitute-3** and **Master Response 3.3** Groundwater Pumping Impacts.

A/T_29PalmsIndians-25

The commenter expresses general concern regarding the estimate of recharge and the adequacy of the Draft EIR analysis of potential air quality. The commenter is concerned about potential drawdown of brine under the Dry Lakes leading to increased dust emissions, the possibility of dust emissions from spreading basins, and potential impacts to sand and dune areas that will worsen current dust emissions. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

The potential impacts of the drawdown of brine under the Dry Lakes is addressed in **Master Response 3.5** Dry Lakes and Dust.

With respect to the potential for windblown dust off the Phase 2 Imported Water Storage Component spreading basin facilities, Phase 2 was analyzed at the programmatic level and will be analyzed at the project level, once details about this Component are known. However, the spreading basins proposed for Phase 2 will be located in areas that contain no standing water at present and therefore will, if anything, lessen the amount of dust once installed because there will be standing water a few weeks of the year. Overall, there should be no significant change in the amount of dust generated at the location of the spreading basins.

The commenter states that sand dune areas are likely to expand and result in sand blowing onto the playas of Cadiz and Danby Dry Lakes causing increased potential for dust emissions. As described in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-63 to 4.9-71, the depth to groundwater under existing and future conditions is well below the ground surface and would therefore have no interaction with the overlying sand dunes. See Draft EIR, Vol. 3 Appendix E2 Fugitive Dust and Effects from Changing Water Table at Bristol and Cadiz Playas. Additional information regarding dust generation is provided in the **Master Response 3.5** Dry Lakes and Dust.

A/T_29PalmsIndians-26

The commenter expresses general concerns that 1) the instrumentation and measurements proposed to detect dust emissions are inadequate, 2) the time period for proposed monitoring is too short to reveal potential impacts or compliance with National Ambient Air Quality Standards, 3) the proposed plan for dealing with dust emissions, namely the assumed ability to manipulate the level of the brine layer, is completely ineffective as a dust control measure; 4) the management and monitoring program fails to explore an adequate range of control strategies to mitigate the potential dust problem or to address the associated costs, and 5) the monitoring plan is insufficient to address the impacts on the Mojave National Preserve. As discussed in the Draft EIR (Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-15 to 4.9-18; Vol. 3, Appendix E2 Fugitive Dust and Effects from Changing Water Table at Bristol and Cadiz Playas; and **Master Response 3.5** Dry Lakes and Dust), the pumping of groundwater from the aquifer would have

no impact on the existing dust conditions. As such, no mitigation measures were required under CEQA. Nonetheless, the Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 4.4 includes measures to monitor air quality trends and includes mandatory corrective actions if Project operations cause significant changes in Dry Lake dust generation. In addition, the Mojave Desert Air Quality Management District submitted a comment letter in which they find mitigation measures **AQ-1** through **AQ-5** feasible. See **Response A_MDAQMD2-1**.

A/T_29PalmsIndians-27

The commenter states that dust emissions from Bristol and Cadiz Dry Lakes have not been assessed, including chemical composition. The Dry Lakes have been extensively studied and that information on the chemical composition of the dust emissions from the Dry Lakes is provided in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-15 to 4.9-18 and Vol. 3, Appendix E3 Emissions Worksheets. The dominance of chloride at the Dry Lakes results in salts that produce less dust-producing salt efflorescence, and are efficient at retaining water and maintaining the surface crust. Additional information is also provided in **Master Response 3.5** Dry Lakes and Dust.

A/T_29PalmsIndians-28

The commenter states that potential dust emissions from the Project's spreading basins in Phase 2 were not evaluated. The Draft EIR Vol. 1, Section 4.3.4 Air Quality, pp. 4.3-21 to 4.3-24 addresses potential air quality impacts of Phase 2. Impacts were found to be less than significant or less than significant with mitigation with one exception: during construction only, the release of NO_x emissions will be unavoidable, even with mitigation (operational emissions would be less than significant). With respect to the potential for windblown dust off the spreading basins in Imported Water Storage Component, Phase 2 was analyzed at the programmatic level and will be further analyzed at the project level, once details about this Component are available and approvals for this Component are sought.

A/T_29PalmsIndians-29

The commenter states that construction of the conveyance facilities for the Project will both temporarily and permanently disturb significant areas within the Cadiz Dunes and generate dust. Construction and operation of the Project would avoid the Cadiz Dunes. As shown in the Draft EIR Vol. 1, Section 4.1 Aesthetics, p. 4.1-3, the closest the pipeline alignment will be to the edge of the dunes is approximately 100 feet and so would not disturb dune areas. The Cadiz Dunes Wilderness Areas would

not be accessed or otherwise affected in any way by construction or maintenance of the pipeline.

A/T_29PalmsIndians-30

The commenter questions the adequacy of the dust monitoring and mitigation measures relative to the Dry Lakes. As discussed in the Draft EIR (Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-15 to 4.9-18; Vol. 3, Appendix E2 Fugitive Dust and Effects from Changing Water Table at Bristol and Cadiz Playas; and **Master Response 3.5** Dry Lakes and Dust), the pumping of groundwater from the aquifer would have no impact on the existing dust conditions. As such, no mitigation measures are required under CEQA. Nonetheless, the Updated GMMMP includes monitoring measures and corrective actions which are incorporated into Mitigation Measure **AQ-5**.

A/T_29PalmsIndians-31

The commenter states that the fresh water spreading basins for the Imported Water Storage Component of the Project will attract ravens and other birds that will prey on the desert tortoise population. The Imported Water Storage Component was analyzed on a programmatic basis. Desert tortoises were not observed at the conceptual spreading basin area during the 2010 surveys, as stated in the Draft EIR Vol. 1, Section 4.4 Biological Resources, p. 4.4-17. However, habitat in this area was determined by CMBC to be more suitable for tortoises than the wellfield area. Furthermore, the area proposed for the recharge basin (Figure 3-14) is located within desert tortoise critical habitat, although the area does not currently support high-densities of individuals. Approximately 250 acres within designated critical habitat would be impacted by Project construction (see Table 4.4-2 and Figure 4.4-3). The recharge basins would provide water sources for raven and other predators that could prey on tortoise. However, the basins would not be full for more than a few weeks of the year, and would not present a permanent water source for ravens. Fencing surrounding the spreading basins would also provide a perching substrate for raven. Implementation of Mitigation Measures **BIO-1** through **BIO-13** would minimize impacts to sensitive species to less than significant. Phase 2 will be evaluated further at a project level once details of that Component are known. This comment is further addressed in **Response A/T_29PalmsIndians-2**.

A/T_29PalmsIndians-32

The commentator states that bighorn sheep depend on spring water and may be adversely impacted by Project operations. Impacts to Nelson's bighorn sheep are described in Section 4.3,

Biological Resources, pp. 4.4-24 and 4.4-43. This comment is addressed in **Response O_MDLT-2** and **Master Responses 3.6** Vegetation, **3.4** Springs, and **3.9** Biology. Wildlife movement corridors are discussed in Draft EIR Vol. 1, Section 4.4 Biological Resources, p. 4.4-27. Impacts to Wildlife Movement Corridors are discussed on p. 4.4-52.

A/T_29PalmsIndians-33

The commenter states the potential for drawdown of groundwater to dry out the lake beds may cause large scale dust emissions. This comment is addressed in **Master Response 3.5** Dry Lakes and Dust.

A/T_29PalmsIndians-34

The commenter states that the wellfield area has not been surveyed for cultural resources. A portion of the wellfield area was previously surveyed and 16 resources were identified. See Draft EIR, p. 4.5-29. Due to the large area within which the wells will be placed, mitigation measures were proposed to ensure the wellfield is configured to avoid impacts to cultural resources. Since the preparation of the Draft EIR, additional field surveys were conducted to identify additional resources. A cultural resources survey of the footprint of the proposed well pads, connector pipeline, and access roads, as well as CRA tie-in Options 2a and 2b, and proposed staging areas, was conducted between May 15 and June 2, 2012, which is summarized in the Final EIR Vol. 7, Appendix O Cultural Resources Survey Report – June 2012. Survey methods were similar to those used during survey of the water conveyance pipeline in 2010, with surveyors using transects of no greater than 15 meters. A 100-foot buffer around proposed well pads, access roads, and connector pipelines was surveyed. Staging areas and CRA tie-in Option areas were surveyed in their entirety, with no buffer. A total of 53 resources were identified as a result of the survey, including 45 new archaeological sites, five isolates, and three previously recorded archaeological sites. No built environment resources were identified during the survey. Ten of the new archaeological sites are prehistoric, 34 are historic-era, and one contains both prehistoric and historic-era components. Based on their lack of data potential, the five isolates and six of the historic-era archaeological sites are recommended not eligible for listing in the National Register of Historic Places or California Register of Historical Resources, and are not considered historical resources or unique archaeological resources under CEQA. The remaining 42 archaeological sites are potentially significant historical

resources and, therefore, subject to Mitigation Measures **CUL-1** through **CUL-7**. See Final EIR Appendix O.

If significant historical resources are located in the proposed pipeline, well pad or access road areas, the Project facilities (e.g., well pads, access roads and pipelines) would be redesigned or relocated to entirely avoid the resources, consistent with Mitigation Measure **CUL-2**. The well pads would each require up to 10,000 square feet (0.25 acres) of land. Access roads would be 25 feet wide. The exact locations of the wells and access roads are easily relocated within a quarter mile area. This provides ample room to avoid any significant historical resources. Significant resources within the staging areas and CRA tie-in area would also be avoided where feasible. If significant historical resources cannot be avoided, a treatment plan for these resources would be prepared and implemented, as required by Mitigation Measure **CUL-4**. The surveys confirm the Draft EIR's finding that construction of the wellfield or work in the staging areas could impact previously unknown historical and archeological resources such that the implementation of Mitigation Measures **CUL-1**, **CUL-2**, **CUL-3**, **CUL-4**, **CUL-5**, **CUL-6**, and **CUL-7** are required to reduce those potentially significant impacts to a less than significant level.

CEQA does not require that an Area of Potential Effects (APE) be defined for cultural resources. However, the Draft EIR Vol. 1, Section 4.5 Cultural Resources considered potential impacts from all proposed Project components, including vehicle and personnel access to the Project area. For the proposed Project, the cultural resources area of analysis was considered to be the Project area as defined in the Draft EIR Vol. 1, Chapter 3 Project Description, Figure 3-1. See also **Response O_NPCA-CBD et al.-83**.

A/T_29PalmsIndians-35

The comment states that development in the Valley would affect Native American peoples and cultural resources. The commenter is thanked for this information regarding the importance of desert tortoise and bighorn sheep to the Chemehuevi, Mojave, and Cahuilla peoples. The commenter is referred to **Master Response 3.9 Biological Resources**. A statement regarding the traditional importance of desert tortoise and bighorn sheep will be added to second paragraph on p. 4.5-3 of the Cultural Resources Section of the Draft EIR Vol. 1:

In addition to being important food sources, bighorn sheep and desert tortoise were considered very important animals to the Chemehuevi, Cahuilla, and Mojave peoples, and featured prominently in their cultural traditions, songs, and rituals.

The following text will be added to Cultural Resources Section 4.5.1, p. 4.5-41, below the third full paragraph of the Draft EIR Vol. 1:

The 29 Palms Band of Mission Indians and other commenters have indicated that bighorn sheep and desert tortoise were considered very important animals to the Chemehuevi, Cahuilla, and Mojave peoples, and featured prominently in their cultural traditions, songs, and rituals. The 29 Palms Band of Mission Indians also indicated that these two species should be considered cultural resources. However, as discussed in Section 4.4 of the EIR, Biological Resources, impacts from the proposed Project to bighorn sheep and desert tortoise would be less than significant with mitigation.

In regard to the text regarding the history of the Chemehuevi on page 4.5-8, this text is meant to be a brief summary of Chemehuevi occupation and movement in the vicinity of the Project area, and not a comprehensive and complete account. See also **Response O_MDLT-2** and **Master Responses 3.6** Vegetation and **3.4** Springs.

A/T_29PalmsIndians-36

The text on page 4.5-1 of the Draft EIR Vol. 1, Section 4.5 Cultural Resources, is revised to account for the information presented in this comment:

Archaeological resources are places where human activity has measurably altered the earth or left deposits of physical remains. Archaeological resources may be either prehistoric-era (before European contact) or historic-era (after European contact). The majority of such places in California are associated with either Native American or Euro-American occupation of the area. Some of the most frequently encountered prehistoric or historic Native American archaeological sites in the State are village settlements with residential areas and sometimes cemeteries; ~~temporary~~ seasonal camps where food and raw materials were collected;

smaller, briefly occupied sites where tools were manufactured or repaired; and special-use areas like caves, rock shelters, and rock art sites.

A/T_29PalmsIndians-37

The text on page 4.5-3 of the Draft EIR Vol. 1, Section 4.5 Cultural Resources, is revised to include bighorn sheep in the list of faunal species in the Eastern Mojave:

The primary plant community in the Mojave Desert is the creosote scrub community, which is dominated by creosote bush and white bursage. Other plant communities include the cactus scrub community, which includes barrel cactus, calico cactus, and ocotillo, and the saltbrush series, which includes saltbrush, mesquite, arrowweed, and goldenbrush. Common animals include bighorn sheep, desert cottontail, jackrabbit, kangaroo rat, packrat, chuckwalla iguana, desert tortoise, and desert quail.

A/T_29PalmsIndians-38

The text in the second paragraph on page 4.5-4 of the Draft EIR Vol. 1, Section 4.5 Cultural Resources, is revised to account for the information presented in this comment.

In terms of material culture, the Lake Mojave Complex is typified by stone tools such as Lake Mojave and Silver Lake projectile points, bifaces, steep-edged unifaces, crescents, and some ground stone implements. A characteristic of Lake Mojave artifact assemblages is the frequent use of fine-grained volcanic lithic material in the production of flaked stone tools, while cryptocrystalline material was preferred for use in the production of other types of implements (Giambastiani and Bullard, 2007).

A/T_29PalmsIndians-39

The incorrect page number in the references in footnotes 27 and 29 of the Draft EIR Vol. 1, Section 4.5 Cultural Resources, is revised as follows:

Kroeber, A. L., *Handbook of the Indians of California*, 1925, p. 3 802.

A/T_29PalmsIndians-40

The text in the second paragraph of p. 4.5-8 of the Draft EIR Vol. 1, Section 4.5 Cultural Resources, is revised to account for the information presented in this comment:

The harsh desert environment typical of the Project area could support only the smallest groups comprised of nuclear families joined by kinship ties. These small hunter-gatherer groups moved in response to local food and water availability, typically seasonally or more frequently. The lack of resources of the area created a very diverse hunting economy where small game were important protein sources. Pronghorn ~~sheep~~ antelope, mountain sheep, deer, rabbits, squirrels, desert chipmunks, and wood rats were important mammals in the local diet along with reptiles, such as desert tortoises, snakes, and lizards, and birds, eggs and insects.

A/T_29PalmsIndians-41

The text in the last paragraph on page 4.5-8 of the Draft EIR Vol. 1, Section 4.5 Cultural Resources, will be revised to account for the information presented in this comment:

The Chemehuevi were divided into two moieties (kinship group) represented by two songs, the Mountain Sheep Song and the Deer Song, which were each associated with different hunting areas. They generally lived in bands of two or three families, each band having a leader. The Chemehuevi, along with the Serrano, were occupying the oasis of Mara (Twentynine Palms) when permanent settlement of the area by Europeans and Americans began. Livestock depleted natural resources and Euro-American settlers began to claim large pieces of land. In 1890, 160 acres near Twentynine Palms were set aside for a reservation for the Chemehuevi. In 1910, 640 acres adjacent to the existing Cabazon reservation in Coachella was given jointly to the Cahuilla and the Chemehuevi, and those who remained on the Twentynine Palms reservation were encouraged to move there. Some went, some stayed, and others chose to settle elsewhere in California.

A/T_29PalmsIndians-42

The comment states that few references were used in the analysis. Draft EIR Vol. 1, Section 4.5.1, Cultural Resources presents a brief synopsis of the prehistory, ethnographic, and historic context of the Project area. The purpose of the Environmental Setting is to provide a context for the information presented later in the Cultural Resources section and is not intended to be a detailed or comprehensive history.

- A/T_29PalmsIndians-43 The comment states that Colorado River water recharged in the groundwater aquifer may adversely affect water quality. Imported water from the Colorado River would only be recharged into the aquifer system as part of Phase 2 of the Project, which is not being approved at this time. The Imported Water Storage Component is analyzed primarily at a program level of detail. The Draft EIR acknowledges that approval from the RWQCB will be necessary prior to implementation or recharge basins pursuant to the Porter Cologne Act. In preparation for the Phase 2 project-level environmental review process, the water quality will be assessed, including the effect of introducing CRA water into the aquifer. See **Responses O_NPCA-CBD et al.-13** and **A_NPS-88**.
- A/T_29PalmsIndians-44 The comment states that Colorado River water recharged in the groundwater may adversely affect water quality. See prior response and **Responses O_NPCA-CBD et al.-13** and **A_NPS-88**.
- A/T_29PalmsIndians-45 The comment states that Chromium 6 (hexavalent chromium) in groundwater could adversely affect water quality. The commenter is referred to **Response A_MWD-4**, which reviews water quality impacts and Chromium 6. Project groundwater meets all of the existing State and federal regulatory MCLs established for drinking water and as such the Draft EIR concludes that water quality impacts are less than significant.
- A/T_29PalmsIndians-46 The comment states that the cumulative analysis fails to address local water uses, specifically those of the local reservation and private property owners. The commenter is referred to the Draft EIR Vol. 1, Chapter 5 Cumulative Impacts, Figure 5-1 Cumulative Projects and to Table 5-2 Plans, Programs, and Projects Evaluated in the Cumulative Effects Analysis, which list several reasonably foreseeable water uses on private land. See also the discussion of existing groundwater use in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-24 to 4.9-28. A review of County of San Bernardino development applications for the last five years did not reveal applications for a residential complex in the Chambless area as suggested by the commenter. Further, water use and accessibility to water would not be affected in any of the surrounding Wilderness Areas or watersheds due to the lack of a hydraulic connection to area springs and the fact that the Fenner Watershed is closed system. See **Master Responses 3.3** Groundwater Pumping Impacts and **3.4** Springs.

- A/T_29PalmsIndians-47 The commenter states there are potential impacts of climate change, and specifically contend that Project-area climate change modeling must be considered. Climate change may indeed alter precipitation and recharge rates in the Mojave Desert. The actual effect is uncertain. The comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. See **Master Response 3.5** Dry Lakes and Dust for a discussion on local climate.
- A/T_29PalmsIndians-48 The commenter states that the CEQA public meetings related to the Draft EIR were inadequate. The commenter is referred to **Master Response 3.11** CEQA Public Process.
- A/T_29PalmsIndians-49 The comment summarizes opinions regarding the adequacy of the Draft EIR, which are further articulated in comments above. The commenter is referred to **Responses A/T_29PalmsIndians-4** through **A/T_29PalmsIndians-49**.

4.2.3 State Agencies

| Commenter | Date of Comment | Signatory and Title |
|---|------------------------------|--|
| California Department of Fish and Game <i>Inland Deserts Region</i> | 02/28/2012 | Michael D. Flores Sr. Environmental Scientist |
| California Department of Transportation <i>Division of Transportation Planning, MS-32 Office of Community Planning Local Development – Intergovernmental Review Branch</i> | 12/08/2011 | Terri Pencovic Chief |
| Department of Toxic Substances Control <i>Brownfields and Environmental Restoration Program</i> | 01/03/2012 and 03/21/2012 | Greg Holmes Unit Chief |
| Native American Heritage Commission | 12/07/2011 | Dave Singleton Program Analyst |
| State Water Resources Control Board <i>Inland Streams Unit</i> | 12/14/2011 | Katherine Mrowka Chief |

California Department of Fish and Game

- A_CDFG-1 The commenter states that the Project could affect water sources utilized by desert bighorn sheep populations. The commenter is referred to **Master Responses 3.4** Springs and **3.9** Biological Resources.
- As stated in **Master Response 3.4** Springs, springs in the mountains are fed by precipitation. After springs receive their portion of precipitation, the rest of the water then migrates down to the aquifer system in the valley hundreds of feet below. Bonanza Spring in the Clipper Mountains, is considered an “indicator spring” because it is in the closest proximity

to the Project wellfield (approximately 11 miles from the center of the Fenner Gap). Therefore, of all the springs within the Fenner Watershed, Bonanza Spring would be the first one that would be affected by the Project operations (should any springs be affected, which is not expected). Potential impacts to other springs even more remote in the southern part of the Fenner Watershed would be even less likely to be affected compared to Bonanza Spring. As such, it was determined that monitoring of the “indicator spring” would be sufficient to monitor any potential impacts to springs in the impacted watersheds. However, in an abundance of caution, two (2) other springs will be monitored which are located at greater distances from the Project, Whiskey and Vontrigger springs. Please refer to **Master Responses 3.4 Springs and 3.8 GMMMP**.

The CDFG recommended that multiple springs within the Project's affected watersheds and among several mountain ranges be monitored to detect impacts during the Project's period of operation. However, as discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-59 to 4.9-61 and **Master Response 3.4 Springs**, there is no hydrologic connection between the springs in the mountains and aquifer in the valley below. In addition, the affected area is limited to the area shown on Figures 64 to 69 in Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis. Nonetheless, the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP) includes monitoring for the three springs listed above.

Given that the Project is not anticipated to have any effect on the spring flows of any of the Fenner Watershed springs, no mitigation is required. There is no information demonstrating a physical connection of the springs to a regional groundwater table. If the springs are not hydraulically connected to the regional water table, then no impacts to the springs are expected in response to the proposed Project pumping operations. Even if such a hypothetical connection were to exist, groundwater modeling results suggest that a bulk hydraulic conductivity of about 0.025 feet per day over a saturated thickness of 2,000 feet would be required to support a "mound" of groundwater below the Clipper Mountains such that the Bonanza Spring would be in contact with the regional water table. The hypothetical model results suggest that a ten foot decline in groundwater levels at the valley floor adjacent to the mountain springs could result in about six to seven feet of drawdown at the springs after hundreds of years, assuming that the decline in the adjacent alluvial aquifer was maintained at ten feet of drawdown indefinitely, which is not the case. Potential impacts to other springs in the southern part of the Fenner Watershed are expected to be even more

remote than those potential impacts on the Bonanza Spring, as the other springs are at higher elevations and greater distances from the adjacent alluvial aquifer (Draft EIR Vol. 4, Appendix H3, Assessment of Effects of the Cadiz Groundwater Conservation Recovery and Storage Project Operations on Springs). Therefore, even if there were a hydraulic connection, which is not the case, the Project is not likely to have an impact, and if it does, any impact would not be significant. It is anticipated that any effect on the water table would be less than significant and it would take a long time for the spring to be affected such that recovery of groundwater levels may not have any effect whatsoever on the water table at the springs, and the effect may be subsumed within natural climatic background fluctuations in water table elevations in the bedrock. Please also see Draft EIR Vol. 4, Appendix H3, Assessment of Effects of the Cadiz Groundwater Conservation Recovery and Storage Project Operations on Springs, pp. 18-19. As such, monitoring of the “indicator spring” was determined to be sufficient and no additional mitigation is required by the Draft EIR. Nevertheless, as a management feature of the GMMMP, corrective action is required if reductions of flow at Bonanza spring are attributable Project operations. See **Master Response 3.8** GMMMP.

Further, the Draft EIR identifies the ranges and migratory routes used by the desert bighorn sheep in the region. Additionally, geologist Miles Kenney has identified man-made or improved water resources installed in the mountains specifically to support the bighorn sheep. These also will not be affected by the Project. Please refer to Draft EIR Vol. 4, Appendix H1 Miles Kenney Geologic Structural Evaluation of the Fenner Gap Region Located Between the Southern Marble Mountains and Ship Mountains, San Bernardino County, California, August 31, 2011.

The Draft EIR Vol. 1, Section 4.4 Biological Resources, Figure 4.4-4 identifies migratory routes. Page 4.4-24 provides a discussion on the species. Based on that data and discussion, the Draft EIR concludes that the proposed Project would not impact the springs and would therefore not impact the desert bighorn sheep that rely on those springs.

A_CDFG-2

The commenter states that phreatophytic vegetation outside the footprint of construction could be affected by the Project during operation. As described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-28 to 4.9-31 and Figure 4.9-6, in the area that would experience groundwater drawdown, groundwater is on the order of hundreds of feet below the ground surface while the plant roots do not exceed 25 feet. Therefore, the root zones of any vegetation,

phreatophytic or otherwise, cannot reach groundwater because it is too deep. The commenter is referred to **Master Responses 3.6** Vegetation and **3.9** Biological Resources.

A_CDFG-3 The recommendation by CDFG that construction of the pipeline in the ARZC ROW take place on the west side of the tracks to minimize the disturbance to and/or loss of the more productive plant communities on the east side, is noted. As stated in Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-26, the pipeline would be constructed parallel to and predominantly southwest of the railroad tracks. Mitigation Measure **BIO-5** requires that the pipeline be placed within more disturbed areas when feasible, which would be the west side of the tracks as requested by the commenter.

A_CDFG-4 The commenter requests that BLM be contacted to ensure the pipeline is an allowable use within the railroad easement. Please refer to **Master Response 3.13** Right-of-Way and NEPA.

A_CDFG-5 The commenter requests that additional analysis be provided for Phase 2 prior to its implementation. The Draft EIR acknowledges that additional surveys would be required for new components proposed in Phase 2. These surveys have not been conducted at this time since exact locations area unknown and the value of any surveys conducted now would expire by the time of the full project environmental review for Phase 2. In other words, Project impacts would not occur for several years after the value of site specific surveys. Rather, the Draft EIR provides an overview of the existing habitats with respect to common and sensitive species that may be encountered during future activities. Subsequent surveys will be required prior to implementing Phase 2. See also **Master Response 3.12** Project vs. Program Level Analysis.

California Department of Transportation

A_Caltrans-1 The mailing address correction has been made to the Local Development - Intergovernmental Review Branch. No additional response is required.

Department of Toxic Substances Control

A_DTSC-1 The commenter requests that all the Notice of Publication (NOP) comments be provided responses. The commenter is referred to all **Responses A_DTSC-Attachment-1 to 9** below.

A_DTSC-2 The commenter suggests that DTSC is available to provide cleanup oversight. The comment is noted.

- A_DTSC-Attachment-1 The commenter asks whether the Project site is listed on agency databases for hazardous waste. The Draft EIR cites three databases searched in preparation of the Draft EIR: *Envirostor*, DTSC (4.8-3); *Geotracker*, State Water Resources Control Board (4.8-3); and *Final Site Inspection Report, Former Cadiz Lake Sonic Target No. 5*, U.S. Army Corps of Engineers (USACE) (4.8-3). Draft EIR Section 4.8 Hazards assesses the potential for the Project to encounter previously contaminated soils. The Draft EIR identifies abandoned live firing ranges used by the military in the vicinity of the Project. Mitigation Measures **HAZ-2** and **HAZ-3** would ensure that activities in these areas do not increase safety hazards or result in the release of hazardous materials.
- A_DTSC-Attachment-2 The commenter states that a mechanism to respond to hazards should be identified. Draft EIR Vol. 1, Section 4.8 Hazard and Hazardous Materials, p. 4.8-10 states that the San Bernardino County Fire Department – Hazardous Materials Division is the local agency responsible for the enforcement of a variety of hazardous materials management requirements. It is the State designated Certified Unified Program Agencies (CUPA) for the County of San Bernardino, and provides consolidation and consistency in reporting requirements, permit formats, inspection criteria, enforcement standards, and fees for various hazardous materials programs.
- Facilities that handle hazardous materials or generate hazardous waste must obtain a permit from the CUPA. Mitigation Measure **HAZ-1** states that the storage, handling, and disposal of hazardous materials will comply with applicable regulations including submittal of a Business Plan to the County Fire Department. Mitigation Measure **HAZ-2** would ensure that any previously unknown contamination is handled appropriately in coordination with the CUPA. If contamination is found, collection of soil samples and notification of such results would be relayed to the CUPA. The construction contractor shall stockpile contaminated soils on plastic sheeting as necessary to prevent releasing contamination into the ground and shall ultimately dispose of the materials in coordination with the CUPA in compliance with hazardous material regulations.
- The proposed Project also intends to coordinate with the USACE to clear the proposed locations for the potential presence of unexploded ordnance from historical military uses within 250 feet of the Cadiz Sonic Lake Target No. 5 and No. 9 areas. Mitigation Measure **HAZ-3** states that in the event that the USACE encounters unexploded

ordnance, the USACE is obligated to remove the unexploded ordnance during their ongoing investigations.

A_DTSC-Attachment-3 The commenter states that remediation should be conducted under an approved Workplan. Please refer to **Response DTSC-Attachment- 02** for discussion of governmental agency oversight in the Draft EIR.

The Draft EIR Vol. 1, Section 4.8 Hazards and Hazardous Materials, pages 4.8-3 to 4.8-5 summarizes two previous investigations near the Project area. No hazardous materials were found that violate regulatory standards. Site inspections were conducted for the USACE at the former Cadiz Lake Sonic Target No. 5²⁰ and at the former Cadiz Lake Sonic Target No. 9.²¹ The former site was used for Department of Defense (DOD) training operations during WWII, while the latter site was used by DOD for bombing practice between 1946 and 1948 and to train soldiers for combat during WWII. Investigations were performed on both sites to verify the site location and to evaluate evidence for the presence of munitions, explosives of concern, and munitions debris at the former site.

Both reports recommended conducting a remedial investigation/feasibility study to determine the need to further define the nature and extent of UXO at the sites. The report did not recommend a removal action based on the remote location of both sites.

A_DTSC-Attachment-4 The commenter states that asbestos and lead surveys must be conducted if buildings are to be demolished. The proposed Project does not involve demolition of structures or roads that would release hazardous materials such as asbestos, mercury, or lead.

A_DTSC-Attachment-5 The commenter states that future excavation may require soils testing. The Draft EIR acknowledges that excavation could encounter previously unknown contamination. Mitigation Measure **HAZ-2** would ensure that the soils are handled properly pursuant to applicable regulations.

A_DTSC-Attachment-6 The comment suggests that a health risk assessment be conducted if necessary. As described in the Draft EIR Vol. 1, Section 4.3 Air Quality, pp. 4.3-6 and 4.3-19 to 4.4-23, because the Project area is sparsely populated, there are very few sensitive receptors in proximity

²⁰ U.S. Army Corps of Engineers, *Final Site Inspection Report, Former Cadiz Lake Sonic Target No. 5, San Bernardino County, California*, September 2009, pp. ES-1 to ES-3.

²¹ U.S. Army Corps of Engineers, *Final Site Inspection Report, Former Cadiz Lake Sonic Target No. 9, San Bernardino County, California*, pp. ES-1 to ES-3.

to the Project. The nearest sensitive receptors to the proposed Project facilities are three or four residences located approximately 3.3 miles north of the Project site near the corner of Cadiz Road and National Trails Highway. The small community of Amboy (population less than 20) is located approximately 10 miles to the west on Highway 66. No other sensitive receptor is located in the Project area for over 10 miles. Due to the distance between construction activities and sensitive receptors, construction of the proposed Project would not emit air pollutants in quantities that could pose health concerns to local sensitive receptors. The potential for adverse health impacts to sensitive receptors is a function of pollutant concentrations and duration of exposure. The distances to local residences and local wind patterns provide substantial dilution opportunities for pollutants emitted during construction. Furthermore, the temporary construction emissions would not result in long-term exposure to pollutants.

A_DTSC-Attachment-7 The comment states that activities on previous agricultural lands may encounter chemicals such as pesticides in soils. As stated in the Draft EIR Vol. 1, Section 4.8 Hazards and Hazardous Materials, p. 4.8-1, Cadiz Inc. currently farms 1,600 acres in and adjacent to the northern part of the Project area, however, hazardous materials and pesticides are seldom used in connection with the Cadiz Inc. agricultural operations because the desert terrain produces fewer weeds and pests, and Cadiz Inc. follows sustainable agriculture and organic practices. There are no hazardous materials storage areas in the immediate vicinity of the proposed Project spreading basins. Pesticide handling and application is performed by trained and certified employees of Cadiz Inc. and is conducted in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), and Occupational Safety and Health Administration (OSHA) regulations.

A_DTSC-Attachment-8 The comment notes that handling hazardous materials and wastes is subject to regulations. The Draft EIR Vol. 1, Section 4.8 Hazards and Hazardous Materials identifies these regulations and notes that handling of potentially hazardous materials, including equipment fuel, paints, lubricants, antifreeze, solvents, and other potentially hazardous materials would be subject to these regulations. Implementation of Mitigation Measure **HAZ-1** would ensure that transportation, storage, and the handling of hazardous materials would not result in accidental releases that could significantly impact neighboring land uses.

While hazardous materials are not expected to be uncovered, construction of the Project facilities would involve grading and excavation, and therefore the potential of encountering previously

unidentified hazardous materials is present. Encountering contaminated soil, surface water, and groundwater without taking proper precautions could result in the exposure of construction workers and the environment to hazardous conditions. Mitigation Measure **HAZ-2** would ensure that any previously unknown contamination is handled appropriately in coordination with the CUPA.

A_DTSC-Attachment-9 The comment provides information on DTSC's Environmental Oversight Agreement (EOA) for governmental agencies that are not responsible agencies, and the Voluntary Cleanup Agreement (VCA) for private parties. The comment is noted.

Native American Heritage Commission

A_NAHC-1 The comment notes that a project-specific records search and a NAHC Sacred Lands File (SLF) search was performed for the Project and found no Sacred Lands within the Area of Potential Effect. The commenter is referred to the Draft EIR Vol. 1, Section 4.5.2 Cultural Resources, which summarizes the results of the records search and SLF search.

A_NAHC-2 The comment suggests close coordination with Native American Tribes. As stated in the Draft EIR Vol. 1, Section 4.5 Cultural Resources, p. 4.5-22, the NAHC was contacted and performed a SLF search for the Project. Native American contacts as recommended by the NAHC in its November 12, 2010 letter were contacted to provide input on the Project. The commenter is referred to page 4.5-22, which summarizes the results of the NAHC SLF search and the Native American contact program.

A_NAHC-3 The commenter notes that California Government Code section 6254 protects historic resources. The Draft EIR Vol. 1, Section 4.5 Cultural Resources evaluates potential impacts to historic resources on page 4.5-40. The Draft EIR concludes that the Project would result in a less than significant impact with mitigation.

A_NAHC-4 The commenter notes that Public Resources Code section 5097.98, California Government Code section 27491, and Health and Safety Code section 7050.5 provide contingencies for discovered human remains. The Draft EIR Vol. 1, Section 4.5 Cultural Resources discusses the potential of encountering human remains on page 4.5-46. The commenter is referred to Mitigation Measures **CUL-6** and **CUL-7**, which provide contingency measures for the accidental discovery of cultural resources during Project implementation and Mitigation Measure **CUL-11**, which provides contingency measures for the discovery of human remains during Project implementation.

A_NAHC-5 The commenter notes that the Project should involve close coordination between Native American groups, Project proponents, and contractors. The commenter is referred to **Response A_NAHC-2**.

State Water Resources Control Board

A_SWRCB-1 The commenter requests that any additional environmental documentation requiring discretionary approval that is prepared for the Project, including future Phase 2 documentation, be provided to the State Water Resources Control Board (SWRCB) for review and comment. The comment is noted.

A_SWRCB-2 The commenter states that if a water right approval is needed, the SWRCB would act as a responsible agency. In addition, the commenter states that the place of storage for the Project Participants may need to be added to existing water rights. The diversion of surface water, and any resultant changes to the Delta will not be an issue because water that will be sent to storage will already have left the Delta under a state contractor's water right. The Draft EIR evaluates the importation of water for storage at a programmatic level of detail. Phase 2 would provide storage for SWP or Colorado River water to entities with rights to these water sources. Any approvals needed from the SWRCB will be considered in subsequent analysis as suggested in the comment.

4.2.4 Local Agencies

| Commenter | Date of Comment | Signatory and Title |
|--|-----------------|---|
| Coachella Valley Water District | 02/23/2012 | Mark Johnson Director of Engineering |
| Metropolitan Water District of Southern California <i>Environmental Planning Team</i> | 03/12/2012 | Deidre West Manager |
| Mojave Desert Air Quality Management District (2 submissions) | 12/16/2011 | Tracy Walters Lead Air Quality Planner |
| | 12/20/2011 | Alan J. De Salvio Supervising Air Quality Engineer |
| City of Needles | 03/01/2012 | Edward T. Paget Mayor |
| County of San Bernardino (via Downey Brand Attorneys LLP) | 03/13/2012 | Christian L. Marsh |
| County of San Bernardino Public Works <i>Environmental Management Division</i> | 02/07/2012 | John Schatz, AICP Supervising Planner |
| City of Twentynine Palms (2 submissions) | 01/31/2012 | John Cole Mayor |
| | 03/08/2012 | Daniel L. Mintz, Sr. Councilmember |

Coachella Valley Water District

A_CVWD-1 The commenter states that Phase 1 should be analyzed as a stand alone project. The commenter is referred to **Master Response 3.12** Project vs. Program Level Analysis. The Project was analyzed at two separate levels: project level for Phase 1 and primarily program level for Phase 2. As the commenter states, details of Phase 2 are not fully developed. Therefore, future environmental analysis will be required once sufficient detail for Phase 2 becomes available. Phase 1 is analyzed in the Draft EIR independently from Phase 2, with the understanding that Phase 2 may or may not occur.

A_CVWD-2 The commenter states that the Project must not infringe upon the ability of the CRA to deliver water to the Coachella Valley Water District (CVWD) pursuant to its SWP water exchange agreements with Metropolitan. The Desert Water Agency and CVWD are State Water Contractors that, because of their remote locations, did not build a physical connection to the East Branch of the SWP. In 1972, in lieu of a SWP connection, the two agencies entered into an exchange agreement with Metropolitan to deliver their SWP supplies to Metropolitan in exchange for a like amount of Colorado River water. This agreement, amended in 1983 and expanded in 2006, allows Metropolitan to provide advance deliveries to Desert Water Agency and CVWA so that Metropolitan can recall a portion of the water in dry years when it needs the water.

Since 2003, when surplus water was no longer available to Metropolitan on the Colorado River, the CRA has not been able to deliver its 1.2 to 1.3 MAF per year capacity. The following data, taken from Decree Accounting Reports from 2000 to 2010 on the USBR's website²² shows deliveries to Metropolitan as follows:

| <u>Year</u> | <u>Flow (MAF)</u> |
|-------------|-------------------|
| 2010 | 1.099 |
| 2009 | 1.105 |
| 2008 | 0.904 |
| 2007 | 0.713 |
| 2006 | 0.632 |

²² U.S. Bureau of Reclamation, Lower Colorado River Region, <http://www.usbr.gov/lc/region/g4000/wtracct.html>, accessed May 2012.

| <u>Year</u> | <u>Flow (MAF)</u> |
|-------------|-------------------|
| 2005 | 0.875 |
| 2004 | 0.760 |
| 2003 | 0.683 |
| 2002 | 1.237 |
| 2001 | 1.250 |
| 2000 | 1.300 |

Metropolitan's 2010 Regional Urban Water Management Plan (RUWMP) states (p. 3-2) "Metropolitan continues to pursue Colorado River Aqueduct (CRA) supplies of 1.2 MAF per year. However, over the years, a number of constraints have developed that restrict Metropolitan's access to CRA supplies. As a result, Metropolitan adopted a revised policy of utilizing the full capacity of the CRA when needed through various water banking and acquisition programs. This water will help Metropolitan manage regional storage conditions and water quality." The plan goes on to list a number of Current Programs, Programs Under Development, and additional programs designed to help make Colorado River Aqueduct supplies available when needed. The CVWD and Desert Water Agency SWP programs are listed as Current Programs through the Year 2035. Some of the other Current Programs, such as the SDCWA/IID water transfer and canal lining projects are firm or long term supplies, while others such as Drop 2 Reservoir Funding, and SNWA agreements may provide only short to mid-term supplies for Metropolitan with varying degrees of reliability.

Metropolitan has a variety of options for CRA water supplies. Supplies provided by the Project are more reliable and longer term than most or all of the RUWMP CRA supply programs under development. Many Metropolitan member agencies prefer to have firm supplies, while others may choose to take more risk. Ultimately Metropolitan and its member agencies will determine how to balance Colorado River water supplies, such as those provided by the Project, with other supplies to best meet the needs of each individual member agency. In any case, Project water being conveyed through the CRA provides more opportunity for a full CRA, thus CVWD's ability to exchange Colorado River water for SWP water according to the terms of its agreement with Metropolitan will not be impacted by the Project. In fact, additional water available in the CRA will likely enhance Metropolitan's delivery flexibility and ability to meet its exchange obligations with CVWD.

A_CVWD-3

The commenter states that the Project could adversely affect water quality within the CRA and therefore could affect groundwater quality within the Coachella Valley since CRA water is released for recharge in the Coachella Valley. The Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, beginning on p. 4.9-53, evaluates the potential for Project water to adversely affect CRA water quality. Table 3.9-8 on p. 4.9-57 provides a comparison of water quality from groundwater samples in the Cadiz Inc. property and from Colorado River water at Parker Dam. The comparison shows better water quality from the Cadiz wells (TDS levels are lower) than from Colorado River water. As a result, blending of Project water with the CRA would have the beneficial result of diluting TDS levels. Even so, the Draft EIR acknowledges that as part of the Project description, the quality of water delivered to the CRA from the Project wellfield would be subject to all drinking water standards and would require approval from Metropolitan. The Draft EIR states on p. 4.9-56 that the GMMMP would require FVMWC to collect samples, analyze water quality, and report results on a set schedule to ensure that water quality meets drinking water standards and CRA pump-in requirements as determined by Metropolitan.

Metropolitan Water District of Southern California**A_MWD-1**

The commenter states that Metropolitan Water District of Southern California (Metropolitan) is a responsible agency for purposes of CEQA and that it has concerns regarding Project impacts to Metropolitan property. As noted by the commenter, its concerns are presented in more detail in subsequent comments. Therefore, please see responses below to these more specific comments. As described in the Draft EIR Vol. 1, Chapter 2 Project Background, p. 2-8, Metropolitan owns and operates the CRA. The Draft EIR lists the agreements, permits, and approvals that may be required to implement the Project. Metropolitan is listed as an agency that will need to approve the Project's modification of the CRA for the proposed CRA tie-in and diversion structures. Further, the Draft EIR states that an agreement with Metropolitan is necessary for the Project's conveyance of water through Metropolitan's CRA (Draft EIR, Vol. 1, Chapter 3 Project Description, pp. 3-53 to 3-54; and Final EIR Vol. 6, Chapter 5 Draft EIR Text Revisions). Responsible agencies are agencies, other than the lead agency, that have some discretionary authority for carrying out or approving a project (CEQA Guidelines § 15381). Accordingly, Metropolitan is a responsible agency for the Project. The Draft EIR p. 3-54, third column of the approval listing for Metropolitan Water District is revised to clarify as follows:

A CEQA Responsible Agency pursuant to California Public Resources Code Section 21069, Metropolitan would evaluate potential environmental impacts within its boundaries and on its Facilities. Needed for use of the CRA.

As noted by the commenter, Metropolitan provided comments on the Notice of Preparation for the Project in March 2011 and the Project sponsor has initiated consultation with Metropolitan regarding the potential design specifics for the proposed CRA intertie and use. The Draft EIR analyzes the proposed CRA tie-in facilities to be used in Phase 1 at a project level. The analysis addresses the potential impacts for the environmental issues identified by the commenter (i.e, water quality, geology and soils) and, where appropriate, identifies feasible mitigation measures with regard to environmental impacts associated with construction and operation of the proposed CRA tie-in.

A_MWD-2 The commenter states that it is a responsible agency under CEQA. Please see **Response A_MWD-1**.

A_MWD-3 The commenter suggests that the need to evaluate the environmental effects of the Phase 1 Groundwater Conservation and Recovery Component should be evaluated separately from the Phase 2 Imported Water Storage Component and also comments on the Project objectives. The Draft EIR evaluates the potential environmental impacts of the Phase 1 Component in detail, at a project level of analysis, and does so separately from the Phase 2 Component. Although the discussion referenced by the commenter in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-14 addresses the relationship of the two Project components and describes how they could work together should both components be approved for implementation, the Draft EIR impact analysis evaluates each Project component separately and describes the difference in potential environmental impacts between the two components. It also addresses the cumulative effects of implementing both components.

Because participants for Phase 2 have not been identified and certain elements of design and operation are only conceptual at this time, such as potential quantity and the schedule for import, recharge, extraction, and subsequent re-delivery of imported water for each participant and in the aggregate, the Phase 2 Component is analyzed primarily at a program-level in accordance with CEQA Guidelines Section 15168. As indicated in the Draft EIR (including Section 3.7.2 Imported Water Storage Component), additional project-level CEQA environmental review will be conducted for the Phase 2 Component if it is pursued for

implementation. At that time the technical work, studies, and modeling previously undertaken will be updated, as appropriate, to account for, among other things, proposed Project parameters and any newly developed information and modeling. See **Master Response 3.12** Project vs. Program Level Analysis.

With respect to comments regarding the Project purpose and objectives, Draft EIR Vol. 1, Chapter 3 Project Description describes the objectives of the proposed Project. The discussion on p. 3-14, under the subsection “Relationship of Groundwater Operations for the Groundwater Conservation and Recovery Component and the Imported Water Storage Component” provides additional information about the potential interrelationship between the two Project components. However, the Phase 1 Groundwater Conservation and Recovery Component is a stand-alone project that fulfills the Project objectives and functions effectively and can proceed and operate without implementation of the Phase 2 Imported Water Storage Component. The Phase 1 Component is analyzed in the Draft EIR at the project level as a stand-alone project. If pursued, the Phase 2 Component would be complementary to and work in concert with the Phase 1 Component but first would undergo further review at the project level.

A_MWD-4

The commenter states that aspects of the Project are lacking sufficient detail to effectively determine potential impacts to Metropolitan property and the feasibility of the proposed Project, including hydraulic modeling, Project operations in conjunction with Metropolitan’s operations, and sizing and location of facilities. The Draft EIR describes the proposed CRA tie-in proposed facilities, size, capacity, and location (Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-34 through 3-38) and evaluates two options for the tie-in facilities: a direct tie-in and an indirect tie-in with equalization storage. Option 1 includes a small forebay structure to be located near the CRA to provide for flow stabilization and metering into the CRA. Option 1 includes three alternative operational scenarios to address how the Project could work with Metropolitan’s CRA operations. Option 2 includes a larger equalization storage reservoir at one of two possible locations, both of which are evaluated in the Draft EIR: one near Rice on Metropolitan-owned property and one near Milligan and Danby Dry Lake on Cadiz Inc.-owned property (Draft EIR Vol. 1, p. 3-36 and Figures 3-12a and 3-12b). As noted on page 3-36, the CRA tie-in Option 1 is the simplest and is preferred by Cadiz Inc. Metropolitan has expressed its concerns about a direct tie-in such as that proposed under Option 1 and its preference for an indirect tie-in with equalization storage such as that proposed under Option 2. Ultimately, the final design of both the tie-in facilities and

CRA-related Project operations will be developed with Metropolitan and will be subject to Metropolitan's approval.

The Draft EIR analyzes the potential environmental impacts of the two tie-in options and identifies mitigation measures to address potential significant effects of both construction and operation of these facilities. A discussion of impacts and mitigation measures that would apply to construction and/or operation of the CRA tie-in facilities presented in the Draft EIR throughout Chapter 4 Environmental Setting, Impacts and Mitigation Measures is summarized below.

- **Agriculture and Forestry Resources** (Draft EIR Vol. 1, Section 4.2). The Draft EIR found no impact to agricultural or forestry resources from development of the proposed CRA tie-in facilities under either of the two options evaluated.
- **Air Quality** (Draft EIR Vol. 1, Section 4.3). The Draft EIR evaluates construction emissions for all proposed Phase 1 Component facilities. Table 4.3-5 (p. 4.3-12) summarizes construction-related emissions including those associated with construction of the CRA tie-in. These construction emissions estimates have been revised as part of the response to comments process; please see **Response A_MWD-6** for the revised information. Both the construction emissions information presented in the Draft EIR and the emissions information that has since been updated, indicate that Phase 1 construction would have potential significant air quality impacts associated with NO_x and fugitive dust (PM₁₀ and PM_{2.5}) emissions. Implementation of Mitigation Measures **AQ-1** through **AQ-4**, which call for full regulatory compliance, dust control, equipment emissions control, and covering trucks hauling loose material would ensure compliance with the Mojave Desert Air Quality Management District Rule 403 and reduce Project impacts. After mitigation the Draft EIR concludes that fugitive dust emissions would be less than significant but NO_x emissions would remain significant and unavoidable. Exposure of sensitive receptors to toxic air emissions during Project construction would be less than significant (p. 4.3-19).

Emissions from mobile sources during Project operations (i.e., vehicle and truck trips for maintenance and management) were found to be less than significant (p. 4.3-13). Project operation emissions associated with power generation would be less than

significant in the Project area using either natural gas or electrical power (p. 4.3-13).

- **Biological Resources** (Draft EIR Vol. 1, Section 4.4). Field evaluation of biological resources and surveys for special status plants and animals were conducted at Project facility sites, including the sites proposed for each of the CRA tie-in facility option sites, as described on p. 4.4-38. Although no signs of desert tortoise were found near the CRA at proposed facility sites, Mitigation Measures **BIO-1** through **BIO-7** would be implemented at all Project facility sites. In addition, no signs of burrowing owl were located near the CRA. However, some signs of burrowing owl were found along the pipeline alignment in areas where the equalization storage could be developed. Other bird and mammal species (e.g., badger) have the potential to occur in various parts of the proposed Project area including at or near the CRA tie-in facility sites. Therefore, Mitigation Measures **BIO-8** through **BIO-17** would also be implemented as needed.
- **Cultural Resources** (Draft EIR Vol. 1, Section 4.5). A field survey for historical, archaeological, and paleontological resources was conducted for Project facility sites including the CRA tie-in facilities (pp. 4.5-22 and 4.5-33). The history of the CRA is described in the Draft EIR (pp. 4.5-13 through 4.5-14) and the CRA is listed as an historical resource on Table 4.5-2 (p. 4.5-19) and discussed further on p. 4.5-25. As further discussed in the Draft EIR, the CRA was previously recommended as eligible for listing in the National Register of Historic Places (NRHP) under Criteria A, B, and C and is therefore also eligible under the California Register of Historic Resources (CRHR) (coded as CA-SBR-10521H). The CRA is considered a significant cultural resource under CEQA. The potential for the Project to impact the CRA as an historical resource is discussed on p. 4.5-40. Specifically, the water conveyance pipeline tie-in would connect to a small section of the aqueduct sidewall. Because the Project would affect only a small area of the aqueduct, and would not alter the character, purpose, or use of the CRA, nor substantially alter its construction or architectural style, the tie-in is not expected to affect this resource's eligibility for listing in the NRHP or CRHR and thus would not result in a significant impact to the resource.

With respect to archaeological resources, the areas where the proposed CRA tie-in facilities are located do not contain any known resources, but the Draft EIR acknowledged that construction of activities could uncover previously unknown resources. Mitigation Measures **CUL-1** through **CUL-7** would be implemented during Project construction, including construction of the CRA tie-in facilities (pp. 4.5-42 through 4.5-44).

A paleontological resources survey of the footprint of the proposed well pads, connector pipeline, and access roads, as well as CRA tie-in Options 2a and 2b, and proposed staging areas, was conducted between May 15 and June 2, 2012. The survey report is being prepared. Initial results of the survey indicate that no significant paleontological resources were located in areas potentially affected by the proposed Project. A final report will be submitted to the San Bernardino County Museum confirming these results. Mitigation Measures **CUL-9** and **CUL-10** would ensure that construction activities do not result in significant impacts to paleontological resources.

A portion of the wellfield area was previously surveyed for cultural resources and 16 resources were identified. See Draft EIR Vol. 1, Section 4.5 Cultural Resources, p. 4.5-29. Due to the large area within which the wells will be placed, mitigation measures were proposed to ensure the wellfield is configured to avoid impacts to cultural resources. Since the preparation of the Draft EIR, additional field surveys were conducted to identify additional resources. A cultural resources survey of the footprint of the proposed well pads, connector pipeline, and access roads, as well as CRA tie-in Options 2a and 2b and proposed staging areas, was conducted between May 15 and June 2, 2012 and is summarized in the Final EIR Vol. 7, Appendix O Cultural Resources Survey Report – June 2012. Survey methods were similar to those used during survey of the water conveyance pipeline in 2010, with surveyors using transects of no greater than 15 meters. A 100-foot buffer around proposed well pads, access roads, and connector pipelines was surveyed. Staging areas and CRA tie-in Option areas were surveyed in their entirety, with no buffer. A total of 53 resources were identified as a result of the survey, including 45 new archaeological sites, five isolates, and three previously recorded archaeological sites. No built environment resources were identified during the survey. Ten of the new archaeological sites are prehistoric, 34 are historic-era, and one contains both prehistoric and historic-

era components. Based on their lack of data potential, the five isolates and six of the historic-era archaeological sites are recommended not eligible for listing in the National Register of Historic Places or California Register of Historical Resources and are not considered historical resources or unique archaeological resources under CEQA. The remaining 42 archaeological sites are potentially significant historical resources and, therefore, subject to Mitigation Measures **CUL-1** through **CUL-7**. See Appendix O.

If significant historical resources are located in the proposed pipeline, well pad, or access road areas, the Project would be redesigned or relocated to entirely avoid the resources, consistent with Mitigation Measure **CUL-2**. The well pads would each require up to 10,000 square feet (0.25 acres) of land. Access roads would be 25 feet wide. The exact locations of the wells and access roads are easily relocated within a quarter mile area. This provides ample room to avoid any significant historical resources. Significant resources within the staging areas and CRA tie-in area would also be avoided where feasible. If significant historical resources cannot be avoided, a treatment plan for these resources would be prepared and implemented, as required by Mitigation Measure **CUL-4**. The surveys confirm the Draft EIR's finding that construction of the wellfield or work in the staging areas could impact previously unknown historical and archeological resources such that the implementation of Mitigation Measures **CUL-1**, **CUL-2**, **CUL-3**, **CUL-4**, **CUL-5**, **CUL-6**, and **CUL-7** are required to reduce those potentially significant impacts to a less than significant level.

- **Geology and Soils** (Draft EIR Vol. 1, Section 4.6). The Draft EIR indicates that Project facilities would be built in an area subject to strong ground shaking due to potential earthquakes along regional faults but that the Project facilities are not located along the trace of an active fault or fault system. Designs for Project facilities including the CRA tie-in facilities will be required to comply with the California Building Code (CBC), which will include design measures to address seismic safety. No additional mitigation measures are proposed.

Construction activities, including those for the CRA tie-in facilities, could result in erosion potential and related impacts. Mitigation Measures **HYDRO-1** and **BIO-6** would be implemented to reduce these impacts to less than significant. The

CRA tie-in facilities would not be constructed in areas that contain geologic hazards (such as steep slopes or landslides) or in areas with expansive soils. Corrosive soils could potentially occur in the area but would be addressed through installation of corrosion protection features in compliance with the CBC.

- **Greenhouse Gas Emissions** (Draft EIR Vol. 1, Section 4.7). The Draft EIR evaluates GHG emissions associated with both construction and operation of the full Phase 1 Component. The analysis concludes that implementation of the Phase 1 Component could result in a cumulatively considerable increase in GHG emissions, and therefore Mitigation Measure **GHG-1** would be implemented to acquire carbon offset credits to reduce this cumulative effect to less than significant. See also **Response A_MWD-6** for an updated discussion of GHG emissions.
- **Hazards and Hazardous Materials** (Draft EIR Vol. 1, Section 4.8). As discussed in the Draft EIR, Project construction activities at all sites would involve the use, storage, and transport of hazardous materials such as fuel and oil for construction equipment. Mitigation Measure **HAZ-1** would be implemented at all sites, including the CRA tie-in facility sites to insure proper use, storage, and transport of these materials. Project facilities for the Phase 1 Component are not located on any sites listed on a Government Code section 65962.5 hazardous materials site list. However, Mitigation Measure **HAZ-2** would be implemented at all facility sites to address handling of any previously unknown sites of hazardous materials or contamination that could be uncovered during construction and would reduce impacts to less than significant levels. In addition, the general Project area has a known history of military use and thus there is potential for unexploded ordnance (UXO) to occur. Specific to the potential CRA tie-in facilities, the former Cadiz Lake Sonic Target No. 5 area intersects the location for the equalization storage facility proposed under Option 2. If a facility is constructed in this area, then Mitigation Measure **HAZ-3** would be implemented to clear the Project construction areas for potential UXO and would reduce impact to less than significant levels.
- **Hydrology and Water Quality** (Draft EIR Vol. 1, Section 4.9). Construction of Phase 1 Component facilities, including the CRA tie-in facilities, would involve ground-disturbing activities (e.g., equipment movement and excavation or other earthwork)

that would increase erosion potential and thus could affect surface water quality. In addition, construction equipment and the associated chemical usage (e.g., fuels, oils) could result in spills that could impact surface water quality. Mitigation Measure **HYDRO-1** to develop and implement a Storm Water Pollution Prevention Plan would apply to all construction sites and would reduce impacts to less than significant levels.

The quality of the groundwater to be pumped into the CRA under the Phase 1 Component of the Project is discussed in the Draft EIR (pp. 4.9-53 through 4.9-57). The discussion summarizes groundwater data contained in the Draft GMMMP, and as updated (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 2.6 and Tables 2-2 and 2-3). As described, based on representative samples of existing wells within the proposed wellfield, groundwater from the Project is of generally high quality with low total dissolved solids (TDS) and below regulated levels for all constituents for which regulated action levels (primary or secondary maximum contaminant levels (MCL)) have been established by the State and/or federal government.²³ Compared to CRA water quality, Project water would generally have lower overall TDS levels but slightly higher chloride and sodium levels. The water quality data provided in Table 2-3 of the GMMMP is consistent with more extensive water quality data collected for the previous Metropolitan Project. These data include the full Title 22 analyses required by the Department of Public Health including metals and volatile organics. They are available for review in the previous EIR/EIS.²⁴ The data show that water quality varies slightly with depth (particularly metals) but is generally of excellent quality and well below MCL standards for all constituents.

As discussed in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 2.6), Project

²³ Maximum Contaminant Levels (MCLs) are established as the maximum concentration of a chemical or pollutant that is allowed in the public drinking water system. Primary MCLs address health concerns and secondary MCLs address aesthetics of the water including taste, odor, color, and total dissolved solids). The United States Environmental Protection Agency (USEPA) adopts MCLs under the Federal Safe Drinking Water Act. The National Primary Drinking Water Regulations and MCLs are found in Title 40, Part 141, Subpart G of the Code of Federal Regulations (CFR) and regulate approximately 90 constituents. California drinking water standards and associated MCLs are adopted by the California Department of Public Health (CDPH) and are found in Title 22 of the California Code of Regulations (CCR) with approximately 92 constituents with adopted MCLs. CDPH drinking water standards are required to be equally stringent as federally adopted standards. However, some California MCLs are more stringent than USEPA MCLs.

²⁴ Metropolitan Water District of Southern California and Bureau of Land Management, *Cadiz Groundwater Storage and Dry-Year Supply Program Environmental Planning Technical Report Groundwater Resources, Volumes I and 2*, November 1999

groundwater is well below the regulated level for Total Chromium but measured levels of Chromium 6 (hexavalent chromium), a component of Total Chromium, were higher than the recently established Public Health Goal (PHG) levels for this constituent. (A PHG is not a regulatory standard but is used by the State in its process of establishing regulatory standards for water quality.) As listed in the Updated GMMMP, Table 2-3, hexavalent chromium is regulated under the California MCL for total chromium of 50 micrograms per liter (ug/L). The measured concentrations of hexavalent chromium in groundwater from the proposed wellfield area range from 14 to 16 ug/L and are thus currently below the current MCLs. The current PHG for hexavalent chromium is 0.020 ug/L.

In the event that a future MCL is established at a concentration below the 14 to 16 ug/L range, groundwater pumped from the Project wellfield could measure above the MCL. Depending on the regulatory standard eventually set by the State for hexavalent chromium, treatment of Project groundwater could be necessary prior to conveyance into the CRA. As no regulatory standard has been set for hexavalent chromium at this time, however, treatment needs for Project groundwater have not been established. When a new regulatory standard is established for this or any other water quality constituent, the Project will implement measures to achieve compliance with drinking water regulations. Potential measures to achieve drinking water standards include treatment and/or blending, such that water quality meets drinking water standards prior to potable use.

In addition, groundwater in the deeper section of the bedrock shows elevated concentrations of iron and manganese; however, groundwater would not be extracted from these deeper bedrock units particularly if water quality is poor as suggested in the exploratory samples. The Project water quality would be primarily derived from the alluvial and carbonate aquifers which are below the secondary MCLs established for these constituents. Secondary MCLs are established for those constituents such as manganese and iron because of their potential effect on the taste and odor quality of drinking water rather than their health effects. It is unlikely that treatment would be needed for Project groundwater for these constituents. The Project would be required to produce water that meets CRA pump-in requirements with Metropolitan's approval. Based on the water quality data collected from the Project test wells, this

outcome is a reasonable expectation.

As discussed in the Updated GMMMP, water quality from Project production wells will be sampled routinely to monitor water quality. See Updated GMMMP, Section 9 for a review of the proposed monitoring and reporting schedule and also Updated GMMMP, Sub-Appendix D Water Quality Analytical Protocol for a review of the comprehensive water quality constituents to be monitored.

In addition to regulatory water quality compliance, use of the CRA for conveyance of Project water to Project Participants will be subject to an operating agreement to be approved by Metropolitan. The Project proponents will work with Metropolitan to develop the necessary operating, monitoring, and reporting procedures, including those addressing water quality, and will comply with Metropolitan's CRA management requirements.

Also relevant to development of the CRA tie-in facilities are potential construction effects on drainage and flooding potential, particularly the potential for seepage at storage facilities associated with the CRA tie-in. Effects on existing drainage patterns and/or potential seepage towards the CRA or other Metropolitan facilities would be mitigated to less than significant by implementation of Measure **HYDRO-4**. This measure has been revised as follows to more clearly address both potential drainage and seepage effects.

HYDRO-4: All ~~€~~construction and operation pPlans shall be prepared that ~~use~~ identify standard best management practices (BMPs) to control drainage around the Project infrastructure including but not limited to well pads, pump stations, energy generation facility, air relief valves, forebay and equalization storage facilities, spreading basins, and railcar wash areas. The BMPs shall include placing facility and well pads and above-ground appurtenant facilities outside of visible drainages and grading well pads to disperse runoff from the site in a manner that minimizes scour potential of storm water. ~~Additional~~ BMPs include the use of physical barriers to prevent or manage seepage, detain runoff, and prevent erosion during construction and operation and may include the use of ~~and~~ siltation straw wattles, hay bales, setbacks and buffers, and other similar methods that reduce the energy in surface water flow.

- **Land Use and Planning** (Draft EIR Vol. 1, Section 4.10). No significant impacts associated with land use or land use planning were identified in the Draft EIR for the Project.
- **Mineral Resources** (Draft EIR Vol. 1, Section 4.11). No impacts to mineral resources would be associated with development of the proposed CRA tie-in facilities or use.
- **Noise** (Draft EIR Vol. 1, Section 4.12). No significant noise or vibration effects would result from construction or operation of Project facilities including the CRA tie-in facilities.
- **Public Services and Utilities** (Draft EIR Vol. 1, Section 4.13). Potential effects on storm water drainage facilities may be relevant to construction of the CRA tie-in facilities, depending on their final location and design. These potential impacts would be reduced to less than significant with Mitigation Measure **UTIL-1**, which requires restoration of any storm water drainage facilities to pre-construction conditions. This Draft EIR section also discusses the Project's energy use and concludes that the Project would not represent a wasteful use of energy. See also **Response A_MWD-6** for a revised discussion of Project energy use.
- **Recreation** (Draft EIR Vol. 1, Section 4.14). No effects on Recreation would result from construction or operation of the Project, including the CRA tie-in facilities and use.
- **Transportation and Traffic** (Draft EIR Vol. 1, Section 4.15). The impact analysis did not identify potential transportation or traffic impacts associated with development or operation of the CRA tie-in facilities. Construction traffic associated with the overall Project and all facilities would be managed through implementation of a Traffic Control Plan required in Mitigation Measure **TR-1**.

With respect to questions regarding CRA capacity and operations and the need for hydraulic modeling, please see **Response A_MWD-5** below for detailed response to this specific topic.

Further, Cadiz Inc. representatives have begun meeting with Metropolitan regarding the tie-in facility design concepts that will be further developed following Project approval during the subsequent Project design and permitting phases. It is expected that the EIR's analysis of CRA tie-in facilities will adequately address the final tie-in

facilities and operations to be designed in consultation with Metropolitan. However, if there are facility design, siting, or operational elements for the tie-in that emerge during the detailed design process with Metropolitan that are not covered adequately in the EIR, appropriate supplemental environmental review focused on those specific new or modified elements will be conducted, as necessary, to support associated Metropolitan approval actions.

A_MWD-5

The commenter states that the Draft EIR fails to consider whether there is sufficient capacity available in the CRA to accommodate the Project's needs. The commenter further notes that Metropolitan is pursuing programs to maintain a full supply of Colorado River in some years that would make the CRA unavailable for conveying Project water in those years.

The Draft EIR, Vol. 1, Section 3.1 recognizes that operation of the CRA is complex and will require an agreement with Metropolitan to introduce and convey Project water through the CRA. The Draft EIR Volume 1, Chapter 2 Project Background, pp. 2-8 to 2-10 explains that the CRA has a capacity of 1,800 cubic feet per second, or 1.25 million AFY, but that historically the amount of water conveyed annually has varied depending on supplies and demands. As a result of increased diversions by Arizona and Nevada, Metropolitan's diversion of Colorado River water has been substantially reduced in recent years compared with historic diversions. The Draft EIR also includes a summary of water supplies within Metropolitan's service area since 1980, including a list of CRA supplies. The Draft EIR, Volume 1, Chapter 2 Project Background, Table 2-1 shows that the CRA has operated under its 1.25 million AFY capacity for most years since 1980 and that water deliveries from the Los Angeles Aqueduct to the Metropolitan service area are affected by dry year restrictions as well as reductions due to environmental restoration programs at Owens Lake.

Since 2003, when surplus water was no longer available to Metropolitan on the Colorado River, the CRA has not been able to deliver its 1.25 MAF per year capacity. The following data, taken from Decree Accounting Reports from 2000 to 2010 on the USBR's website

<http://www.usbr.gov/lc/region/g4000/wtracct.html> shows deliveries to Metropolitan as follows:

| <u>Year</u> | <u>Flow (MAF)</u> |
|-------------|-------------------|
| 2010 | 1.099 |
| 2009 | 1.105 |

| Year | Flow (MAF) |
|------|------------|
| 2008 | 0.904 |
| 2007 | 0.713 |
| 2006 | 0.632 |
| 2005 | 0.875 |
| 2004 | 0.760 |
| 2003 | 0.683 |
| 2002 | 1.237 |
| 2001 | 1.250 |
| 2000 | 1.300 |

Accordingly, it is likely there will be available capacity in the CRA for use by the Project, with Metropolitan's approval.

Further, the Draft EIR Volume 1, Chapter 2 Project Background, pp. 2-8 to 2-10 details that, while Metropolitan's new water banking and transfer program developments will increase water deliveries through the CRA, on a year-to-year basis, actual deliveries will depend on water availability and the successful implementation of the conceptual programs outlined in Metropolitan's 2010 Regional Urban Water Management Plan (RUWMP). Metropolitan's RUWMP recognizes the need to develop storage programs and groundwater management systems within the Southern California region to maintain a full aqueduct. (Draft EIR Volume 1, Chapter 2 Project Background, pp. 2-8 to 2-10.) It states on p. 3-2, "Metropolitan continues to pursue Colorado River Aqueduct (CRA) supplies of 1.2 MAF per year. However, over the years, a number of constraints have developed that restrict Metropolitan's access to Colorado River supplies. As a result, Metropolitan adopted a revised policy of utilizing the full capacity of the CRA when needed through various water banking and acquisition programs. This water will help Metropolitan manage regional storage conditions and water quality."

Ultimately, Metropolitan and its member agencies will determine how to balance CRA capacity with Colorado River water supplies to best meet the needs of each individual member agency.

A_MWD-6

The commenter states that the Draft EIR discussion regarding energy use should be expanded to include the energy needed to convey Project water through the CRA to participating parties and not be limited to a discussion of the energy needed to convey water from the Project site to the CRA. The Draft EIR Vol. 1, Section 4.13 Public Service and Utilities, pp. 4.13-16 and 4.13-17 provides information regarding the

amount of energy required to convey water through the CRA. The CRA pump stations currently operate with multiple single-speed pumps (each pump having a 220 cfs rating). The water pumped into the CRA by the Project would be accommodated with the existing pump capacity. The actual change in energy usage of the CRA would depend on operational changes implemented. The energy demands of the CRA pumps may not change if excess capacity is available. Figure 4-7 on p. 4-21 of Metropolitan's Energy Reliability and Management Study²⁵ shows the relationship between energy load and CRA deliveries from 1990 to 2008, including in 1994 and 2001, when CRA water deliveries appear to have reached capacity at 1.25 MAF. The data shows that total conveyance and energy demands are not necessarily correlated evenly. Actual energy demands and attributable GHG emissions would be subject to an analysis based on the final operational parameters employed. However, in response to Metropolitan's comment, the Draft EIR has been modified to include the energy requirements, as provided by Metropolitan and using available GHG emissions factors and energy demand assumptions, of transporting water through the CRA from the tie-in location to Lake Mathews.

The discussion of energy usage on p. 4.13-17 of the Draft EIR is modified as follows:

Impact Analysis

The Groundwater Conservation and Recovery Component would install new groundwater wells requiring approximately 50.7 million kilowatt hours (kWh) per year. The wells would be powered by natural gas motors or by electricity from the grid. The Project would connect to the existing high-pressure gas lines traversing the site or from local existing power lines. If a forebay and pump station is required, an additional 22 million kWh/year would be required, powered by electricity from the grid.

The Project would convey water to the CRA for distribution to the Southern California public water supply. According to studies published by the California Energy Commission (CEC) and Metropolitan, the CRA utilizes approximately 6,138 kWh/million gallon (MG) at full capacity.²⁶ The Groundwater Conservation and Recovery Component would require 3,112 kWh/MG to convey water to the CRA. Once Project water enters the CRA,

²⁵ Metropolitan Water District of Southern California, Energy Reliability and Management Study, December 2009.

²⁶ California Energy Commission, *California's Water – Energy Relationship*, November 2005, Figure 2-2 and p. 23; Metropolitan Water District of Southern California, *2006 Revised Power Integrated Resource Plan for Metropolitan's Colorado Rive Aqueduct Power Operations*, October 2006, table 4.

the existing CRA pump stations would convey the water to Project Participants. The water pumped into the CRA by the Project would be accommodated with the existing pump capacity. Capacity has been available in the CRA every year since 2003. The actual change in energy usage of the CRA would depend on operational changes implemented to accommodate Project water. In any case, the CRA would not exceed historical energy usage when it operated at full capacity; new pumps would not be installed in the CRA to increase the system's rated capacity. The Project would not increase the CRA's overall maximum capacity energy usage. However, Metropolitan has indicated that pumped-in water would increase energy requirements of the CRA per gallon pumped. Metropolitan suggests that since the Project would enter the CRA after Copper Basin, it would only utilize the remaining pump stations in the system, resulting in approximately 63 percent of the total energy demand otherwise used for each gallon of Colorado River water. Sixty three percent of 6,138 kWh/MG is 3,886 kWh/MG. Assuming this worse-case scenario that the CRA would increase actual energy demands to accommodate Project water, the total energy demand for the Project including conveyance from the wellfield to the CRA and through the CRA to Project Participants would be 6,998 kWh/MG.

Some of the Project Participants would use the water to replace supplies that otherwise would be conveyed by the SWP from northern California. ~~The net energy use for water delivery to these Project participants would decrease slightly since energy usage for the SWP is greater than that of the proposed Project.~~ The CEC estimates that delivery of water via the SWP West Branch to northern Los Angeles County requires approximately 7,672 kWh/MG. The proposed Project would require the additional consumption of approximately 6,998 3,442 kWh/MG, which is ~~less than half the energy required to convey the same amount of water through the SWP.~~ The Project would approximately 664 kWh/MG less than the SWP energy requirements. Overall, the net energy use for water delivery to Project Participants would be slightly less than comparable supplies from the SWP since energy usage for the SWP is greater than for the proposed Project. Therefore, the Project would not result in wasteful use of electricity or substantially increase energy use compared to existing energy demands for importing water to Southern California. As a result, the impact would be less than significant.

In addition, in response to the comment, the discussion of GHG in the Draft EIR Vol. 1, Section 4.7 Greenhouse Gas Emissions, p. 4.7-21 is modified as follows:

In regards to operations, there are two options for supplying power to the wellfield pumps – either by natural gas or electrical power. First, if the wellfield and intermediate pump station are powered with natural gas, direct operational GHG emissions would be approximately 27,731 MTCO₂e/year from natural gas combustion. The wellfield may be equipped with solar bolt-ons to reduce natural gas consumption. Additionally, emissions from employee on-road vehicle trips would be 13 MTCO₂e/year. Therefore, total annual GHG emissions would be 28,153 MTCO₂e/year for the wellfield operation Project,²⁷ including amortized construction emissions and operational mobile source emissions. In addition to these GHG emissions, Metropolitan has indicated that conveyance of Project water would increase energy demand of the CRA by 3,886 kWh/MG. The CRA is powered by electricity. Using emissions factors for electricity generation, this would add an additional 19,628 MTCO₂e/year attributable to the Project. However, actual emissions would depend on the actual operational changes implemented including the change in hours per year that the 220 cfs pumps operate. The emissions would be validated by an accredited third-party verification body and reported to the Climate Registry as required in Mitigation Measure **GHG-1**. Direct emissions from the Project would exceed the 10,000 MTCO₂e/year benchmark. **Table 4.7-4** summarizes estimated operational GHG emissions.

In addition in response to the comment, the discussion of GHG emissions on p. 4.7-22 of the Draft EIR is modified as follows:

²⁷ URBEMIS 2007 Version 9.2.4, February 2008; Appendix E1.

**TABLE 4.7-4
ANNUAL GHG EMISSIONS**

| Activity | GHG Emissions (Metric tons CO ₂ e/year) |
|--|---|
| Construction | 42,280 |
| <u>Offroad emissions</u> | <u>12,390</u> |
| <u>Onroad emissions</u> | <u>1,058</u> |
| <u>Total emissions</u> | <u>13,448</u> |
| Amortized over 30 years | <u>409,448</u> |
| Operations | |
| Vehicle Trips | 13 |
| <u>Wellfield Power (either natural gas or electricity)</u> | |
| Natural Gas | 27,731 ^a |
| Electricity | 15,388 ^a |
| <u>Metropolitan CRA Conveyance</u> | <u>19,628^b</u> |
| Total (with natural gas) | <u>28,153,47,820</u> |
| Total (with electricity) | <u>15,810,35,477</u> |

^a Electricity and natural gas emissions are based on the extraction value of 50,000 AFY. Both energy sources are shown in the Table, but the Project would only use one or the other. Natural gas consumption rates were obtained by using a 40% conversion efficiency for natural gas generators (thermal energy to electrical energy) and a 30% conversion efficiency for natural gas engines (thermal energy to mechanical energy). The natural gas engines that are used for the Project would be reciprocating (or internal combustion) natural gas engines, which typically offers energy efficiencies ranging from 25 to 45 percent (California Energy Commission, *California Distributed Energy Resource Guide*, http://www.energy.ca.gov/distgen/equipment/reciprocating_engines/-reciprocating_engines.html, accessed November 2011). Data shown are for 50,000 AFY. Emissions for the 75,000 AFY extraction value would be 37,330 MT/year and 21,610 MT/year for natural gas and electricity use, respectively.

^b GHG emissions resulting from electricity use by Metropolitan CRA for conveyance of the Project's water associated with the 50,000 AFY extraction value. Emissions for the 75,000 AFY extraction value would be 29,442 MT CO₂e/year. Actual GHG emissions would depend on operational changes implemented at the CRA pump stations.

NOTE: See Appendix E for detailed calculations

SOURCE: ESA, 2011.

Criterion C Analysis: Energy Efficiency. With regard to Item C, the Project would provide the ability to increase water supplies to urban uses in Southern California. As discussed in Section 4.13, the Project would require less energy per gallon delivered than used by the SWP. The CEC estimates that delivery of water via the SWP West Branch to northern Los Angeles County requires approximately 7,672 kWh/MG. The proposed Project would require the additional consumption of approximately 6,998 ~~3,112~~ kWh/MG, ~~the consumption of approximately 3,112 kWh/MG, which is less than half the energy required to convey the same amount of water through the SWP which is less than half the energy required to convey the same amount of water~~

through the SWP. The Project would approximately 664 kWh/MG less than the SWP energy requirements (7,672 kWh/MG).²⁸ Overall, the net energy use for water delivery to Project Participants would be less than a comparable delivery from the SWP since energy usage for the SWP is greater than for the proposed Project. The Project would result in slightly smaller energy demand than from other potential water supply sources available to the Project Participants. As a result, the Project provides a more energy efficient alternative to the SWP. Furthermore, the Project would utilize excess capacity in the CRA when available. The CRA pump stations currently operate with multiple single speed pumps (each pump having a 220 cfs rating). The water pumped into the CRA by the Project would be accommodated with the existing pump capacity, without increasing energy requirements at the lift stations. As such, the proposed Project provides an efficient alternative to other imported water sources. However, the energy sources associated with the SWP may include more renewable energy sources that emit fewer GHG emissions than the Project wellfield or CRA. Actual emissions would be validated by an accredited third-party verification body, reported to the Climate Registry, and offset as required in Mitigation Measure **GHG-1**. Therefore, the Project and would result in fewer emit fewer GHG emissions.

A_MWD-7

Commenter expresses a concern related to geology and soils impacts, specifically for potential seepage from the proposed forebay to affect Metropolitan's CRA facility. See **Response A_MWD-4**, which summarizes the Draft EIR discussion of impacts relevant to the CRA tie-in facilities and operation. This discussion includes a review of geology and soils as well as hydrology. The potential impact of seepage from a forebay facility near the CRA is addressed by revised Mitigation Measure **HYDRO-4**, presented in **Response A_MWD-4**, above. The Draft EIR acknowledges that the construction of the forebay on Metropolitan property would be subject to Metropolitan's approval. If a forebay is necessary, Mitigation Measure **HYDRO-4** would be implemented, and the final design would include features to ensure that seepage from the reservoir does not result in a significant impact on the CRA.

A_MWD-8

Commenter requests a detailed operating plan and hydraulic modeling of the CRA operations with Project implementation. These plans and models will be completed in coordination with Metropolitan during the

²⁸ California Energy Commission, *California's Water – Energy Relationship*, November 2005, Figure 2-2 and page 23.

detailed design phase of the Project following Project approval but are not required to evaluate the potential impacts of the Project on the environment. It is understood that the Project's use of the CRA will be subject to conditions that address and protect Metropolitan's operational needs. These conditions will be included in the operating agreement to be approved by Metropolitan for the Project's use of the CRA.

A_MWD-9

Commenter states that the Draft EIR's water quality discussion is inadequate. Please see **Response A_MWD-4**, which discusses the Draft EIR findings regarding potential impacts to the CRA, including water quality. Water quality effects associated with the Project are addressed in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality. The Draft EIR, beginning on p. 4.9-53, discusses the potential water quality effects of delivering groundwater pumped from the Project into the CRA and indicates that the Project water would have TDS concentrations less than those in CRA water, while the sodium and chloride (salt) concentrations of the Project water may be slightly higher than the CRA water. However, as listed in Table 4.9-8, all of the parameter concentrations for waters of both the aquifer and the CRA are currently below all regulatory MCLs, meeting drinking water standards. The Draft EIR concludes that the Project's potential impacts to water quality are less than significant and therefore no mitigation measures are required (p. 4.9-55). The Project's groundwater quality will be monitored routinely to verify continued compliance with the regulatory MCLs (see Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 9 for a review of the proposed monitoring and reporting schedule and also Updated GMMMP, Sub-Appendix D Water Quality Analytical Protocol for a review of the comprehensive water quality constituents to be monitored).

A_MWD-10

Commenter makes several comments regarding the Phase 2 Imported Water Storage Component of the Project, primarily requesting more detailed information and analysis for this component. As indicated in the Draft EIR Vol. 1, Chapter 3 Project Description, Section 3.7.2 Imported Water Storage Component, Phase 2 of the Project is evaluated at a program level at this time because there is not yet sufficient detail about this component to provide detailed, project-level impact analysis (areas for which more information is still needed include the identification of Project Participants, water supply source quantity and quality, and water import and delivery schedules). The Draft EIR appropriately frames the environmental impact issues anticipated for the Phase 2 Component but acknowledges that more detailed, project-level environmental review will be conducted in the future in accordance with CEQA if the Phase 2 Component is pursued. Comments for the Phase 2 Component are

acknowledged and will be addressed in subsequent environmental review if and when Phase 2 is pursued for implementation. See **Master Response 3.12** Project vs. Program Level Analysis.

- A_MWD-11 Commenter states that any design plans for activity in the area of Metropolitan’s facilities (pipelines or other facilities) that could affect or impede access to Metropolitan facilities or be located on Metropolitan property must be submitted for review and approval. As noted in the Draft EIR Vol. 1, Chapter 3 Project Description, Section 3.8, and Final EIR Vol. 6, Chapter 5 Draft EIR Text Changes, approvals from Metropolitan are required for use of the CRA and thus Cadiz Inc. will be required to comply with Metropolitan’s application processes in order to obtain those approvals.
- A_MWD-12 The commenter states that the Project objective of reducing dependence on imported water is not met since the Project is still “importing” water from the Project site to the Metropolitan service area. The Project is local to the Southern California region. The Project would make use of a water source that is independent of surface water resources from the Colorado River or Sacramento/San-Joaquin Delta, both of which are outside of Southern California.
- A_MWD-13 The commenter states that the Project deliveries vary from 50,000 AFY to 75,000 AFY to 105,000 AFY. The commenter is correct that annual deliveries vary, but over the 50-year Project period, the Project yields no more 50,000 AFY on average over the term of the Project. Annual deliveries would depend on capacity in the CRA. Approval for use of the CRA will necessarily include an agreement as to delivery schedules acceptable to Metropolitan.
- A_MWD-14 The commenter states that the Project description is inconsistent, saying sometimes that the Project provides additional water supplies and other times saying that the Project would replace current water deliveries. The Draft EIR is consistent. Project Participants may use the water for any purpose, including water supply augmentation or reliability. The water supplies available to the current Project Participants are described in detail in the Draft EIR Vol. 1, Chapter 6, Growth Inducement Potential and Secondary Effects of Growth. All of the Project Participants indicate that the Project represents one of a variety of steps they are implementing or considering for implementation to improve water supply reliability. For these end users, in most cases the water would replace water that would otherwise be delivered from other sources. Some Project Participants, including SMWD, indicate that although Project water would primarily enhance reliability, some growth could be

accommodated (Draft EIR Vol. 1, Chapter 6, p. 6-20). Therefore, the Draft EIR acknowledges that the Project could support some growth in addition to being primarily a water reliability program.

A_MWD-15

The commenter questions a statement made in the Draft EIR Vol. 1, Section 4.7 Greenhouse Gas Emission, p. 4.7-24 that the Project provides water supplies to make up for the lack of water supplies during drought periods. The purpose of the proposed Project is described in Vol. 1, Chapter 2 Project Background, p. 2-10. The Project provides options for Project Participants to augment water supplies and enhance system reliability in the event that water becomes more scarce or expensive in the future. The Project does not guarantee supplies to meet all demands in drought periods as suggested in the comment, but rather provides some water supply diversity for Participants.

A_MWD-16

The commenter states that State Water Project (SWP) reliability estimates are incorrectly cited from the 2009 SWP Reliability Report. In response to this comment the following text changes to the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-10, third paragraph are included in the Final EIR:

On the Colorado River system a multi-year drought coupled with the need for Metropolitan to permanently reduce its level of imports, along with litigation over the negotiated multi-party settlement agreement intended to reduce California's reliance on the Colorado River, raise concerns about the reliability of the Colorado River water over the long term.²⁹ On the Sacramento-San Joaquin Delta system, current endangered species issues, litigation, drought, and infrastructure limitations have combined to effectively reduce the long-term reliability of the SWP.³⁰ Climate change is expected to affect water supply in the Delta further in the future. The State's SWP 2009 Reliability Report indicated during in a multi-year wet period the overall reliability of the SWP system would range from ~~74 to 94~~ 71 to 93 percent (of maximum Table A amounts), while during a multi-year dry period, average annual deliveries would be only ~~32 to 34~~ 36 to 38 percent (maximum Table A amounts).

A_MWD-17

The commenter states that the Project description does not account for constraints in conveyance capacity of the CRA. The Draft EIR acknowledges that use of the CRA requires approval from Metropolitan.

²⁹ Metropolitan Water District of Southern California, *Regional Urban Water Management Plan*, November 2010, pp. 3-2 through 3-9.

³⁰ Metropolitan Water District of Southern California, *Regional Urban Water Management Plan*, November 2010, pp. 3-10 through 3-15.

Annual deliveries would depend on capacity in the CRA and approvals from Metropolitan. Please see also **Response A_MWD-5**.

- A_MWD-18 The commenter states that not all lands affected by the Project are private since some are owned by Metropolitan. The Draft EIR generally refers to properties that are not owned by BLM as being privately held properties. This includes the properties owned by Cadiz Inc., ARZC, and Metropolitan. The description of the proposed CRA tie-in facilities in the Draft EIR discloses that some of Project facilities would be constructed on Metropolitan-owned property (Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-34 through 3-37).
- A_MWD-19 The commenter states that the proposed intertie may be constructed on undisturbed land. Please see **Response A_MWD-81**.
- A_MWD-20 The commenter states that a direct CRA tie-in is not acceptable and that an equalization basin will be required to buffer flows between the Project and the CRA. The Draft EIR identified and analyzed the potential environmental impacts of two distinct CRA tie-in options, one of which, Option 2, includes an equalization storage reservoir (see Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-34 though 3-37).
- A_MWD-21 The commenter asks how long the Phase 1 Component needs to be in operation for the Phase 2 Imported Water Storage Component to be initiated. The amount of storage space needed to fully accommodate Phase 2 storage agreements would depend on the terms of the agreements. The Draft EIR acknowledges that some drawdown of the groundwater levels would assist in managing the future use of the groundwater basin for storage. Conceptually, the Phase 2 Component of the Project could begin shortly after implementation of the Phase 1 Component but operations would be affected by available storage capacity.
- A_MWD-22 The commenter states that a pressure control structure is required at the high point of the pipeline to control the water flows downstream. The Draft EIR acknowledges the need for valves and air relief structures periodically along the pipeline (Draft EIR Vol. 1, Section 3 Project Description, p. 3-29).
- A_MWD-23 The commenter states that a direct tie-in to the CRA is unacceptable and that a stabilization reservoir is needed. See **Responses A_MWD-20** and **A_MWD-4**.

- A_MWD-24 The commenter states that safe guards need to be built into the pipeline design to avoid impacts to the CRA. See **Responses A_MWD-22** and **A_MWD-4**.
- A_MWD-25 The commenter requests an explanation for the proposed size of the equalization storage reservoirs described for CRA tie-in Option 2. The exact size of the reservoir will be determined in coordination with Metropolitan, depending on the operational requirements. However, if there are facility design, siting, or operational elements for the reservoir that emerge during the detailed design process with Metropolitan that are not covered adequately in the EIR, appropriate supplemental environmental review focused on those specific new or modified elements will be conducted, as necessary, to support associated Metropolitan approval actions. See **Responses A_MWD-4** and **A_MWD-20**.
- A_MWD-26 The commenter requests that the construction of the forebay be described. The Draft EIR provides a description of the proposed facility in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-36. See also **Response A_MWD-4**.
- A_MWD-27 The commenter states that operational protocols and emergency protocols would be required, in coordination with Metropolitan. The Draft EIR recognizes that the CRA tie-in will require approval from Metropolitan. See **Response A_MWD-4**.
- A_MWD-28 The commenter states that a discussion of carry-over storage is not included in the Executive Summary of the Draft EIR. The commenter is correct. Carry-over storage is introduced in Chapter 3 Project Description, p. 3-2.
- A_MWD-29 This comment addresses groundwater quality. See **Response A_MWD-4** for a discussion of the Draft EIR findings related to groundwater quality. The commenter states that the Draft GMMMP Table 2-2 (Draft EIR Vol. 2, Appendix B1 Draft GMMMP) includes only select constituents from a single agricultural well on the Cadiz Inc. property and that the Draft GMMMP Table 2-3 provides data from single samples from four additional wells. The commenter states that a greater characterization of groundwater quality showing multiple well locations and the full Title 22 California Code of Regulations constituent list should be provided. As noted in the text accompanying both tables, both tables are summaries of numerous samplings of many of the wells.
- The commenter states that the Draft EIR indicates some treatment may be required for hexavalent chromium before the groundwater is

introduced into the CRA. The commenter states that the Final EIR should identify and discuss the environmental impacts of the construction and operation of treatment facilities that would need to be included to ensure that the Project can be operated. Depending on the regulatory standard eventually set by the State for hexavalent chromium, treatment of Project groundwater could be necessary prior to conveyance into the CRA. As no regulatory standard has been set for hexavalent chromium at this time, however, treatment needs for Project groundwater have not been established. If treatment is necessary to meet CRA pump-in requirements based on actual water quality or MCL modifications, subsequent evaluation of treatment facilities pursuant to CEQA would be completed as appropriate. See **Response A_MWD-4**, which addresses water quality and Chromium 6.

- A_MWD-30 The commenter requests that water quality constituents other than TDS be monitored. See **Response A_MWD-4**; as summarized in that response, a comprehensive water quality monitoring program would be executed annually under the Updated GMMMP.
- A_MWD-31 The commenter states that excess capacity in the CRA is not defined or shown to be available. The proposed Project is contingent on available capacity in the CRA, requiring Metropolitan approval. See **Response A_MWD-5**.
- A_MWD-32 The commenter states that the CRA tie-in must be compatible with the hydraulic grade line. This comment does not concern the adequacy of the EIR. The proposed Project would be designed in coordination with Metropolitan and is contingent on Metropolitan approval. See **Response A_MWD-4**.
- A_MWD-33 The commenter states that an equalization basin would be required. This comment does not concern the adequacy of the EIR. The proposed Project would be designed in coordination with Metropolitan and is contingent on Metropolitan approval. See **Response A_MWD-4**.
- A_MWD-34 The commenter states that control features are needed. This comment does not concern the adequacy of the EIR. The proposed Project would be designed in coordination with Metropolitan and is contingent on Metropolitan approval. See **Response A_MWD-4**.
- A_MWD-35 The commenter states that the equalization storage reservoir requires a pressure control structure. This comment does not concern the adequacy of the EIR. The proposed Project would be designed in coordination with Metropolitan and is contingent on Metropolitan approval. See **Response A_MWD-4**.

- A_MWD-36 The commenter states that the CRA may not always be available for the Project. The proposed Project is contingent on available capacity in the CRA, requiring Metropolitan approval. See **Response A_MWD-5**.
- A_MWD-37 Metropolitan raises an issue of possible damage to one of its facilities, the Frieda Siphon, during construction, presumably related to potential heavy equipment and truck movement over ground above this siphon. Crossing over the CRA siphon will require Metropolitan's approval, based on the load bearing ability of the facility. Methods to ensure that the CRA is not damaged could include reinforced bridging, weight-limitations for construction equipment and trucks, use of alternative access routes with fewer impacts, and/or installation of protective devices for the siphon, subject to Metropolitan approval.
- A_MWD-38 The commenter expresses the opinion that 8 hour-per-day water conveyance is not possible under the Option 2 tie-in. Operational procedures will be developed with Metropolitan. Pump in operations will comply with Metropolitan system constraints, including 24-hour operations if necessary. See **Response A_MWD-4**.
- A_MWD-39 The commenter states that to accommodate the Project, an inflow of 83 to 125 cfs would be required. The Project would be designed to accommodate 125 cfs. The proposed Project is contingent on available capacity in the CRA, requiring Metropolitan approval. See **Response A_MWD-4**.
- A_MWD-40 The commenter states that the Project as described would not be consistent with current CRA operational procedures regarding maximizing flow. This comment does not concern the adequacy of the EIR. The proposed Project requires Metropolitan approval and deliveries would be reviewed for consistency with Metropolitan's operating procedures. See **Response A_MWD-4**.
- A_MWD-41 The commenter states that inflow reduction from Copper Mountain would be difficult to achieve. The proposed Project is contingent on available capacity in the CRA, requiring Metropolitan approval. The proposed Project would be designed in coordination with Metropolitan and subject to its approval. See **Responses A_MWD-4 and A_MWD-5**. As noted in **Response A_MWD-4**, several options for how the proposed CRA tie-in might be integrated into Metropolitan CRA operations are presented in the Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-34 to 3-38.
- A_MWD-42 The commenter states that the CRA pumps would experience significant wear as currently proposed. The proposed Project would be designed in coordination with Metropolitan and subject to its approval. See

Response A_MWD-4. Several options for how the proposed CRA tie-in might be integrated into Metropolitan CRA operations are presented in the Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-34 to 3-38. Some options, specifically those that involve modifying or throttling pumps, could increase energy use and wear on the pumps. Specific operational protocols including issues of equipment wear are expected to be addressed in Project agreements with Metropolitan.

A_MWD-43 The commenter states that it is not clear how an equalization storage reservoir could equalize flow in the segment of the CRA between Copper Basin and Iron Mountain Pump Station. The proposed Project would be designed in coordination with Metropolitan and subject to its approval. See **Response A_MWD-4.**

A_MWD-44 The commenter notes that the CRA shuts down in February and that the installation of the tie-in would require a shut down. The proposed Project would be designed in coordination with Metropolitan and subject to its approval. Project construction activities will be coordinated with Metropolitan's operations schedule for the CRA. See **Response A_MWD-4.**

A_MWD-45 The commenter states that the CRA has been determined to be eligible for inclusion in the National Register of Historic Places (NRHP) and requires that materials and aesthetics of new facilities over which Metropolitan has approval be consistent with those used in the CRA. See **Response A_MWD-4** for a discussion of the Draft EIR findings regarding cultural resources and the CRA. Work that affects the facility will need to comply with Metropolitan and other requirements for the facility.

A_MWD-46 The commenter asks whether the Project would be subject to Cap and Trade requirements for GHG emissions. See the Draft EIR Vol. 1, Section 4.7 Air Quality, p. 4.7-15 for a discussion of the California Cap and Trade Program. Under cap-and-trade, an overall limit on GHG emissions from capped sectors will be established by the program, and facilities subject to the cap will be able to trade permits (allowances) to emit GHGs. On October 20, 2011, CARB adopted the final cap-and-trade regulation and Resolution 11-32. The cap-and-trade regulation, Title 17 California Coded of Regulations §§ 95800 through 96023, will become effective January 1, 2012. In August and November 2012, the first auction of "compliance instruments" (i.e. GHG emissions allowances) will be held. The Project's total annual GHG emissions including amortized construction emissions and operational mobile source emissions could be greater than 10,000 MTCO₂e. As a result,

Mitigation Measure **GHG-1** requires that carbon offset credits be purchased from the Climate Registry or another source that is approved by CARB as being consistent with the policies and guidelines of the California Global Warming Solution Act of 2006 (AB 32) or that is approved by a local or regional agency with jurisdiction over or within San Bernardino County as local emissions credits under a GHG reduction plan or similar program, in sufficient quantity to reduce the Project's first-year total (direct plus indirect) GHG emissions below 10,000 MTCO₂e per year. For additional discussion of GHG, see also **A_MWD-6**.

A_MWD-47 The commenter states that GHG emissions calculations should include emissions generated from the use of the CRA. See **Response A_MWD-6**.

A_MWD-48 The commenter states that GHG emissions calculation should include emissions generated from the use of the CRA and that the SWP uses renewable energy sources such as hydro power. See **Response A_MWD-6**.

A_MWD-49 The commenter states that energy use of the Project should be compared to the energy use of "other supply sources" identified in Metropolitan's Regional Urban Water Management Plan and not just to the energy use of the State Water Project. The following table lists energy uses of available water supplies to Southern California. The data is compiled from a CEC report evaluating energy usage of California water supply options. (California Energy Commission, *California's Water – Energy Relationship*, November 2005). As shown in the Table, the Project's projected energy use compares favorably to that of imported water systems, being slightly greater than that of the CRA, less than that of the SWP, and considerably less than that of desalination treatment. Recycled water and local brackish water supplies provide the greatest energy efficiencies.

| Water Supply Option | Source | kWh/MG |
|---|--------------------------------|--------------|
| Desalination Treatment (does not include conveyance demands) | (CEC, 2005, p. 36) | 9750 – 16500 |
| SWP East Branch | (CEC, 2005, Figure 2-2, p. 23) | 9820 |

| Water Supply Option | Source | kWh/MG |
|---|--|-------------|
| SWP West Branch | (CEC, 2005, Figure 2-2, p. 23) | 7672 |
| Cadiz Inc. Water Project (assuming conveyance to the CRA at a minimum and adding 63 percent of the CRA as maximum) | | 3112 – 6998 |
| CRA | (CEC, 2005, Figure 2-2, p. 23) | 6138 |
| Brackish Groundwater Treatment | (CEC, 2005, p. 36) | 3900 – 9750 |
| Groundwater Pumping | (IEUA Example) (CEC, 2005, Figure 2-2, p. 23) | 2,915 |
| Recycling (MWD) | (CEC, 2005, p. 40) | 2655 |
| Recycling (IEUA) | (CEC, 2005, Figure 2-2, p. 23) | 1228 |

A_MWD-50

The commenter asserts the integrity of the CRA may be affected if a forebay is constructed and later fails. See **Response A_MWD-4**, which reiterates that CRA tie-in facilities will be designed in coordination with Metropolitan and are subject to Metropolitan approval. Facilities will also comply with the CBC. **Response A_MWD-4** also discusses the Draft EIR impacts and the mitigation measures that apply to the CRA tie-in facilities.

A_MWD-51

The commenter asserts the integrity of the CRA may be affected if a forebay is constructed. See **Response A_MWD-4**, which reiterates that CRA tie-in facilities will be designed in coordination with Metropolitan and are subject to Metropolitan approval. Facilities will also comply with the CBC. **Response A_MWD-4** also discusses the Draft EIR impacts and mitigation measures that apply to the CRA tie-in facilities. Mitigation measure **HYDRO-4** has been revised to clarify how it will address potential seepage that might be associated with a forebay structure (see Final EIR Chapter 5).

A_MWD-52

The commenter asks that the pipeline bedding be installed using sandy soils for bedding and backfill to ensure the reliability of the pipeline

constructed near the CRA. See **Response A_MWD-4**, which discusses the Draft EIR's analysis of potential effects to the CRA, including geology and soils. The impact analysis did not identify any unstable or poor soil conditions in the area where the pipeline would be installed near the CRA. Facilities would be constructed following standard industry practices and the CBC and other applicable regulations, and would include use of appropriate bedding materials for the proposed pipeline. Facilities constructed on Metropolitan property or near Metropolitan facilities such as the CRA will be designed in coordination with Metropolitan.

- A_MWD-53 The commenter asks for analysis of potential Geology and Soils impacts related to the intertie facilities and the pipeline portions along the CRA. See **Response A_MWD-4**, which discusses the Draft EIR analysis of potential effects to the CRA including geology and soils. The impact analysis did not identify any unstable or poor soil conditions in the area where the pipeline would be installed near the CRA. Mitigation measures to control potential soil erosion during construction are identified in the Draft EIR and would be implemented during construction of the CRA tie-in facilities as well as other Project facilities.
- A_MWD-54 The commenter asks for analysis of potential Geology and Soils impacts related to potential leakage from the equalization basin. See **Response A_MWD-4**, which reiterates that CRA tie-in facilities will be designed in coordination with Metropolitan and are subject to Metropolitan approval. Facilities will also comply with the CBC. **Response A_MWD-4** also discusses the Draft EIR impacts and mitigation measures that apply to the CRA tie-in facilities. Mitigation Measure **HYDRO-4** has been revised to clarify how it will more clearly address potential seepage that might be associated with a storage structure if included as part of the tie-in.
- A_MWD-55 The commenter states that drainages along the CRA may be affected. The Draft EIR identifies drainages that could be affected by the Project, and Mitigation Measure **HYDRO-4** reduces impacts to drainages. See **Response A_MWD-4**, which discusses the Draft EIR analysis of drainage impacts and identifies proposed mitigation measures that would be implemented at the CRA tie-in facility sites as well as other Project facility locations to minimize and restore construction impacts to local drainage.
- A_MWD-56 The commenter states that modifications to drainages near the CRA should be approved by Metropolitan. The Draft EIR identifies drainages that could be affected by the Project and Mitigation Measure **HYDRO-4**

reduces impacts to drainages. See **Response A_MWD-4**, which discusses the Draft EIR analysis of potential drainage impacts and also reiterates that CRA tie-in facilities to be constructed near the CRA and/or on Metropolitan property will be designed in coordination with Metropolitan and subject to Metropolitan approval. Metropolitan will review proposed modifications to drainages near the CRA as part of the design review and approval process.

A_MWD-57

The commenter states that impacts to the CRA should be addressed in the Draft EIR. See **Response A_MWD-4** for a discussion of the Draft EIR impact analysis relevant to the CRA tie-in facilities and use.

A_MWD-58

The commenter states that impacts to Metropolitan's existing drainage berms should be addressed by additional construction at the intertie facility to accommodate Phase 2 of the Project. See **Response A_MWD-4**, which discusses the Draft EIR analysis of potential drainage impacts and also reiterates that CRA tie-in facilities to be constructed near the CRA and/or on Metropolitan property will be designed in coordination with Metropolitan and subject to Metropolitan approval. Existing drainage berms affected by Project construction would be restored or replaced in accordance with a design approved by Metropolitan. The Project team will consider designs that allow for future construction of the Phase 2 Component of the Project.

A_MWD-59

The commenter states that impacts to the CRA associated with the facilities required for the Phase 2 Imported Water Storage Component should be addressed. Please see **Response A-MWD-4** for a discussion of the effects of the Phase 1 Component facilities and operation on the CRA. Phase 2 is evaluated in the EIR at a program level of analysis. Phase 2 is not being considered for Project approval and implementation at this time. Additional project-level environmental review will be conducted for the Phase 2 Project in the future if it is pursued for implementation.

A_MWD-60

The commenter asks how impacts to groundwater are mitigated. See **Master Response 3.3** Groundwater Pumping Impacts and Final EIR Vol. 7, Appendix B1 Updated GMMMP.

A_MWD-61

The commenter requests that a detailed hydraulics plan and profile be submitted to Metropolitan. This comment does not concern the adequacy of the EIR. Final design of the pipeline will be coordinated with Metropolitan. See also **Response A_MWD-4**.

A_MWD-62

The commenter states that the CRA is not likely to be able to accommodate the Project as described. The proposed Project is

contingent on available capacity in the CRA, requiring Metropolitan approval. See **Response A_MWD-5**.

- A_MWD-63 The commenter states that a 15.7 foot per second flow rate would be unacceptable to Metropolitan. This comment does not concern the adequacy of the EIR. Final design of the pipeline will be coordinated with Metropolitan. See also **Response A_MWD-4**.
- A_MWD-64 The comment states that the 5,000 square foot forebay (CRA Tie-in Option 1) would need to be 286 feet deep to contain 10.7 million gallons and is not feasible. The comment further states that storing a flow rate at 250 cfs for up to two hours is 13.5 million gallons, not 10.7 million gallons. Final design will be coordinated with Metropolitan. See also **Response A_MWD-4**.
- A_MWD-65 The commenter states that the proposed equalization storage reservoir under CRA Tie-in Option 2 as described would be too shallow to be practical at 1.3 feet. The commenter further notes, as in the previous comment, that the flow rate would require 13.5 million gallons of storage instead of 10.7 and the CRA could not accommodate pumping 8 hours a day. The storage reservoir would be constructed within approximately 25 acres and would be designed to store two hours of flow. The conveyance line and tie-in will be designed in coordination with Metropolitan to satisfy the operation requirements of the CRA. The proposed Project is contingent on available capacity in the CRA, requiring Metropolitan approval. See also **Responses A_MWD-4 and A_MWD-5**.
- A_MWD-66 The commenter states that the tie-in options do not address the potential for pump trips along the CRA and the need to be able to contain and/or reject the full flow being pumped from the wellfield to the CRA. CRA tie-in facilities and operation will be designed in coordination with Metropolitan and subject to Metropolitan approval. The proposed Project is contingent on available capacity in the CRA, requiring Metropolitan approval. See also **Responses A_MWD-4 and A_MWD-5**.
- A_MWD-67 The commenter states that a pressure regulating structure would be required. The Draft Vol. 1, Chapter 3 Project Description notes the need for air relief valves and blow-off valves along the pipeline on page 3-29. The appurtenant facilities including a pressure regulating structure if necessary would be located within the project footprint evaluated in the Draft EIR. Final design of the pipeline including pressure relief facilities will be coordinated with Metropolitan. See also **Response A_MWD-4**.
- A_MWD-68 The commenter suggests that California Department of Public Health approval will be required. CDPH regulates public water supply systems.

The proposed Project would be adding water to the CRA. Metropolitan's operation of the CRA is subject to CDPH permitting authority, but implementation of the proposed Project would require approval from Metropolitan, not directly from CDPH. CDPH requires drinking water source assessments for new water supplies and would review the pump-in requirements imposed on the Project to ensure that they are protective of drinking water standards. CDPH would regulate Metropolitan and the Project Participants as they do under current conditions where water is delivered via the CRA, SWP, and local sources. All water purveyors are subject to CDPH potable water quality requirements.

A_MWD-69

The commenter states that the average TDS concentrations of the CRA should be 630 mg/l rather than 650 mg/l as stated in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-40. The comment is noted, but the Draft EIR text has not been changed for this minor revision as it is not significantly different from what is presented in the Draft EIR and does not affect the impact conclusions.

A_MWD-70

The commenter states that the Project's contribution to the CRA could be as much as 50 percent of the total volume of water carried in the CRA, rather than the 6 percent identified in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-55. The commenter noted that the percentage of CRA flow represented by the Project contribution will vary depending on how Metropolitan is managing flow in the aqueduct. As discussed in the Draft EIR and summarized in **Response A_MWD-4**, Project groundwater quality meets all existing water quality regulations (MCLs) prior to input into the CRA and does not require blending within the CRA to achieve compliance. Therefore, although the CRA would provide for some additional blending and dilution, this was not used as a factor in concluding that water quality impacts to the CRA would be less than significant. It is understood that Metropolitan may establish additional water quality requirements beyond those established by State and federal regulations for Project water pump-in to the CRA.

A_MWD-71

The commenter states that Time 4 on Figure 3-3b in the Draft EIR indicates that pumping will result in brine near the Dry Lake moving towards the pumping well and that this is a water quality issue that needs to be addressed in greater detail. As shown on Figures 4.9-7, 4.9-8, and 4.9-9 in the Draft EIR (Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-50, 4.9-51, and 4.9-52), under all three of the modeled recharge scenarios the saline-fresh-water interface is expected to migrate towards the proposed Project area where the pumping wells would be located. The Draft EIR evaluates this impact in detail beginning on pp. 4.9-50. As modeled, the migration of saline water would not affect any

existing wells or water uses in the area. The area affected is near the margin of the Dry Lake where vegetation is sparse and the land uses is entirely open space with some salt mining wells and appurtenant facilities. The area is not conducive to residential development. Nonetheless, the Draft EIR acknowledges that any users of groundwater in these areas that are adversely affected by changes in salinity would be compensated through the GMMMP. See **Master Response 3.3** Groundwater Pumping Impacts and **3.8** GMMMP.

- A_MWD-72 The commenter states that greater water quality characterization is needed beyond just TDS and general minerals, such as inorganic contaminants (i.e. arsenic, hexavalent chromium, etc.) and radionuclides. See **Response A_MWD-4** for a discussion of water quality impacts and hexavalent chromium. Additional data was provided in the Draft GMMMP, as updated in the Final EIR Vol. 7, Appendix B1 Updated GMMMP, Tables 2-2 and 2-3, including data regarding arsenic and hexavalent chromium. Project groundwater meets all of the existing State and federal MCLs established for drinking water and as such the Draft EIR concludes that water quality impacts are less than significant.
- A_MWD-73 The commenter states that Colorado River water TDS values have decreased rather than increased as suggested in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-40. The comment is noted but the Draft EIR text has not been changed as it does not affect the Draft EIR impact conclusions.
- A_MWD-74 The commenter states that impacts to CRA water quality should be analyzed and summarized in Tables ES-1 and ES-2. The Draft EIR discusses impacts to water quality in the CRA in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-53 through 4.9-58. Project groundwater meets all of the State and federal MCLs established for drinking water and as such the Draft EIR concludes that water quality impacts are less than significant. Further, the Project will be subject to a GMMMP which includes monitoring of water quality levels in the aquifer. See Final EIR Vol. 7, Appendix B1 Updated GMMMP, Table 5.1. It is understood that Metropolitan may establish additional water quality requirements beyond those established by State and federal regulations for Project water pump-in to the CRA through its review of the Project as a responsible agency. Further, details of Phase 2 are not sufficiently developed to determine its potential effects on the CRA's water quality; this will be analyzed in the future during the project-level environmental review of the storage component. Accordingly, adding measures to Tables ES-1 and ES-2 is not necessary to reduce any significant effects.

- A_MWD-75 The commenter states that only 8 of the 180 regulated constituents are shown in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, Table 4.9-8. The data in Table 4.9-8 is a summary of available groundwater and CRA water quality data. See **Response A_MWD-4** for a discussion of impacts to the CRA including water quality as well as a reference to the comprehensive annual groundwater water quality monitoring that will be conducted for the Project.
- A_MWD-76 The commenter states that Mitigation Measure **HYDRO-3** appears to address only issues that are experienced by local landowners and that the mitigation measure should include a comprehensive monitoring program that would ensure no impacts to water quality. Please see **Response A_MWD-4** for a discussion of impacts to the CRA including water quality as well as a reference to the comprehensive annual groundwater water quality monitoring that will be conducted for the Project. The comprehensive monitoring program is described in the Final EIR, Vol. 7, Appendix B1 Updated GMMMP. See also **Master Response 3.8** GMMMP.
- A_MWD-77 The commenter states that Chromium 6 (hexavalent chromium) levels are 14 to 16 µg/L, which are higher than the Office of Environmental Health Hazard Assessment (OEHHA) Public Health Goal (PHG) level of 0.02 ug/L, that the Project water quality would not be acceptable for pumping directly into the CRA without treatment, and that the Final EIR must identify and analyze the environmental impacts of constructing and operating the treatment facilities required to introduce the Project water into the CRA. The commenter is referred to **Response A_MWD-4**, which reviews water quality impacts and Chromium 6. Project groundwater meets all of the existing State and federal regulatory MCLs established for drinking water and as such the Draft EIR concludes that water quality impacts are less than significant.
- It is understood that Metropolitan may establish additional water quality requirements beyond those established by State and federal regulations for Project water pump-in to the CRA. Project facilities and operations associated with use of the CRA will be developed in coordination with Metropolitan. If treatment is required then the appropriate treatment, facilities, and location will be determined and, if necessary, additional CEQA environmental review for these specific additions to the Project will be conducted.
- A_MWD-78 The commenter states that relying on downstream treatment of Project water is not adequate. The commenter is referred to **Response A_MWD-4**, which reviews the Draft EIR water quality impact assessment. Project

groundwater meets all of the State and federal regulatory MCLs established for drinking water and as such the Draft EIR concludes that water quality impacts are less than significant. Downstream treatment is not relied on in the analysis that concludes there would be less than significant impacts to water quality. See also **Response A_MWD-77**.

A_MWD-79

The commenter states that additional facilities would be required to connect Jurupa Community Services District (Jurupa CSD) to the Metropolitan distribution system. Jurupa CSD would not require the construction of additional facilities, rather an arrangement for water exchanges would be needed. Jurupa CSD could decide to pursue the construction of additional facilities to establish a direct connection to the CRA in the future but such facilities are not proposed at this time nor included as part of the Project and therefore this was not evaluated in the Draft EIR. Jurupa CSD would conduct subsequent environmental review separately, as appropriate, if it elects to pursue the construction of additional facilities.

A_MWD-80

The commenter states that additional railroad-related uses of Project water, such as washing railcars and controlling vegetation, could result in erosion and runoff impacts to source water and therefore requests analyses for these proposed uses. As indicated in the Draft EIR Vol. 1, Chapter 2, p. 2-4, the agreement between Cadiz Inc. and ARZC provides specifically for fire hydrants to be provided along the conveyance pipeline for ARZC to use for emergency fire suppression. Additionally, access to Project water up to 10,000 gallons per day is reserved for uses such as vegetation control, rail car washing, and other improvements. Installation of the fire hydrants along the railroad ROW as part of the conveyance pipeline construction is proposed as part of the Phase 1 Component and is described in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-40. However, as stated on page 3-40, “ARZC has reserved rights for the use of water from the Project for other designated railroad purposes, including for washing railcars, controlling vegetation, serving its offices and other improvements and future operations, such as a steam-powered excursion locomotive, new warehouses (if any), bulk transfer facilities or other railroad related facilities on the line. Each of these additional uses would be subject to additional environmental review as they are developed and proposed for implementation.” These potential future uses of water are not evaluated in this EIR as there are no specific proposals to evaluate at this time; the nature or location of such uses, operational parameters, or facilities needed are unknown at this time. When ARZC pursues such uses, additional environmental review will be conducted.

A_MWD-81

The commenter states that undisturbed land would be affected when constructing the CRA tie-in. The Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-48, last paragraph is revised as follows:

Staging areas would be required for the temporary storage of equipment and materials during construction of the Project. The staging areas will occur on disturbed and undisturbed land. Preparation of these ~~undisturbed~~ staging areas would consist of flattening vegetation in place or blading the site in a manner that would allow native vegetation to recover from rootstock.

A_MWD-82

The commenter states that impacts of the temporary housing facility need to be addressed. The Draft EIR Vol. 1, Chapter 3 Project Description, Figure 3-10a, p. 3-31 identifies the locations of the staging areas and housing facilities and analyzes the effects of grading and disturbing the area to accommodate the staging and, if needed, expansion of the existing housing facilities. Impacts to biological resources and cultural resources are analyzed within the footprint impacts of the entire construction activities. No new permanent structures would be constructed. As described on p. 3-48, on-site construction workers would reside within the existing housing areas on Cadiz Inc. property. The existing worker housing areas currently support the agricultural activities and are sized to house over 300 workers at peak harvest season. These areas are expandable within the footprint of the existing disturbed areas, and if necessary, housing could be expanded within these areas by setting up additional temporary camps. Alternatively, temporary camps could be established within proposed staging areas; temporary camps would be dismantled following construction. Water supply, food services, lodging, power, and sanitation would be supplied as removable support facilities. No additional impacts other than construction related impacts within the footprint would occur. Mitigation measures for Project construction impacts, such as erosion and dust control, would apply to these areas as appropriate. No additional analysis is required.

A_MWD-83

The commenter states that the diversion structure and equalization storage reservoir for the Phase 2 Imported Water Storage Component should be analyzed in the Draft EIR. The Draft EIR identifies the need for these facilities and evaluates them at a program level of detail since the facility designs are not yet available (Draft EIR Vol. 1, Chapter 1 Introduction, pp. 1-4 and 1-11). See also **Master Response 3.12** Project vs. Program-Level Analysis.

- A_MWD-84 The commenter states that air quality analysis is required for the equalization storage reservoir. The CRA tie-in construction including the potential need for an equalization reservoir was evaluated as part of the EIR's air emissions analysis, as summarized in the Draft EIR Vol. 1, Section 4.3 Air Quality, Table 4.3-5. The revised table is included in Chapter 5 Draft EIR Text Changes of this Final EIR.
- A_MWD-85 The commenter states that the impact analysis does not specifically identify the CRA right-of-way. The Draft EIR analyzes impacts of the pipeline and CRA tie-in facilities within the ARZC ROW, as well as on Metropolitan property. Figures 3-10c and 3-11 show proposed facilities within Metropolitan property. Impact analysis throughout Chapter 4 includes all proposed construction activities within the Metropolitan property.
- A_MWD-86 The commenter states that Table 4.4-40 (Draft EIR Vol. 1, Section 4.4 Biological Resources) should include impacts on Metropolitan property. The table summarizes permanent and temporary impacts of the entire construction footprint shown in Figure 3-1, including all facilities within Metropolitan property.
- A_MWD-87 The commenter states that there is insufficient information to evaluate Phase 2. Phase 2 is evaluated at a program level of detail since the Project description is not yet adequately defined for a project-level analysis. See **Master Response 3.12** Project vs. Program Level Analysis.
- A_MWD-88 The commenter asks how long Phase 1 needs to be in operation for Phase 2 to be initiated. See **Response A_MWD-21** which addresses the same question.
- A_MWD-89 The commenter suggests designing an equalization storage reservoir that could also serve Phase 2 requirements for an intermediate forebay. The final design will be prepared in coordination with Metropolitan. However, at this time, as discussed in the EIR, the facilities needed for Phase 2 are too speculative for project-level analysis. See **Master Response 3.12** Project vs. Program Level Analysis.
- A_MWD-90 The commenter states that the use of an existing pipeline to convey SWP water is not adequately described. The existing pipeline is analyzed as an alternative in Chapter 7 of the Draft EIR. Use of such a pipeline could be a component of Phase 2 and, as stated in the Draft EIR, is evaluated at a program level of detail since more specific details are not available (Draft EIR Vol. 1, Chapter 1 Introduction, pp. 1-4 and 1-11). See also **Master Response 3.12** Project vs. Program Level Analysis.

- A_MWD-91 The commenter identifies a typographical error in the Draft EIR Vol. 1, Section 4.13 Public Services and Utilities on p. 4.13-22. The error is corrected as shown below.
- The Imported Water Storage Component would add 10-15 wells in order to return up to 105,000 ~~150,000~~ AFY of previously stored water through the pipeline to the CRA and/or SWP.
- A_MWD-92 The commenter asks for a description of how the natural gas pipeline would be cleaned prior to use for water conveyance. The methods for converting the natural gas pipeline to a water conveyance pipeline have not been specified at this time. Chemical cleaning, use of cleaning inserts, and lining the pipeline are all options. This component is assessed at a program level of detail and requires further development and analysis prior to implementation, but is included to describe potential future components of the Project.
- A_MWD-93 The commenter states that the appropriate lead agency for Phase 2 is the County of San Bernardino. This is fully addressed in **Master Response 3.10 CEQA Lead Agency**.
- A_MWD-94 The commenter contests that there is a need for additional storage in Southern California and refers to information it and others have prepared about other locations within Southern California that might be available for the groundwater storage of surface water supplies that could represent alternatives to the Phase 2 Imported Water Storage Component. In fact, there is a need for storage as exemplified by water banking projects occurring throughout California and in particular the San Joaquin Valley. Irvine Ranch Water District's water banking program in Kern County is one recent example of a Southern California water agency securing additional groundwater storage capability in order to improve the reliability of its imported water supply (<http://www.irwd.com/your-water/water-supply/water-banking.html>). Groundwater storage provides new opportunities to enhance water supply reliability because delivery requests for water can be made during dry years when water from other supplies is unavailable or expensive. However, Phase 2 is evaluated at a program level of detail in this EIR; if and when it is pursued and undergoes further environmental analysis, the need for Phase 2 and potential alternatives to Phase 2 will be examined further. See **Master Response 3.12 Project vs. Program-Level Analysis**.
- A_MWD-95 The commenter states that alternatives to Phase 2 are not possible without Project Participants. The Alternatives analysis in the Draft EIR Vol. 1, Chapter 7 Alternatives Analysis provides an assessment of alternatives based on the information available. The analysis

acknowledges that a better understanding of appropriate alternatives will be available when Phase 2 participants are identified. However, the Draft EIR provides a program-level assessment of potential alternatives given the information available at the time of the analysis. See **Master Response 3.12** Project vs. Program Level Analysis.

A_MWD-96

The commenter states that the GHG analysis is insufficient for Phase 2. Additional analysis will be required prior to implementation of Phase 2. See **Master Response 3.12** Project vs. Program Level Analysis and **Response A_MWD-6**.

A_MWD-97

The commenter states that potential Geology and Soils impacts to the CRA are not evaluated sufficiently for Phase 2. The potential geology and soils impacts associated with the Phase 2 Component are described in the Draft EIR Vol. 1, Section 4.6 Geology and Soils, pp. 4.6-40 through 4.6-43. The analysis identifies potential impacts associated with strong ground shaking due to earthquakes affecting the proposed spreading basins. Mitigation Measure **GEO-2** requires that designs for these facilities address potential earthquake effects. Potential erosion and loss of topsoil during construction activities is also identified and would be addressed by Mitigation Measures **HYDRO-1** and **HYDRO-4**. Other areas analyzed including geologic instability and hazards, expansive, or corrosive soils were found to be less than significant for the additional Phase 2 facilities. Additional environmental impact analysis will be required prior to implementation of Phase 2. See **Master Response 3.12** Project vs. Program Level Analysis.

A_MWD-98

The commenter requests an assessment of how recharged water under Phase 2 could affect saline migration. No modeling has been conducted for Phase 2. Additional analysis will be required prior to implementation of Phase 2. See **Master Response 3.12** Project vs. Program Level Analysis.

A_MWD-99

The commenter notes that SWP water is less than 500 mg/l TDS. The comment is noted. This additional information does not alter the impact conclusion.

A_MWD-100

The commenter states that additional information regarding water quality is necessary prior to implementing Phase 2. The Draft EIR provides a program-level review of potential impacts associated with Phase 2. As Project groundwater quality meets all regulated drinking water quality standards the Draft EIR concludes that it would not have a significant water quality impact. Additional project-level environmental analysis will be required prior to implementation of Phase 2. See **Master Response 3.12** Project vs. Program Level Analysis.

- A_MWD-101 The commenter states that additional analysis is required to assess the operational effects of Phase 2 on the CRA. Additional analysis will be required prior to implementation of Phase 2. See **Master Response 3.12** Project vs. Program Level Analysis.
- A_MWD-102 The commenter requests a footnote identifying the federal regulations that may unlock additional complementary storage opportunities within the Basin and in Lake Mead. The federal regulation referred to is the Bureau of Reclamation, Record of Decision, Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead, December 2007.³¹
- A_MWD-103 The commenter states that the Draft EIR Vol. 1, Chapter 1 Introduction, p. 1-6 describes Golden State Water Company as having a service area in Riverside County, while Figure 1-3 does not show this. The Draft EIR Vol. 1, Chapter 1 Introduction, p. 1-6, paragraph 2, is revised as follows:
- In Southern California, Golden State serves customers in cities throughout San Bernardino, ~~Riverside~~, Los Angeles, Orange and Ventura counties.
- A_MWD-104 The commenter states that Figure 1-4, Area of Use Assessment should be revised to include Ventura County boundaries. It is noted that the schematic graphic included as Figure 1-4 could be modified slightly to cover more of Ventura County. However, the figure is a schematic and the comment is not substantive.
- A_MWD-105 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 2 Project Background on p. 2-6. Page 2-6, paragraph 3 is revised to the following:
- The ~~2010~~ 2009 California Department of Water Resources (DWR) California Water Plan Update, Integrated Water Management found that reliability of supplies of water historically used by water providers in Southern California will continue to vary in the future.
- A_MWD-106 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 2 Project Background, p. 2-6. Page 2-6, paragraph 4 is revised as follows:

³¹ U.S. Department of the Interior, Record of Decision, *Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead*, available at <http://www.usbr.gov/lc/region/programs/strategies/RecordofDecision.pdf>, December 2007.

The SWP began in 1960 with California voter approval for a statewide distribution system to meet growing water needs south of the San Francisco Bay/ Sacramento-San Joaquin River Delta (also known as the Bay Delta).

A_MWD-107 The commenter states that branches of the California Aqueduct, including the West Branch, are not shown on Figure 2-1 (Draft EIR Vol. 1, Chapter 2 Project Background). It is noted that West Branch could be added to the figure. However, the figure is a schematic, and the comment is not substantive.

A_MWD-108 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 2 Project Background on p. 2-8. Page 2-8, first paragraph is revised as follows:

Between 1990 and 1992 and in 1994, DWR had greater difficulty meeting demand because ~~several~~ these years were very dry.

Draft EIR p. 2-8, first paragraph is revised as follows:

~~In recent years, the SWP has been able to deliver full amounts only in wet years;~~

Between 2000 and 2011, the SWP has been able to deliver 100 percent of the contractors' allocations only in 2006, a wet year;

A_MWD-109 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 2 Project Background, p. 2-8. Page 2-8, first paragraph is revised as follows:

~~DWR's most recent reliability estimates indicate the system will have 60 percent reliability for delivering Table A requests, depending on hydrologic and environmental factors¹⁵. DWR currently estimates 60 percent reliability in the future.~~

DWR estimates the system will have, on average, 60 percent reliability for delivering Table A requests, depending on hydrologic and environmental factors.¹⁵ DWR estimates 60 percent reliability, on average, in the future.

A_MWD-110 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 2 Project Background on p. 2-8. Page 2-8, second paragraph is revised as follows:

SWP deliveries to Metropolitan began in 1972.

A_MWD-111

The commenter requests revisions in the Draft EIR Vol. 1, Chapter 2 Project Background on pp. 2-8 to 2-9. The last sentence is revised as follows:

The CRA, owned and operated by Metropolitan, has a capacity of 1,800 cubic feet per second, or 1.25 million AFY. California's allotment of Colorado River water is 4.4 million AFY, plus available surplus water and any water apportioned to but unused in the states of Arizona and Nevada, made available by the Secretary of the Interior.

A_MWD-112

The commenter requests revisions in the Draft EIR Vol. 1, Chapter 2 Project Background on p. 2-9. Page 2-9, first paragraph is revised as follows:

~~Since 2003, Metropolitan has developed agreements with other Colorado River water rights holders to convey water through the CRA.~~

Since 1988, Metropolitan has entered into agreements with other Colorado River water rights holders to conserve water to permit the Secretary of the Interior to make such water available to Metropolitan for diversion through the CRA.

A_MWD-113

The commenter requests revisions in the Draft EIR Vol. 1, Chapter 2 Project Background on p. 2-9. Page 2-9, first paragraph is revised as follows:

~~Metropolitan approved the Quantification Settlement Agreement (QSA) in 2003 that provided for additional transfers from agricultural agencies that use Colorado River Water such as the Imperial Irrigation District (IID) and the Coachella Valley Water District (CVWD) to San Diego.~~

Metropolitan executed the Quantification Settlement Agreement (QSA) in 2003, a key component of California's Colorado River Water Use Plan, providing for the transfer of water from the Imperial Irrigation District (IID) to the San Diego County Water Authority (SDCWA) and providing a reliable mechanism for additional agricultural to urban water transfers benefiting Metropolitan. Execution of the QSA restored the opportunity for Metropolitan's access to special surplus water to be provided under the 2001 Interim Surplus Guidelines. The QSA set aside several existing disputes between California's Colorado River

water agencies, allowing for the cooperative development of additional Colorado River water supply programs.

A_MWD-114

The commenter requests revisions in the Draft EIR Vol. 1, Chapter 2 Project Background on p. 2-9, footnote 19. Page 2-9, footnote 19 is revised as follows:

~~Twelve of the QSA agreements are currently the subject of an appeal pending in the Third District Court of Appeal for which oral argument will occur on November 21, 2011.~~

On December 7, 2011, the judgments in *Imperial Irrigation District v. All Persons Interested*, *POWER v. Imperial Irrigation District et al.*, and *County of Imperial v. Metropolitan Water District of Southern California et al.* were reversed, and the cases were remanded to the trial court for further proceedings consistent with the Court of Appeal's opinion.

The QSA and related agreements continue to be implemented ~~while the appeal is being decided.~~

A_MWD-115

The commenter requests revisions in Table 2-1 in the Draft EIR Vol. 1, Chapter 2 Project Background, p. 2-9. Table 2-1 on p. 2.9 is revised as follows:

TABLE 2-1
SOURCES OF WATER SUPPLY FOR THE METROPOLITAN SERVICE AREA (ACRE-FEET)

| Calendar Year | Local Supplies | L.A. Aqueduct | Colorado River Aqueduct | State Water Project | Total |
|-------------------|----------------|---------------|-----------------------------------|---------------------|-----------------------------------|
| 1980 | 1,452,000 | 515,000 | 794,000 817,147 | 560,000 | 3,317,000 3,344,147 |
| 1985 | 1,535,000 | 496,000 | 1,048,000 1,269,526 | 728,000 | 3,776,000 4,028,526 |
| 1990 | 1,470,000 | 106,000 | 1,183,000 1,214,971 | 1,458,000 | 4,217,000 4,248,971 |
| 1995 | 1,590,000 | 464,000 | 933,000 994,373 | 451,000 | 3,438,000 3,449,373 |
| 2000 | 1,768,000 | 255,000 | 1,217,000 1,300,014 | 1,473,000 | 4,714,000 4,796,014 |
| 2005 | 1,590,000 | 369,000 | 685,000 875,252 | 1,525,000 | 4,168,000 4,359,252 |
| 2010 ¹ | 1,832,000 | 243,000 | 1,150,000 | 1,500,000 | 4,725,000 |

1,099,061

4,674,061

SOURCE: Metropolitan Water District of Southern California, *Regional Urban Water Management Plan*, November 2010, p. A. 2-3, Table A. 2-1.

Metropolitan created 100,864 acre-feet of Extraordinary Conservation ICS, storing water it otherwise would have diverted in Lake Mead.

A_MWD-116 The commenter states that since the CRA terminates at Lake Mathews, exchange arrangements would be necessary to convey water from the CRA to Project Participants. The Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-2, last paragraph, third sentence is revised as follows:

From the CRA, water would be distributed to Project Participants via the existing distribution infrastructure available to Metropolitan and local water providers through exchange arrangements with Metropolitan.

~~Water would be distributed to Project Participants via the CRA.~~

A_MWD-117 The commenter notes that the CRA delivers water from the Colorado River and that none of the Project Participants hold a contract with the Bureau of Reclamation for delivery of Colorado River water. The comment is noted.

A_MWD-118 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-21. Page 3-21, first paragraph, first sentence is revised as follows:

Its 24 separate water systems serve 63 communities from Chico in ~~Southern~~ Northern California to the Palos Verdes Peninsula in Southern California.

A_MWD-119 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-34. Page 3-34, the first paragraph, first sentence is revised as follows:

The water conveyance pipeline would terminate at the CRA, a 242-mile water conveyance facility that delivers water from the Colorado River at ~~Parker Dam to water suppliers in Southern California~~ at Lake Havasu to Lake Mathews.

A_MWD-120 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-34. Page 3-34, paragraph 5 is revised as follows:

~~Copper Mountain~~ Basin

- A_MWD-121 The commenter requests revisions in the Agreement, Permits, and Approvals table (Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-53). Page 3-53, second to last row, right column is revised as follows:
- Regulatory authority over California Water Service, Golden State and Suburban, the CPUC has approval authority over California Water Service's, Golden State's and Suburban Water's agreements if rates are affected.
- A_MWD-122 The commenter suggests revisions to the Draft EIR Vol. 1, Chapter 3 Project Description on p. 3-54, third to last row, center column. An agreement to convey water through the CRA remains a requirement. The modification is not made. See **Response A_MWD-116** for a revision to the Draft EIR concerning distribution from CRA to Project Participants.
- A_MWD-123 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-35. Page p. 3-54, beneath the third to last row, center column the following text is added:
- Approval of aspects of the Project/CEQA
- Additionally, the following text is added to the right column:
- CEQA Responsible Agency pursuant to California Public Resources Code section 21069, Metropolitan would evaluate potential environmental impacts within its boundaries and on its Facilities.
- A_MWD-124 The commenter requests revisions in the Draft EIR Vol. 1, Section 4.1 Aesthetics, p. 4.1-4. Page 4.1-4, second paragraph is revised as follows:
- In general, public views of the proposed Project would be limited ~~as access~~ to the Cadiz Inc. property to the north and Metropolitan lands and the CRA to the south are ~~private watershed district property and are~~ not accessible to the general public.
- A_MWD-125 The commenter requests revisions in the Draft EIR Vol. 1, Section 4.5 Cultural Resources, p. 4.5-13. Page 4.5-13, fifth paragraph is revised as follows:
- The CRA was constructed in the 1930s by the Metropolitan Water District of Southern California in order to transport water

from the Colorado River to the ~~Los Angeles metropolitan area~~
Southern California coastal plain.

A_MWD-126 The commenter requests revisions in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-10. Page 4.9-10, last paragraph is revised as follows:

However, these trends have many variations and need to be considered more at a regional level, as discussed below.

A_MWD-127 The commenter requests clarification regarding geographic context for the first paragraph of Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-11: “The data shows large annual variations (less than 9 to more than 20 inches).” The sentence is referring to the proposed Project area.

A_MWD-128 The commenter requests revisions in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-12. Page 4.9-12, first paragraph is revised as follows:

Capture of snowmelt runoff traditionally has occurred during the late spring and early summer seasons.

A_MWD-129 The commenter requests revisions in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-40. Page 4.9-40, third paragraph is rephrased as follows:

~~As a result of the Salinity Management Policy, TDS levels in Colorado River water sampled just below Parker Dam have been reduced to below 600 mg/L since 1985. With implementation of the Colorado River Basin Salinity Control Program, TDS levels in Colorado River water sampled just below Parker Dam have varied from 620 to 680 since 2005.~~

The commenter requests revisions in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-40. Page 4.9-40, third paragraph, footnote 183 is revised as follows:

U.S. Bureau of Reclamation, *Quality of Water, Colorado River Basin, Progress Report No. 2223*, 20052011, Appendix A, p. 6976. The citation can be found at <http://www.usbr.gov/uc/progact/salinity/pdfs/PR23final.pdf>.

A_MWD-130

The commenter requests revisions in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-44 Page 4.9-44, third paragraph is rephrased as follows:

~~Presently, California is receiving waters unused by other states. The 2003 Quantification Settlement Agreements created California's "soft landing" by reducing California's Colorado River water usage from 5.2 million AFY to 4.4 million AFY in a normal year over 15 years through the conservation and transfer of water from agricultural to urban uses in San Diego County Water Authority's, Metropolitan's, and Coachella Valley Water District's jurisdictions, through quantifying the agencies' priority water rights to the River and allocating water in times of shortage. This effort was called the "Interim Surplus Guidelines." The Interim Surplus Guidelines adopted rules for deciding when there was surplus water in the Colorado River, and how such a surplus could be used, as California wound down its excess use.~~

Presently, California is not receiving waters unused by other states. While the 2003 Quantification Settlement Agreement contemplated a California "soft landing" by reducing California's Colorado River water usage from 5.2 million AFY to 4.4 million AFY in a normal year over 15 years through the conservation and transfer of water from agricultural to urban uses in San Diego County Water Authority's, Metropolitan's, and Coachella Valley Water District's jurisdictions, the California agencies reduced their use to 4.4 million AFY, less the payback of certain amounts of water used in 2001 and 2002, and inadvertent overruns beginning in 2003. Agreements relating to the Quantification Settlement Agreement quantified Imperial Irrigation District's, Coachella Valley Water District's, and Metropolitan's priority water rights to River water and allocate water in times of shortage. In addition, execution of these agreements restored the agencies' ability to utilize special surplus water when available in accordance with the 2001 "Interim Surplus Guidelines." The Interim Surplus Guidelines adopted a methodology for deciding when there was surplus water available from Lake Mead and for what purposes surplus water could be used.

A_MWD-131

The commenter requests revisions in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-77. Page 4.9-77, first paragraph is revised as follows:

The CRA water would have higher TDS concentrations than the ~~CRA water~~ groundwater, whereas the sodium and chloride (salt) concentrations of the CRA water would be slightly lower than the current concentrations in the groundwater in the alluvium in the Fenner Gap area.

A_MWD-132 The commenter requests revisions in the Draft EIR Vol. 1, Section 4.13 Utilities and Public Services, p. 4.13-17. Page 4.13-17, footnote 20 is revised as follows:

California Energy Commission, *California's Water – Energy Relationship*, November 2005, Figure 2-2 and page 23;
Metropolitan Water District of Southern California, *2006 Revised Power Integrated Resource Plan for Metropolitan's Colorado River Aqueduct Power Operations*, October 2006, table 4.

A_MWD-133 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 5 Cumulative Impacts, p. 5-28. Page 5-28, second paragraph is revised as follows:

In contrast, much of the Project infrastructure would be installed underground (43 miles of water conveyance pipelines, possibly power distribution facilities and interconnected wellfield pipelines), on private and water district property (Cadiz Inc. property, ARZC ROW, Metropolitan lands), and in remote areas not generally accessible by the public. The overall permanent physical Project footprint is less than 250 acres.

A_MWD-134 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-3. Page 6-3, last paragraph is revised as follows:

The facilities proposed for Groundwater Conservation and Recovery Component of the Project include construction of a wellfield and manifold (piping) system to carry pumped groundwater to a new 43-mile conveyance pipeline that would be constructed along the ARZC ROW, and tie into the CRA; ~~which would distribute water to Project Participants.~~

A_MWD-135 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-8. Page 6-8, footnote 10 is revised as follows:

Codified at California Business and Professions Code §65867.5 and Government Code §§66455.3 and 66473.7.

- A_MWD-136 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-9. Page 6-9, footnote 13 is revised as follows:
- Codified by amendments to California Public Resources Code §§75076 and 75077 and the addition of §§75100 *et seq.* ~~and 775120 *et seq.*~~
- A_MWD-137 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-10. Page 6-10, last sentence is revised as follows:
- Metropolitan imports water from the Colorado River via its CRA and receives water from the California Department of Water Resources which imports it from the Sacramento-San Joaquin Delta via the SWP.
- A_MWD-138 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-10. Page 6-10, second and third paragraphs is revised as follows:
- Metropolitan's water supplies and supply reliability are described in more detail ~~in~~ below but, in summary, Metropolitan is taking several steps to address reliability issues associated with both of its imported supply sources.
- ~~On the Colorado River system, a multi-year drought coupled with the need for Metropolitan to permanently reduce its level of imports, along with~~ litigation over the negotiated multi-party Quantification Settlement settlement and related agreements intended to reduce California's reliance on the Colorado River...
- A_MWD-139 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-10. Page 6-10, last paragraph is revised as follows:
- Metropolitan works with local agencies to implement projects to recover and ~~use~~ treat contaminated groundwater to meet potable use standards prior to use.

A_MWD-140 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-16. Page 6-16, third paragraph is revised as follows:

(see further discussion of Metropolitan supplies and reliability issues in Section 6.2.7, below).

A_MWD-141 The commenter makes the assertion that the proposed Project will bring imported water to Southern California, rather than provide a local water source to the region. As stated in the Draft EIR, Chapter 3, Project Description, p. 3-2, the Project would make use of a water source independent of surface water resources from the CRA and Sacramento San-Joaquin Delta. In this way, the sentence highlighted by the commenter is correct in saying that Project water is local to the Southern California region, while SWP and CRA water is imported.

A_MWD-142 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-31, Table 6-14, footnote (a). Page 6-31, Table 6-14, footnote (a) is revised as follows:

Suburban purchases water from Metropolitan via the Upper San Gabriel Valley Municipal Water District and Central Basin Municipal Water District.

A_MWD-143 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-43. Page 6-43, third paragraph is revised as follows:

Metropolitan's service area covers portions of six counties in the Southern California region: Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties.

A_MWD-144 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-53, footnote 73. Page 6-53, footnote 73 is revised as follows:

For example, the San Diego County Water Authority (SDCWA) and Imperial Irrigation District (IID) currently have an agreement under which IID water is transferred to SDCWA. The transferred water is made available by land fallowing; additional future increases in transferred water will be made possible by additional fallowing and implementation of new irrigation efficiency measures. The transfer is implemented via Metropolitan infrastructure, whereby Metropolitan receives the

IID water and exchanges it for an equal amount of ~~conveys the same amount of CRA~~ water to SDCWA. (RUWMP p. 1-22)

A_MWD-145

The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-53. Page 6-53, paragraph 3 is revised as follows:

~~Metropolitan projects that 16 percent of its total water supply in 2035 will come from the Colorado River.~~

Of California's 4.4 MAF normal year apportionment from the Colorado River, up to 3.85 MAF, less transfers and use of up to 14,500 acre-feet by holders of Indian and miscellaneous present perfected rights, or 86 percent, is delivered to the Imperial Valley Irrigation District and, to a much lesser extent, the Palo Verde Irrigation District near Blythe, the Yuma Project, and the Coachella Valley Irrigation Water District. A portion of the water rights held by the first three of these entities listed these ~~irrigation districts~~ are called "present perfected" rights – they predate the ~~1922 Colorado River Compact~~ 1928 Boulder Canyon Project Act and thus entitle the entities ~~them~~ to receive their water allocation in all years—dry or wet—over other lower priority users, order of their priority date over other lower priority users, including Metropolitan.

A_MWD-146

The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-54. Page 6-54, first paragraph is revised as follows:

California has historically in the past drawn more than its basic apportionment of Colorado River water; its annual use has varied between 4.532 and 5.37 MAF over the last ten years^{32,33} with water supplies above California's entitlement normal year apportionment of 4.4 million acre-feet typically coming from unused portions of Arizona's and Nevada's apportionment and surplus water ~~on the River in wet years.~~

A_MWD-147

The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-54, footnote 77. Page 6-54, footnote 77 is revised as follows:

³² Aquifonia, *The Colorado River*, <http://aquaforia.com/where-does-californias-water-come-from/the-colorado-river>, accessed October 12, 2011.

³³ San Diego County Water Authority, *News Release: QSA remains most reliable path for California's Colorado River Supplies*, <http://www.sdcwa.org/qsa-remains-most-reliable-path-californias-colorado-river-supplies>, accessed October 2011.

~~Aquifonia, *The Colorado River*, <http://aquaformia.com/where-does-californias-water-come-from/the-colorado-river>, accessed October 12, 2011.~~

~~U.S. Department of the Interior, Bureau of Reclamation, *Lower Colorado River Accounting*, <http://www.usbr.gov/lc/region/g4000/wtracct.html>, accessed April, 2012.~~

A_MWD-148

The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-54. Page 6-54, first paragraph is revised as follows:

However, in recent years, increased use by upstream water users (within their allocated rights) has reduced the amount of surplus Colorado River water formerly available to Metropolitan, a 10-year drought in the Colorado River watershed has decreased storage levels in Lake Mead and Lake Powell below 50 percent before their recovery in 2011, record dry conditions in Southern California ~~hadve~~ reduced groundwater ~~basins~~ levels and local reservoirs storage before recovery in 2011, and consecutive dry years in northern California reduced Lake Oroville (~~at the starting point of the a SWP reservoir~~) in 2008 and 2009 to its lowest and third lowest operating level since the reservoir was filled.

A_MWD-149

The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-54. Page 6-54, first paragraph is revised as follows:

Thus, while California's apportionment of water has priority over a portion of Arizona and Nevada's apportionment, there are increasing concerns about diminished supplies and the reliability of Colorado River water over the long term.

A_MWD-150

The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-54. Page 6-54, fourth paragraph is revised as follows:

Metropolitan may receive this additional water from ~~unused apportionments~~, water supplies unused by agricultural districts, supplies unused by the states of Arizona and Nevada ~~classified as Priority 6~~, and as Intentionally Created Surplus ~~or~~ supplies stored from previous years' extraordinary conservation and

efficiency improvements to the operations of the Colorado River system, ~~which are classified as Priority 3(a).~~

A_MWD-151 The commenter requests revisions to a statement in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-55, first paragraph. The statement in the text expresses a condition of reduced water supply reliability that is accurate. The requested change is not made.

A_MWD-152 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-55. Page 6-55, second paragraph is revised as follows:

The QSA and related agreements ~~are~~ is a set of agreements among IID, CVWD, San Diego County Water Authority (SDCWA), Metropolitan and others intended to reduce California's reliance on the Colorado River. Essentially, the QSA-IID-SDCWA transfer agreement calls for Imperial Valley farmers to fallow land and make voluntary efficiency ~~and conservation~~ improvements and for IID to make conservation improvements and transfer the conserved water to San Diego.

A_MWD-153 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-55. Page 6-55, second paragraph is revised as follows:

As part of the agreement, the State has agreed to bear responsibility for funding mitigation in excess of the \$133 million to be funded by IID, CVWD, and SDCWA, collectively ~~the restoration of the Salton Sea~~. Specifically, the QSA and related agreements committed the parties to implementing eight long-term transfer and supply agreements that will shift up to 36 MAF from agricultural to urban use over the life of the agreement and authorize allocate the use of conserved water from the All American Canal and Coachella Canal Lining Projects.

A_MWD-154 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-55. Page 6-55, second paragraph is revised as follows:

~~An appeal was filed and a temporary stay immediately granted, which was later made permanent pending outcome of the appeal.~~

On December 7, 2011, the judgments in *Imperial Irrigation District v. All Persons Interested*, *POWER v. Imperial Irrigation District et al.*, and *County of Imperial v. Metropolitan Water District of Southern California et al.* were reversed, and the cases were remanded to the trial court for further proceedings consistent with the Court of Appeal's opinion.

A_MWD-155 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-55. Page 6-55, second paragraph, is revised as follows:

~~The stay allows the QSA water transfers to continue while the QSA parties appeal its invalidation.~~

The QSA and related agreements continue to be implemented.

A_MWD-156 The commenter requests revisions to the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-57 regarding water available to Metropolitan through the CRA in the future. The statement in the text expresses a condition of reduced water supply reliability that is accurate. The requested change is not made.

A_MWD-157 The commenter suggests a modification to the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-57, third paragraph. The statement in the text expresses a condition that is accurate. The requested change is not made. However, to reflect the comment a modification is made as follows.

~~The operational constraint is that this water needs to be is~~
blended with SWP supplies to meet the target salinity of 500 mg/L of TDS.

A_MWD-158 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, p. 6-58. Page 6-58, second paragraph is revised as follows:

The guiding principle of the WSDM Plan is to encourage storage of water during periods of surplus and for Metropolitan to work with its member agencies to minimize impacts of water shortages during periods of shortage.

A_MWD-159 The commenter requests revisions in the Draft EIR Vol. 1, Chapter 7 Alternatives Analysis, p. 7-7. Page 7-7, first paragraph is revised as follows:

Additionally, Metropolitan in collaboration with ~~Metropolitan~~ Municipal Water District of Orange County (MWDOC) and other Metropolitan member agencies is in the process of developing a Long Term Conservation Plan, which seeks an aggressive water use efficiency target in order to achieve a 20 percent reduction in per capita water use by 2020 for the entire Metropolitan service area.

Mojave Desert Air Quality Management District (2 submissions)

- A_MDAQMD1-1 The commenter requests access to the draft GMMMP. A link to the location of the Draft GMMMP online was made available to the commenter on December 19, 2011. The Updated GMMMP is included in the Final EIR Vol. 7 as Appendix B1.
- A_MDAQMD2-1 The commenter concurs with the proposed mitigation measures for air quality (Mitigation Measures **AQ-1** through **AQ-5**) as feasible mitigation. The comment is noted.

City of Needles

- A_NeedlesCity-1 This comment does not address the content or adequacy of the Draft EIR; therefore no response is necessary. The rarity of desert groundwater accessible to ecological uses is acknowledged to be the case. As detailed in the Draft EIR Vol. 1, however, the proposed Project would not reduce overlying biological resources' access to groundwater.
- A_NeedlesCity-2 The commenter states that the Project would extract 14,000 AFY from the groundwater basin and an additional 36,000 AFY from the Colorado River under Phase 2. This is not the case. As described in the Draft EIR Vol. 1, Chapter 3 Project Description, the Project would extract an average of 50,000 AFY from the groundwater basin below the Fenner, Cadiz and Bristol Watersheds. No Colorado River water would be diverted as part of Phase 1. Phase 2 of the Project would enable entities with Colorado River water rights to store water in years when water is available and enable extraction of water in dry years when water is scarce. The new facilities required for Phase 2 generally would be located in close proximity to the Phase 1 facilities. Impacts to local resources from Phase 2 construction would therefore be similar to those identified for Phase 1, although substantial analysis would be required to confirm these conclusions once Phase 2 facility details are developed. The Draft EIR concludes that Phase 2 could be implemented with few impacts to the desert ecosystem. See **Master Response 3.12** Project vs. Program Level Analysis.

County of San Bernardino (via Downey Brand Attorneys LLP)

A_SBCounty-1 The commenter states that SMWD must apply for a groundwater extraction permit or qualify for an exclusion from the County Groundwater Management Ordinance. The Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-54 acknowledges that the Project is subject to approval from the County pursuant to the County Groundwater Management Ordinance. On May 1, 2012 the County approved a Memorandum of Understanding (MOU) which provides a process for seeking an exclusion from the Ordinance and the framework for the County's duties and responsibilities as a Responsible Agency taking discretionary action of the Project after SMWD considers the Project. See Final EIR Vol.7, Appendix N Memorandum of Understanding by and among the Santa Margarita Water District, Cadiz Inc., Fenner Valley Mutual Water Company, and the County of San Bernardino.

A_SBCounty-2 The commenter states that the County of San Bernardino is a responsible agency as defined by CEQA Guidelines Section 15096(a) and the County must consider the Project EIR but may "reach its own conclusions on whether and how to approve the project involved." The commenter notes that the County will need to ensure independently that the Project avoids or mitigates any adverse effects that may arise. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA. As identified in the Draft EIR, the County is a responsible agency for the Project as defined by CEQA.

A_SBCounty-3 The comment describes the County's Groundwater Management Ordinance requirements. The comment states that the County must deny a permit for projects that result in extracting in excess of safe yield. The commenter notes that the County is currently working with SMWD to develop an MOU that is acceptable to the County pursuant to the Ordinance requirements. The comment is noted. As reflected above in **Response A_SBCounty-1**, the MOU providing a process for seeking an exclusion from the Ordinance was approved by the County on May 1, 2012. See **Master Responses 3.8** GMMMP and **3.10** CEQA Lead Agency; Final EIR Vol. 7, Appendix N.

County of San Bernardino Public Works

A_SBCPW-1 The commenter states that Jimsonweed (*Datura wrightii*) is a native plant rather than a non-native plant. The text of the Draft EIR Vol. 1, Section 4.4 Biological Resources, page 4.4-5 first sentence is revised as follows:

The following invasive species were identified in the area and are indicative of moderately-to-heavily degraded habitats: velvet rosettes (*Psathyrotes ramosissima*), Saharan mustard (*Brassica tournefortii*), tansy (*Descurainia pinnata*), flaxweed (*Descurainia sophia*), London rocket (*Sisymbrium irio*), Russian thistle (*Salsola tragus*), red-stemmed filaree (*Erodium cicutarium*), little trumpet (*Eriogonum trichopes*), ~~Jimsonweed~~ (~~*Datura wrightii*~~), and puncture vine (*Tribulus terrestris*).

A_SBCPW-2

The comment refers to a limited jurisdiction over Cadiz Road. In response to the comment, the text of the Draft EIR in Section 4.15, Transportation and Traffic, p. 4.15-6, fourth full paragraph, is revised as follows:

The San Bernardino County Department of Public Works is responsible for maintaining approximately 2,830 miles of both paved and unpaved roadways primarily located in unincorporated areas of the County. These facilities range in classification from major arterial highways to local streets. San Bernardino County maintains only 4.44 miles of the Cadiz-Rice road from the AT&SF tracks to National Trails Highway. that follows the ARCZ railroad is a County road.

A_SBCPW-3

The comment refers to San Bernardino County permits required to manage traffic during construction. The text on 4.15-8 is revised as follows:

The Project would increase traffic on local roadways during construction, though the local roadways currently have very little traffic as the greater Project area is sparsely populated. Construction of the Groundwater Conservation and Recovery Component of the Project is expected to last ~~up to~~ approximately 18 months ~~2 years~~. The primary impacts from the movement of construction trucks would include short-term and intermittent impacts on roadway capacities due to slower moving vehicles. Traffic-generating construction activities would consist of the arrival and departure of construction workers, trucks hauling equipment and materials to the construction site, the hauling of excavated soils, and importing of new fill. Trucks leaving roadways onto construction sites would slow any traffic and could result in hazards to fast moving traffic on the sparsely used roads. If lane closures or flagmen are required to manage traffic during delivery of construction equipment, an

encroachment permit from Caltrans and the County would be necessary.

A_SBCPW-4 The comment states that the County is required to approve traffic control plans. SMWD would prepare the Traffic Control Plan to be consistent with County requirements and would submit it to the County for its review and comment.

A_SBCPW-5 The commenter states that LOS C is preferable to LOS D. As stated in the Draft EIR Vol. 1, Section 4.15.3 Transportation and Traffic, p. 4.15-10, LOS standards for roadways that are part of the San Bernardino County CMP network are intended to regulate long-term traffic increases resulting from the operation of new development. The CMP's LOS standard requires that all CMP segments operate at LOS C or better. Local roadways in the Project vicinity all have LOS A or B ratings. With respect to Construction activities daily trips could increase by 100 round trips per day. This number of trips would not be sufficient to reduce LOS on any local roadway below LOS C. Project operations, which would result in a negligible increase in maintenance trips to the Project site per day, would not affect LOS standards on roads in the Project vicinity.

A_SBCPW-6 The commenter clarifies the description of the National Trails Highway. The information regarding the origin and terminus of the National Trails Highway was cited verbatim from the County of San Bernardino 2007 General Plan, Final EIR. Therefore, this information is consistent with the County of San Bernardino General Plan. The Draft EIR introduces the National Trails Highway (also known as Old US 66) in Vol. 1, Section 4.15 Transportation and Traffic, page 4.15-1. This shows consistency with the County's comment. The text on page 4.15-1 following this introduction is revised as follows:

National Trails Highway (former US 66) originates at an interchange with I-15 in the City of Victorville, and continues north and east to its terminus at Lenwood Road in the community of Lenwood, just southwest of the City of Barstow.³⁴ National Trails Highway is a County Road that runs east and west through the Project area and is located approximately 4 miles north of the Project site.

A_SBCPW-7 The commenter requests clarification of County jurisdiction of Cadiz Road. Refer to **Response A_SBCPW-2**.

³⁴ County of San Bernardino, *San Bernardino County 2007 General Plan Program Final Program Environmental Impact Report*, February 2007, pp. IV-145, IV-169, IV-142.

A_SBCPW-8

The commenter requests revisions to the Draft EIR with respect to a reference to the City of Indio. In response to the comment, the text of the Draft EIR in Section 4.15, Transportation and Traffic, p. 4.15-7, is revised as follows:

The CMP in San Bernardino County was created in June 1990 as a provision of Proposition 111. Under this proposition, urbanized areas with populations of more than 50,000 would be required to undertake a congestion management program that was adopted by a designated Congestion Management Agency (CMA). As stated earlier, SANBAG was designated as the CMPA by the County Board of Supervisors. The closest applicable city with the population 50,000 is the ~~City of Indio.~~³⁵ City of Victorville,³⁶ which is approximately 132 miles away from the Project site.

City of Twentynine Palms (2 submissions)

A_29PalmsCity1-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

A_29PalmsCity2-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

4.3 Organizations

| Commenter | Date of Comment | Signatory and Title |
|---|-----------------|---|
| Ameron International Corporation (additional submissions in Section 2.6) | 03/09/2012 | Dennis E. Shearer, PE District Sales Manager |
| Best Western Colorado River Inn | 01/26/2012 | Philip C. Crouch, CHA General Manager |
| BNSF Railway Company | 02/10/2012 | David T. Rankin Senior General Attorney |
| Joseph E. Bonadiman & Associates, Inc. | 03/13/2012 | Joseph S.C. Bonadiman, Ph.D., PE |
| Center for Biological Diversity | 03/14/2012 | Adam Lazar |

³⁵ ~~City of Indio, Pop Facts: Demographic Quick Facts 2011 Report, May 2011, p. 1.~~

³⁶ City of Victorville, US Census Bureau: State and County Quick Facts, City of Victorville, <http://quickfacts.census.gov/qfd/states/06/0682590.html>, accessed 04/05/12.

| Commenter | Date of Comment | Signatory and Title |
|---|------------------------------|---|
| Desert Cycle Works | 03/08/2012 | [signature illegible] |
| Fairfield Inn & Suites by Marriott in Twentynine Palms (additional submission in Section 2.6) | 01/25/2012 | Rob Fleck Director of Sales |
| Goodspeed Distributing Inc. | 03/09/12 | Thomas Goodspeed President |
| Layne Christensen Company (additional submissions in Section 2.6) | 03/09/2012 | Robert C. Minella Regional General Manager |
| Los Angeles Salad Company (additional submission in Section 2.6) | 03/08/2012 | Robert Hana CEO |
| Lozeau Drury LLP on behalf of Laborers International Union of North America Local783 (2 submissions) | 12/12/2011 and 01/11/2012 | Richard Drury and Christina Caro Attorneys for Local 783 |
| Mojave Desert Heritage and Cultural Association (additional submission in Section 2.6) | 01/24/2012 | Chris Ervin |
| Mojave Desert Land Trust | 03/09/2012 | Nancy Karl Executive Director |
| Morongo Basin Regional Economic Development Consortium | 03/09/2012 | Alan Rasmussen Chair |
| Shady Myrick Research Project | 12/06/2012 | John Lightburn Project Director |
| Submitted on behalf of: Center for Biological Diversity: National Parks Conservation Association California Wilderness Coalition San Bernardino Valley Audubon Society Sierra Club Desert Committee Mojave Desert Land Trust Sierra Club Morongo Basin Conservation Association Defenders of Wildlife Desert Tortoise Council Sierra Club Desert Committee, San Gorgonio Chapter, and National Organization Southern California Watershed Alliance Desal Response Group Desert Survivors | 03/13/2012 | Seth Shteir California Desert Field Representative National Parks Conservation Association, <i>et al.</i> |
| Native American Land Conservancy | 03/14/2012 | Michael J. Madrigal President |
| National Chloride Company of America (2 submissions) (additional submission in Section 2.6) | 02/01/2012 and 02/27/2012 | Tom Beeghly |
| Needles Chamber of Commerce | 01/12/2012 | Jeff Williams President |
| Northwest Pipe Company (additional submission in Section 2.6) | 02/14/2012 | Gary Stokes Sr. VP, Sales and Marketing |
| Office Supplies Plus | undated | Dee Richhart President & CEO |
| Orange County Coastkeeper (additional submission in Section 2.6) | 02/06/2012 | Colin Kelly Staff Attorney |
| Pacific Institute | 03/13/2012 | Dr. Newsha Ajami |

| Commenter | Date of Comment | Signatory and Title |
|---|--|--------------------------------|
| River Archaeological Heritage Association of the Lower Colorado River (4 submissions) | 2/12/2012, 03/12/2012 and 03/13/2012 (2) | Ruth Musser-Lopez |
| Roscoe Moss Company (additional submissions in Section 2.6) | 03/07/2012 | Robert A. Van Valer |
| Salt Products Company | 03/14/2012 | Nael Bratt |
| Society for the Protection and Care of Wildlife | undated | H. Marie Brashear President |
| Tetra Technologies, Inc. via Rutan & Tucker, LLP (6 submissions) | 03/14/2012, 03/16/2012 (2), 03/27/2012, 04/03/12 | Robert S. Bower |
| | 02/24/2012 | Dennis Nakata Paralegal |
| Twentynine Palms Chamber of Commerce | 12/15/2011 | Maggie Chaffer President |
| The Wildlands Conservancy | 03/14/2012 | Frazier Haney |
| Willits & Newcomb, Inc. | 03/12/2012 | Jackie Maxwell President |
| Zepeda Labor Contracting, Inc. | 03/09/2012 | Elena Zepada Cota |

Ameron International Corporation

O_Ameron1-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be included in the Final EIR and forwarded to the decision-making bodies for their review and consideration.

Best Western Colorado River Inn

O_BestWestern-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

BNSF Railway Company

O_BNSF-1 The commenter states that the Project may encroach onto the BNSF right of way. The comment notes that approximately 70 trains per day use this right of way. Phase 1 of the Project would not encroach onto BNSF property or require any easement across the BNSF tracks as shown on Figures 3-6a and 3-6b of the Draft EIR. Use of the Cadiz Road crossing would be increased during construction. Traffic control measures required in Mitigation Measures **TR-1**, **TR-2**, **TR-3** and **TR-4** would be implemented in coordination with BNSF to ensure that the crossing is

controlled to ensure safety. The Draft EIR provides project-level assessment for Phase 1 only. The Phase 1 wellfield network is shown in Draft EIR Vol. 1 Figures 3-6a and 3-6b. The Phase 1 wellfield network would be installed south of the BNSF tracks and outside of the BNSF right of way. As shown in Draft EIR Vol. 1 Figure 3-14, extraction wells and recharge basins north of the BNSF tracks are contemplated for Phase 2 of the Project. Installation of these features may require jack and boring under the tracks to connect the wells and recharge basins with the pipeline manifold system south of the tracks. Access to facilities north of the BNSF tracks would be provided by roads north of the tracks or via existing drainage underpasses. No additional at-grade crossings would be installed. Installing an underground pipeline beneath the train tracks would require an encroachment permit from BNSF and approval from the California Public Utilities Commission and would be considered in Phase 2's project-level analysis.

O_BNSF-2

The commenter requests that a subsidence monitoring study and plan, including actions to be taken to avoid impacts to the track structure if subsidence occurs, for any portion of the Project near BNSF's right of way be included as a condition of approval of the Project. Analysis of potential land subsidence as a result of modeled Project operations was conducted as part of the project-level analysis in the Draft EIR. As described in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 8.6, the estimated maximum land subsidence under the three scenarios ranges from 0.9 to 2.7 feet. Land subsidence modeling results are presented in the Draft EIR Vol. 1, Section 4.6.3 Geology and Soils, p. 4.6-29 and in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 4.1.2.7). Monitoring measures were identified and are described in the Draft EIR and in the Updated GMMMP, Sections 5.6 and 5.7. Action criteria are also established to identify subsidence in advance of a significant impact. Corrective measures that would be implemented if subsidence exceeds action criteria are presented in the EIR and the Updated GMMMP Section 6.3. This analysis specifically includes consideration of the railroad industry standard for subsidence in inches of subsidence per feet of track and finds that any subsidence from the Project would be well below this threshold.

Joseph E. Bonadiman & Associates, Inc.

O_Bonadiman-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Center for Biological Diversity

O_CBD-1 The commenter requests that the 2001 *Cadiz Groundwater Storage and Dry-Year Supply Project*, related comments and supporting documentation, and the Metropolitan decision regarding certification of that EIR/EIS be included in the administrative record. The comment is noted. This document is included as a reference used in the analysis.

Desert Cycle Works

O_DesertCycle-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Fairfield Inn & Suites by Marriott in Twentynine Palms

O_FairfieldInn1-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Goodspeed Distributing Inc.

O_Goodspeed-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Layne Christensen Company

O_Layne1-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Los Angeles Salad Company

O_LASalad1-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Lozeau Drury LLP on behalf of Laborers International Union of North America Laborers Local Union 783 (2 submissions)

- O_LozeauDrury/LIUNA1-1 The commenter requests to receive future CEQA notices. The commenter's request was satisfied on January 20, 2012 and will be notified of future actions concerning the Project, per the request.
- The comment states: "The Project would construct extraction wells (wellfield) on property owned by Cadiz and a 42-mile underground water conveyance pipeline within an active railroad right-of-way that intersects the Colorado River Aqueduct (CRA)". The pipeline measurement is incorrect in the comment and should reflect the 43-mile pipeline described in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-15.
- O_LozeauDrury/LIUNA2-1 The comment does not state a specific concern regarding the adequacy of the Draft EIR, rather the comment urges compliance with CEQA. Therefore, a response is not required pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.
- The comment states: "The Project would construct extraction wells (wellfield) on property owned by Cadiz and a 42-mile underground water conveyance pipeline within an active railroad right-of-way that intersects the Colorado River Aqueduct (CRA)." The pipeline measurement is incorrect in the comment and should reflect the 43-mile pipeline described in the Draft EIR (Vol. 1, Chapter 3 Project Description, p. 3-15).
- O_LozeauDrury/LIUNA2-2 The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.
- O_LozeauDrury/LIUNA2-3 The commenter asks to be notified of all future actions regarding the Project and the Draft EIR. The commenter's request was satisfied on January 20, 2012 and the commenter will be notified of future actions concerning the Project, per the request.

Mojave Desert Heritage and Cultural Association

- O_MDHCA1-1 The commenter states that the Project could affect their wells located in Goffs, California. As shown on Figures 4.9-12, 4.9-13, 4.9-14 of the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-67 to 4.9-69, the Project would not affect groundwater levels at Goffs near the commenter's members' wells. Goffs is located at the northeastern border of the Watershed, over 30 miles from the proposed wellfield to the northeast. As described in the Draft EIR beginning on p. 4.9-59, groundwater drawdown is expected to be concentrated around the wellfield, with decreasing amounts of drawdown moving away from the wellfield and approaching zero within approximately 15 miles. At more than 30 miles away, all modeling shows that wells in Goffs, California, will not be affected by Project operations. Nonetheless, the Updated GMMMP requires that these wells be monitored, if the owners submit well data to the Project Technical Review Panel, and corrective measures be implemented if adverse effects to groundwater wells are detected as a result of the Project. Corrective measures include modifications to third party wells, if necessary. See the Draft EIR, p. 4.9-66 and the Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 6.2.
- O_MDHCA1-2 The commenter states that well monitoring and reporting should be the responsibility of an impartial third party and that as long as monitoring and reporting is under the control of a project-created entity, there is the appearance of a conflict of interest. Enforcement authority will be the responsibility of San Bernardino County, which is not a Project-created entity. Monitoring would be subject to the stipulations of the GMMMP. The commenter is referred to **Response O_NPCA-CBD *et al.*-102** and **Master Response 3.8** GMMMP.
- O_MDHCA1-3 The commenter states that the reference to pre-existing wells in the Draft EIR is not defined. Figure 4.9.5 in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-24 to 4.9-28 shows the locations of known wells based on a well survey conducted in 2010 by CH2M Hill, including the wells at Goffs. As noted in **Response O_MDHCA-1**, the Project would not affect groundwater levels at Goffs near the commenter's wells. Nonetheless, the Updated GMMMP includes monitoring measures for third-party wells and corrective measures in the unlikely event that third-party wells are impacted. The commenter is referred to the Draft EIR, p. 4.9-66 and the Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 6.2.
- O_MDHCA1-4 The commenter states that property owners in the Watershed were not notified. The proposed Project site is located within a 34,000-acre area owned by Cadiz Inc. The proposed Project would utilize approximately

150 acres of Cadiz Inc. property in the Cadiz and the Fenner Valleys to construct the wellfield and related facilities, and approximately 450 linear acres of pre-disturbed land within the ARZC ROW to build the conveyance pipeline, as well as approximately 645 acres of Cadiz Inc. property for construction staging areas. The Fenner Watershed covers approximately 1,100 square miles. CEQA requires the lead agency to send notice to all who have previously requested it in writing and to either 1) publish notice in an area newspaper, 2) post notice on and off the Project site, or 3) mail notice directly to contiguous landowners. SMWD has complied with these CEQA requirements. The commenter is referred to **Master Response 3.11** CEQA Public Process.

O_MDHCA1-5 This commenter expresses a general concern that the Project would adversely affect groundwater resources and subsequently the Cultural Center in Goffs. The commenter is referred to **Response O_MDHCA1-1**.

Mojave Desert Land Trust

O_MDLT-1 The commenter expresses an opinion that the benefits of the proposed Project do not outweigh the impacts and that the Project will not benefit residents of San Bernardino County. This comment expresses an opinion regarding the merits of the Project and does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

The comment also summarizes general concerns about biological and natural water resources, which are outlined and responded to below.

O_MDLT-2 The commenter expresses general concern that wildlife, such as desert tortoise and bighorn sheep, might be affected by impacts to water availability and quality. The Project would not affect the springs in the Watershed including those used by plant and animal wildlife. As discussed in **Master Response 3.6** Vegetation, under current conditions vegetation and wildlife have no access to the groundwater due to its excessive depth below ground level (the water table begins at more than 300 feet below ground surface (bgs) in the Fenner Gap and approximately 150 feet bgs in Cadiz). Vegetation in the area does not have roots that extend to these depths. The Project's potential impacts to desert tortoise will be less than significant with mitigation and are described in Draft EIR Vol. 1, Section 4.3 Biological Resources, pp. 4.4-17 to 4.4-19 and 4.4-40 to 4.4-42. Potential impacts to animals, including Nelson's bighorn sheep, burrowing owl, and American badger will also

be less than significant with mitigation and are described in pages 4.4-24 and 4.4-43. See **Master Response 3.4** Springs.

The commenter is referred to **Master Response 3.9** Biological Resources and **Responses O_NPCA-CBD et al.-61-** through **O_NPCA-CBD et al.-64** and **O_NPCA-CBD et al.-67**. This comment is also addressed in **Master Responses 3.3** Groundwater Pumping Impacts, **3.4** Springs, and **3.6** Vegetation.

O_MDLT-3

The commenter states that the desert is not able to recharge an aquifer and that the Project is not “sustainable.” The Draft EIR Vol. 1, Section 4.6 Geology and Soils and Section 4.9 Hydrology and Water Quality present extensive analysis illustrating the hydrology and geology of the Watershed and revealing that approximately 32,000 AFY of natural recharge is occurring in the Watershed and ultimately evaporates from the Dry Lakes at the terminus of the Watershed system. The recharge originates as precipitation in the mountains above the Watersheds and moves down gradient into the valley over the years, eventually evaporating from the Dry Lakes. The Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-7 to 4.9-9 shows that the groundwater basins underlying the Watersheds are fed from precipitation occurring in the higher elevations. As described on pp. 4.9-28 to 4.9-31, groundwater in the aquifer exhibits a gradient that indicates it is not in a static state, but rather is flowing toward the Dry Lakes. If the aquifer was not being recharged, then the water table surface would be flat. Please refer to **Master Response 3.1** Groundwater Recharge and Evaporation and **3.15** Terminology.

The comment also states that SMWD is the lead agency for the proposed Project and that there is no benefit of the Project for San Bernardino County. Please refer to **Master Response 3.10** CEQA Lead Agency. Also refer to **Response O_MDLT-1**, **Master Response 3.8** GMMMP and the Updated GMMMP for an explanation of benefits to San Bernardino County.

O_MDLT-4

The commenter states that local ecosystems rely on ponded water for survival. The comment reflects a misunderstanding of the Project Description. The Project would not alter surface water ponding caused by precipitation. As described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-15 to 4.9-19, surface run off flows to the Dry Lakes and ponds after significant precipitation events until it evaporates. This water would not be affected in any way by the proposed Project. The groundwater extracted for the Project is currently

inaccessible to biological resources at the surface. Please refer to **Master Responses 3.6** Vegetation and **3.4** Springs.

O_MDLT-5

The commenter states that the Project would significantly impact air quality and biological resources in the Mojave Desert that would affect desert land conservation efforts. The Project would not significantly impact the natural resources of the Mojave Desert. As noted in the Draft EIR, Section 4.4. Biological Resources, Table 4.4-2, permanent impacts from the Project would affect less than 250 acres with any impacts to biological resources fully mitigated through the implementation of Mitigation Measures **BIO-1** through **BIO-17**. As described in Section 4.3.4 Air Quality, long-term operational emissions would not exceed Mojave Desert Air Quality Management District (MDAQMD) significance thresholds and would be less than significant. Studies of the chemistry of the Dry Lakes have demonstrated that the Project will not increase dust emissions there. As explained in Section 4.3.4, air quality will only be affected in the short-term because of expected NO_x emissions during construction. The Project would not affect the commenter's investments, donors, or ability to receive future donations and grants for work. Regardless, any such potential impacts are not physical impacts to the environment subject to review under CEQA. Please also see **Master Response 3.5** Dry Lakes and Dust.

O_MDLT-6

The commenter states that biological resources must not be affected for short term gain, that CEQA and NEPA analysis is required, that climate change will make the situation worse and that desert tortoise impacts from solar projects in the desert create a cumulative impact to the species. As described in **Master Response 3.9** Biological Resources, impacts to biological resources are limited. The Draft EIR complies with CEQA provisions. NEPA compliance is not required since no federal approvals are required to implement the Project. See **Master Response 3.13**, Right-of-Way and NEPA. As discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp 4.9-10 to 4.9-15, changes in precipitation in the desert will not affect the Project. Groundwater to be extracted is already in storage or already moving downgradient to the basin. The Draft EIR Vol. 1, Chapter 5 Cumulative Impacts includes an analysis of the cumulative impacts to desert tortoise presented by the many proposed developments in the desert including large scale solar power projects. Chapter 5 concludes on page 5-32 that approximately 250 acres of desert habitat would be permanently affected from implementation of the proposed Project, which would not present a considerable contribution to a cumulative impact to desert tortoise due to the effect occurring in designated Category III habitat and the compensation occurring in critical habitat, and due to the minimal

development from other projects in the immediate vicinity of the proposed project.

Morongo Basin Regional Economic Development Consortium

O_MBREDC-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Shady Myrick Research Project

O_MyrickResearchProj-1 The commenter requests a hard copy of the Draft EIR. The request was granted on December 6, 2011 by SMWD. The commenter also requests future notification related to the proposed Project. The comment is noted.

National Parks Conservation Association and Center for Biological Diversity *et al.*

O_NPCA-CBD *et al.*-1 The comment requests that a new Draft EIR be prepared with a new lead agency. SMWD is the appropriate lead agency for the proposed Project. A new EIR is not necessary. The commenter is referred to **Master Response 3.10** CEQA Lead Agency.

O_NPCA-CBD *et al.*-2 The comment states that NEPA compliance is required because the Project will require approvals from the Bureau of Land Management (BLM). This is not the case. See **Master Response 3.13** Right-of-Way and NEPA.

O_NPCA-CBD *et al.*-3 The commenter expresses an opinion regarding the adequacy of the Draft EIR, and states that impacts to National Parks Service (NPS) and BLM lands are not addressed. As described in the Draft EIR Vol. 1, Chapter 3 Project Description, the Project does not encroach on federal lands or adversely impact NPS or BLM lands. No federal approvals are required. The Project is located approximately 20 miles south of the Mojave National Preserve and 25 miles north of Joshua Tree National Park. The groundwater cone of depression created by the Project would not affect these National Parks. In addition, the lowering of groundwater would not adversely affect overlying natural ecosystems. See **Master Responses 3.6** Vegetation and **3.13** Right-of-Way and NEPA.

O_NPCA-CBD *et al.*-4 The comment states that SMWD is not the appropriate lead agency. The commenter is referred to **Master Response 3.10** CEQA Lead Agency.

O_NPCA-CBD *et al.*-5 The comment states that Metropolitan and the RWQCB should be considered responsible agencies and asserts that the list of identified agencies are inadequate. The Draft EIR acknowledges in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-54 that approvals from Metropolitan and the RWQCB are needed to implement the Project. The Final EIR clarifies that they are responsible agencies (see Final EIR Vol. 6, Chapter 5 Draft EIR Text Changes). Both agencies were notified of the Project and given opportunities to comment. The RWQCB did not submit a comment letter. The commenter is also referred to **Master Response 3.10** CEQA Lead Agency and the Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-53 and 3-54. The description of SMWD's role is revised in the Final EIR Vol. 6 to identify SMWD as the lead agency and the other responsible agencies (see Chapter 5 Draft EIR Text Changes).

In response to this comment the sentence on p. 3-53 in the first row third column has been revised as follows:

A Project Participant and Lead Responsible Agency pursuant to California Public Resources Code 21069, SMWD would evaluate potential impacts of the proposed Project within its boundaries and has discretion to approve or reject its participation in the proposed Project.

O_NPCA-CBD *et al.*-6 The comment states that the Project Description and Project objectives are misleading, and more specifically the commenter criticizes the use of the term "conservation" in the Project Description and questions the sustainability of the Project. The comment also contends that Phase 2 should be analyzed at a project rather than programmatic level. The term "conservation" is appropriately used in the Project Description and objectives because the Project would divert and capture groundwater before it reaches the highly saline salt sink beneath the Dry Lakes and ultimately evaporates. Putting water to beneficial uses prior to losing it to high-salinity and evaporation is appropriately referred to in the Draft EIR as "conservation." See **Master Response 3.15** Terminology.

With regard to the comment that the Draft EIR's analysis of Phase 2 is not sufficiently detailed, see **Master Responses 3.12** Project vs. Program Level Analysis and **3.1** Groundwater Recharge and Evaporation. Because Project Participants have not been identified for Phase 2, surplus water for storage has not been identified, and plans for the spreading basins are only conceptual, it was appropriate to analyze impacts at a programmatic level.

The commenter also questions water rights of the Project proponents, public versus private use and the amount of water to be pumped. See **Master Response 3.7** Water Rights.

O_NPCA-CBD *et al.*-7 The commenter objects to the use of terms “conservation” and “beneficial uses” in the Project Description. The term “conservation” is used because the Project would save groundwater from evaporating by diverting it before it joins the highly saline salt sink beneath the Dry Lakes and ultimately evaporates. Putting water to “beneficial uses” to avoid loss due to evaporation is appropriately referred to in the Draft EIR as “conservation.” According to the California Constitution, Article X, Section 2, “the general welfare requires that water resources of the State be put to beneficial use to the fullest extent ... and that the waste ... of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.” There must always be balance between these beneficial uses and protection of the environment. The Draft EIR has struck a balance and has found that the impacts to area resources (with the exception of short-term direct and cumulative construction impacts to air quality from NO_x and secondary effects of growth) to be less than significant or less than significant with mitigation. As stated in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-5 to 3-6 and in Section 4.9 Hydrology and Water Quality, p. 72, Table 4.9-11, in the absence of this Project, 1.6 MAF of groundwater will become saline and evaporate at the Dry Lakes in 100 years. The cumulative savings after 100 years would be 1.99 MAF. Therefore, the Project is consistent with the State Constitution’s requirement for beneficial use. See also Draft EIR Vol. 4, Appendix H2 Supplemental Assessment of Pumping Required, pp. 5 to 6. This comment is more fully addressed in **Master Responses 3.7** Water Rights and **3.15** Terminology.

Also, as discussed on p. 4.9-43, Table 4.9-4 of the Draft EIR, the RWQCB’s *Water Quality Control Plan* for the Colorado River Basin – Region 7, identifies the beneficial uses of the Bristol, Cadiz, and Hydrologic Units as municipal, agricultural, and industrial uses. Given this, the Draft EIR uses the term “beneficial uses.” The Project proposes to conserve water that would otherwise evaporate and deliver it for municipal uses in Southern California. Furthermore, rather than depleting the groundwater basin, the Draft EIR describes in Table 4.9-11 that under the 32,000 AFY recharge scenario, almost 2 MAF of water would be kept from evaporating over the 100-year Project period, resulting in a net depletion of only 220,000 AF. This represents less than 0.1 percent of

the lower estimate of groundwater in storage in the basin (17 million AF). See **Master Responses 3.7** Water Rights and **3.15** Terminology.

O_NPCA-CBD *et al.*-8 The comment states that the Project objectives are too narrowly defined and, as a result, the EIR does not include alternatives that would meet the “conservation” objective or the objective of providing “sustainable operations.” CEQA requires the description and comparative analysis of a range of alternatives to the proposed Project or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives, focusing on alternatives that would avoid or substantially lessen any significant effects of the Project, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly.³⁷ “There is no ironclad rule governing the nature or scope of the alternatives to be discussed [in an EIR] other than the rule of reason.”³⁸ Under the rule of reason, an EIR need discuss only those alternatives necessary to permit a reasoned choice.³⁹ An EIR need only contain a “range of reasonable alternatives to the project” which would “feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant [impacts] of the project.”⁴⁰ An alternative that does not meet the fundamental objective of the Project need not be considered.⁴¹

The Draft EIR identified the following significant and unavoidable impacts of the Project: direct and cumulative construction air emissions for NO_x, as well as secondary effects of growth in certain water agency service areas. Accordingly, SMWD ensured that the EIR included and analyzed a reasonable range of alternatives that would avoid or substantially less those significant and unavoidable impacts, while meeting most of the basic objectives of the Project. Table 7-2 of the Draft EIR details the impacts which each Alternative, aside from the legally mandated No Project Alternative, was selected to address. The alternatives selected for detailed analysis were considered potentially feasible and presented a range of approaches consistent with Project objectives. Alternatives rejected from detailed consideration either failed to meet most of the basic Project objectives, were determined infeasible and/or would not avoid or lessen any significant environmental effect. See **Master Response 3.14** Alternatives.

³⁷ CEQA Guideline § 15126.6(a), (b).

³⁸ CEQA Guidelines § 15126.6(a).

³⁹ CEQA Guidelines § 15126.6(f).

⁴⁰ CEQA Guidelines § 15126.6(a).

⁴¹ *In re Bay-Delta Programmatic Env't'l Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1166.

O_NPCA-CBD *et al.*-9 The commenter states that the cone of depression resulting from the draw of groundwater related to the Project would continue to expand possibly for decades, after pumping stopped. As discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality pp. 4.9-71 to 4.9-72 and Table 4.9-10, groundwater storage is anticipated to recover to pre-Project levels 67 years after the pumping has stopped (or year 117) under the Project scenario. As shown on Figures 64 to 71 in the Draft EIR (Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis), comparing the 100-year to 50-year points in time for all three scenarios shows that the cones of depression decrease in size dramatically after the cessation of pumping and groundwater levels nearly recover to pre-Project levels. Once the extraction of groundwater ceases at Year 50, groundwater levels would immediately begin to rise in response to the resumed flow of groundwater from the up-gradient areas, filling in the cone of depression. The water table would return to pre-pumping levels, with recovery occurring more rapidly within the first few years. As shown in Figure 70 of Appendix H1, in the Project wellfield area, water levels would recover quickly in the first 10 to 20 years after pumping stops (i.e., 60 to 70 years since Projected started). This is because the Project wellfield cone of depression would be first to be refilled by the natural recharge and upgradient groundwater in storage. Away from the Project wellfield, such as in the areas of the Bristol and Cadiz Dry Lakes, water-level recovery would be slower because these areas are located further away and downgradient from the Project wellfield and therefore water-level recovery there would follow recovery at the wellfield. According to modeling, overall, basin-wide groundwater levels will stabilize and revert back to the equilibrium groundwater levels and hydraulic gradients that existed prior to the Project 67 years after the Project pumping stops (Project Year 117). See also Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, p. 53 and Vol. 1, Section 4.9.3 Hydrology and Water Quality, p. 4.9-71. The potential impacts are discussed further in **Master Response 3.3** Groundwater Pumping Impacts.

In addition, the Project will be seeking County of San Bernardino approval of a groundwater management plan (the GMMMP or Groundwater Management, Monitoring and Mitigation Plan). As reflected in the Updated GMMMP included as Final EIR Vol. 7, Appendix B1 Updated GMMMP, the GMMMP would (in addition to the Mitigation Measures that will be adopted by SMWD as part of its approval of the Project) provide for comprehensive monitoring, “early warning” triggers and objective standards to mitigate any significant impacts to the critical resources in the Project area. The Project is also subject to existing regulatory requirements, including compliance with

RWQCB discharge and permitting requirements. For additional information, please refer to **Master Response 3.8** GMMMP.

O_NPCA-CBD *et al.*-10

The commenter expresses the general concern that water quality impacts from the “storage/recharge component” of the Project are given only cursory treatment in the Draft EIR. The “storage/recharge component” is referred to in the EIR as the Imported Water Storage Component or Phase 2. The EIR states that project-level analysis is provided only for the stand-alone Phase 1 Project, while Phase 2 is considered primarily at a programmatic level. See **Master Response 3.12** Project vs. Program Level Analysis. Water quality impacts are discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-48 to 4.9-58 and include three mitigation measures. Additional discussion on water quality is presented in the Updated GMMMP, as revised, which describes monitoring measures for water quality (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Chapter 5) and corrective measures that will be implemented in the unlikely event that the aquifer response is outside of model-predicted responses (Updated GMMMP, Chapter 6). For additional information, please refer to **Master Response 3.8** GMMMP and **Responses A_CVWD-3** and **O_OCC1-5**.

O_NPCA-CBD *et al.*-11

The commenter expresses general concern that insufficient discussion was provided on the potential impacts to sensitive plants and wildlife and on potential for dust generation from the drying out of the Dry Lakes as a result of lowering the water table. As discussed in the Draft EIR, the Project will not significantly affect sensitive plants and wildlife for the following reasons.

As explained in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-15 to 4.9-18, Vol. 3, Appendix F4 Vegetation, Groundwater Levels and Potential Impacts from Groundwater Pumping near Bristol and Cadiz Playas, the roots of phreatophytic plants are not long enough to reach groundwater and therefore do not depend on groundwater for their survival. Instead, plants and animals in the area rely on surface water runoff and precipitation, which will not be impacted by the Project. See **Master Responses 3.9** Biological Resources and **3.6** Vegetation. Wildlife in the mountains of the Watershed also rely on mountain springs for water, but there is no hydraulic connection between the aquifer and the mountain

springs, therefore changes in the water table will not affect springs. This comment is further addressed in **Master Responses 3.4 Springs and 3.6 Vegetation** as well as **Response O_OCC1-1**. With regard to rare plants specifically, see also, Draft EIR Vol. 4, Appendix F3 Rare Plant Survey and Draft EIR Vol. 4, Appendix F1 Focused Survey for Desert Tortoise, Habitat Evaluation for Burrowing Owl, and General Biological Resources Assessment, pp. 13 to 14, 26 to 31, and 43.

Regarding the potential for dust generation off of the Dry Lakes, the salt crust on the Dry Lake surfaces does not depend on the capillary rise of groundwater to prevent dust. The chemical composition of the Dry Lake crust prevents significant dust generation from the Dry Lakes. This comment is addressed in **Master Response 3.5 Dry Lakes and Dust**.

O_NPCA-CBD *et al.*-12

The commenter expresses the opinion that the Cadiz and Bristol Dry Lakes are jurisdictional waters of the U.S. and that the Project Dry Lakes is therefore subject to Clean Water Act permit requirements and USACE jurisdiction. As discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-1 to 4.9-5, the Dry Lakes are located within a closed watershed basin (see also **Response A_NPS-17**). All water that falls as precipitation within the Watershed stays within the Watershed until it evaporates from the Dry Lakes. The Project would not impact any streams that flow outside the Watershed boundaries, and there are no navigable streams within the Watershed. The Dry Lakes are not navigable, are not wetlands, and there is no evidence of an interconnection to the Colorado River. Therefore, the Project Dry Lakes are not jurisdictional waters of the U.S. and are not subject to the Clean Water Act or USACE jurisdiction.

O_NPCA-CBD *et al.*-13

The commenter states that the water quality of water imported from the CRA or the SWP might be lower than the water quality of the groundwater in the aquifer. The water quality of groundwater in the Fenner Watershed and the CRA is discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-39 to 4.9-40. Water quality results for both water sources are compared side-by-side on p. 4.9-57, Table 4.9-8 and potential impacts to importing surface water to the aquifer are discussed in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality pp. 4.9-76 to 4.9-77. Importation of water to the aquifer is only contemplated in Phase 2 of the Project. The Draft

EIR acknowledges in Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-54 that the RWQCB would require further analysis of potential impacts to water quality, including an anti-degradation analysis; this would be conducted as part of project-level environmental review prior to the implementation of Phase 2. See **Master Response 3.12** Project vs. Program Level Analysis. The CRA water, SWP water, and the groundwater in the Fenner Gap area currently meet all of the existing State and federal MCL drinking water standards before treatment, and as such the Draft EIR concludes that water quality impacts are less than significant.

O_NPCA-CBD *et al.*-14

The comment states that the Draft EIR does not adequately assess direct impacts, cumulative impacts or the impacts of growth. The Draft EIR acknowledges in Chapter 6 Growth-Inducement Potential and Secondary Effects of Growth that the Project could support a small amount of growth. The EIR identifies the locations within which Project water has the potential to be used, discusses the population growth trends, projected water demand and known and potential water supply sources within each Project Participant's service areas, and also discusses population growth trends and projected water demand and supply within the six-County Southern California Region served by the Metropolitan Water District. The EIR summarizes the planned growth in these six counties based on their General Plans, as well as the General Plans of select cities within those counties. Based on this analysis, the Draft EIR acknowledges that, while the Project has no direct growth inducement potential, in that no housing is proposed or required as part of the Project, it does have indirect growth inducement potential because it will contribute to augmenting each water provider's water supply portfolio and includes construction of new facilities to transport water. That said, in all cases, the Project' contribution to these water supply portfolios would help support planned growth that is already reflected in the adopted General Plans for each community served. There is no evidence that the Project would stimulate growth beyond planned and projected levels (Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, pp. 6-60 to 6-61). On page 6-62, the Draft EIR makes the conservative assumption that, nonetheless, the Project could support a small amount of growth which, in turn could result in secondary environmental effects. Accordingly, a summary of these potential secondary effects is provided and the appropriate agencies with the authority to mitigate those impacts

are identified in Table 6-35. Moreover, no specific projects have identified Project water as their supply source. This comment is further addressed in **Response O_TetraAttachment-17** on growth impacts and **Response NPCA-CBD *et al.*-80 and 54** on cumulative impacts.

O_NPCA-CBD *et al.*-15

The comment states that use of a natural gas pipeline to convey water is not adequately analyzed. The use of a natural gas pipeline is evaluated as a Project Alternative in Chapter 7 of the Draft EIR. See **Responses O_NPCA-CBD *et al.*-25** and **A_NPS-29**.

Use of a natural gas pipeline for water conveyance as part of the Project is discussed only as a potential element of Phase 2, the Imported Water Storage Component of the Project. Phase 2 is still in the conceptual stage as details are still speculative and not developed sufficiently to support project-level analysis. Therefore, it has been analyzed at a programmatic level. The commenter is referred to **Response A_NPS-29**. See also **Master Response 3.12** Project vs. Program Level Analysis.

O_NPCA-CBD *et al.*-16

The commenter states that the Draft GMMMP does not comply with the San Bernardino County Desert Groundwater Management Ordinance,⁴² or the State groundwater management statute,⁴³ and lists several concerns. SMWD, San Bernardino County, Cadiz Inc., and FVMWC entered into an MOU in May 2012 to establish the framework for working together to finalize the a GMMMP. The MOU is a first step, and it does not obligate SMWD to proceed with the Project, or to presume that the environmental documentation for the Project will be certified, nor does it require the County to approve the GMMMP. No obligation included in the MOU is binding on SMWD or the County until such time as the District and County complete their respective environmental reviews of the Project and approve the Project and the GMMMP. See Vol. 7, Appendix N to the Final EIR. The Groundwater MOU provides a framework for managing the basin consistent with both California Supreme Court precedent and the County's Desert Groundwater Ordinance. The aquifer will be monitored and managed through implementation of the GMMMP. The GMMMP will be enforced by the County pursuant to its ordinance and delegation by lead agency SMWD and it includes

⁴² San Bernardino County Code of Ordinances, Title 3, Div. 3, Ch. 6, Art. 5, § 33.06552.

⁴³ California Water Code § 10753 et seq.

specific objective criteria for determining when the Project may cause undesirable results including substantially depleting groundwater supplies or interfering with recharge such that the aquifer volume or groundwater levels would not support existing land uses or planned uses for which permits have been granted. The GMMMP will include specific objective action criteria, threshold standards and corrective measures to address potential impacts to: third party wells, structures in the Project area resulting from subsidence, the Project wellfield and third party wells from progressive migration of the saline-fresh water gradient, brine resources used by the salt mining companies, and air quality. The reader is referred to the Final EIR Vol. 7, Appendix B1 Updated GMMMP and **Master Response 3.8** GMMMP for additional information. With regard to the commenters' concern as to possible deficiencies of the Draft GMMMP, please see **Master Responses 3.11** CEQA Public Process and **3.3** Groundwater Pumping Impacts.

O_NPCA-CBD *et al.*-17

The commenter objects to SMWD as the lead agency. The commenter is referred to **Master Response 3.10** CEQA Lead Agency.

O_NPCA-CBD *et al.*-18

The commenter states that Metropolitan and the RWQCB should be responsible agencies. The Draft EIR acknowledges in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-54, that approvals from Metropolitan and the RWQCB are required to successfully implement the Project. The Final EIR clarifies that they are responsible agencies in the Final EIR Vol. 6, Chapter 5 Draft EIR Text Changes. Both agencies were notified of the Project and given opportunities to comment. The RWQCB did not submit a comment letter. The commenter is also referred to **Master Response 3.10** CEQA Lead Agency.

O_NPCA-CBD *et al.*-19

The comment states that the County of San Bernardino is the appropriate lead agency and should be more than a responsible agency for the Project. The approval of an MOU to comply with the Groundwater Management Ordinance is listed in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-54 as a necessary approval of the Project. The County has not abdicated its authority as a responsible agency with regard to the Project. The commenter is referred to **Master Response 3.10** CEQA Lead Agency and **Response O_NPCA-CBD *et al.*-16**.

- O_NPCA-CBD *et al.*-20 The comment suggests that the cost sharing MOU between the County and SMWD be introduced into the public record. This MOU is a public record and is included as Appendix N to the Final EIR. There are no provisions which impact or in any way limit the Project as it is fully described in the EIR.
- O_NPCA-CBD *et al.*-21 The comment suggests that additional approvals are required by the County. Draft EIR Vol. 1, Chapter 3, Project Description, Section 3.8 lists the approvals that may be needed to implement the Project. The County's discretionary review of the Project is provided for in the Groundwater MOU, as discussed in **Response O_NPCA-CBD *et al.*-16**. No other discretionary review and approval from the County is needed to implement the Project. The Project is exempt from local jurisdiction permitting requirements pursuant to Government Code section 53091. See Draft EIR Vol. 1, Section 4.10 Land Use Planning, p. 4.10-20 and **Master Response 3.10** CEQA Lead Agency.
- O_NPCA-CBD *et al.*-22 The comment states that SMWD should be a responsible agency. For a discussion on lead and responsible agency status, the commenter is referred to **Master Response 3.10** CEQA Lead Agency.
- O_NPCA-CBD *et al.*-23 The comment suggests that the cost sharing MOU between the County and SMWD and Cadiz Inc. and the nature of SMWD's ownership interest be introduced into the public record. See **Response O_NPCA-CBD *et al.*-20** and **Master Response 3.10** CEQA Lead Agency. Agreements reflecting the nature of SMWD's ownership interest will be approved in connection with the Project and will be part of the public record.
- O_NPCA-CBD *et al.*-24 The comment states that the Metropolitan and the RWQCB should be responsible agencies. The Draft EIR acknowledges in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-54 that approvals from Metropolitan and the RWQCB are required to successfully implement the Project. The Final EIR clarifies that these agencies are responsible agencies in Vol. 6, Chapter 5 Draft EIR Text Changes. Both agencies were notified of the Project and given opportunities to comment. The commenter is also referred to **Master Response 3.10** CEQA Lead Agency which discusses SMWD's role as CEQA Lead Agency for the Project. Moreover, prior to implementation of Phase 2, further project-level environmental review and discretionary approval

would be required including approvals from Metropolitan and RWQCB, among others.

O_NPCA-CBD *et al.*-25

The commenter suggests that the natural gas pipeline component was not adequately analyzed and asks for clarification on whether the natural gas pipeline would be used in Phase 1. The Draft EIR identifies the conversion of a natural gas pipeline for water conveyance as a potential element of Phase 2 and as a Project alternative for Phase 1. Both the Phase 1 alternatives analysis and the Phase 2 programmatic analysis were adequate for their respective purposes. The existing Natural Gas Pipeline Alternative is analyzed as an alternative in the Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives, pp. 7-29 to 7-34. The existing natural gas pipeline extends from Cadiz Inc. property to Barstow and on to Wheeler Ridge near Bakersfield. Analysis of the potential effects of converting the pipeline for water conveyance was conducted under each resources area as well as whether use of the pipeline would meet Project objectives. The pipeline capacity is limited to 30,000 AFY and would not be able to serve all Project Participants. Because the natural gas pipeline would connect to Barstow and, potentially, Wheeler Ridge, new agreements would need to be made to convey the water to the existing Project Participants and the ARCZ would not be able to participate. The alternative would not allow for importation from the CRA but would require participants in the SWP to enter into agreements to store water at the Cadiz Inc. property. In addition, the existing natural gas pipeline conversion is considered programmatically for Phase 2 throughout the Draft EIR. The commenter is also referred to **Responses O_NPCA-CBD-15** and **A_NPS-29** and **Master Response 3.12** Project vs. Program Level Analysis.

O_NPCA-CBD *et al.*-26

The commenter suggests a discrepancy with the amount of water to be extracted by the Project. The commenter notes that the Draft EIR Vol. 1, Executive Summary cites retrieval of 2 MAF on p. ES-2 and 50,000 AFY for 50 years for a total of 2.5 MAF on p. ES-3. ES-2 refers to conserved water while ES-3 refers to pumping. Under the Project Scenario, cumulative net water saving is estimated at 1,990,000 AF. See also Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-72, Table 4.9-11 and Draft EIR Vol. 4, Appendix H2 Supplemental Assessment of Pumping Required, pp. 6-7.

The commenter questions the permitting requirements and whether there are any that would limit the water exports to the 50,000 AFY. As discussed in the Draft EIR (Vol. 4 Appendix H5 Addendum to September 1, 2011 Cadiz Groundwater Modeling and Impact Analysis), the pumping rates to establish the hydraulic barrier to groundwater flow at the Fenner Gap may vary between 25,000 and 75,000 AFY in any given year with an overall average of 50,000 AFY over the 50-year Project period. Pumping at a higher rate in the early years of the Project would increase the efficiency of establishing the barrier and accelerate the recovery of groundwater from migrating to the Dry Lakes and evaporating. Total Project pumping over the life of the Groundwater Conservation and Recovery Component is limited to 50,000 AFY, on average, for 50 years as stated in the Draft EIR Vol. 1, Chapter 1 Project Introduction, page 1-3. Pumping beyond this rate and term would require new agreements, administrative review and discretionary approvals, as stated on page 1-4. See **Master Response 3.8** GMMMP.

O_NPCA-CBD *et al.*-27

The commenter states that the Project may extend beyond 50 years. The life of the Project is defined at 50 years. The Option Agreements for the Project Participants contemplate that the Project Participants may elect to extend the term of the Project beyond the 50-year term. However, if such an election were made to extend the Project's term, new purchase agreements would be required and full environmental review would be required prior to approval of an extended term. The commenter is referred to Draft EIR Vol. 1, Chapter 1 Introduction, p. 1-4.

O_NPCA-CBD *et al.*-28

The commenter states that the "Green Compact" is unenforceable. The commenter is referred to **Response A_NPS-13**. The description of the MOU between NHI and Cadiz Inc., in the Draft EIR is not misleading. The purpose for the preparation of the MOU was to create a formal agreement between the Cadiz Inc. and the Natural Heritage Institute (NHI) which expresses their mutual determination to move forward in the common direction, to provide Stewardship Principals to guide the administration and implementation of activities on the Cadiz Inc. properties. The MOU serves as an instrument to record the intention to work together and describes the basic terms under which they intend to work together. The MOU is a preliminary agreement which lays the foundation for subsequent and specific activities and nowhere does the EIR state that it is intended to act as a binding contract of either party.

As noted in the Draft EIR Vol. 1, Chapter 2 Project Background, Section 2.3.3, NHI has committed to assist Cadiz Inc. in designing groundwater banking projects, identifying Project Participants, and auditing the management of Cadiz Inc.-owned property in keeping with the Green Compact. To date, the NHI has not prepared an implementation package for the proposed Project to effectuate the stewardship principals discussed in the MOU. The principles of the NHI MOU are not binding principles of the Project Description and are therefore not relevant to the analysis conducted pursuant to CEQA.

O_NPCA-CBD *et al.*-29

The commenter states that the Project is insufficient since it uses the term “conservation” and water “savings.” The term “conservation” and water “savings” are used because the Project would divert groundwater before it joins the highly saline salt sink beneath the Dry Lakes and ultimately evaporates. Putting water to beneficial uses prior to losing it to evaporation is appropriately referred to in the Draft EIR as “conservation.” See **Master Response 3.15** Terminology.

The commenter states that the roles of FVMWC and Metropolitan are insufficiently described. The Draft EIR Vol. 1, Chapter 3 Project Description, notes on page 3-54 that approvals from Metropolitan are required prior to implementing the Project. The Project Description acknowledges that CRA tie-in options are subject to approval and coordination with Metropolitan. The role of the FVMWC is described in **Master Response 3.8** GMMMP, as updated in the Final EIR (Final EIR Vol. 7, Appendix B1 Updated GMMMP Updated). FVMWC is a California mutual water company and non-profit entity formed for the purpose of delivering water from the Project to its members at cost. FVMWC will be solely comprised of the public water systems that will own shares commensurate with their rights to receive water from the Project. Cadiz Inc. will not own shares in FVMWC. FVMWC will operate the day-to-day aspects of the Project and will implement the GMMMP subject to review by the TRP and County enforcement.

The commenter states that electrical power component is insufficiently described. Power supplies are described in detail in the Project Description. Impacts of providing power including consumption of natural gas and/or accessing the electric grid are evaluated throughout Chapter 4. See **Response A_NPS-9**.

The commenter states that the Project objectives regarding conservation and water savings are misleading. As listed on p. 3-6 of the Draft EIR, the Project objectives were developed to optimize beneficial use of the groundwater in the Fenner Watershed and increase water supply reliability for Project Participants. These objectives adequately describe SMWD's goals. Moreover, the terms are defined in the Draft EIR and thus, even if the commenter would define them differently, their use in the EIR is consistent in its use of these terms throughout the EIR and is not misleading.

O_NPCA-CBD *et al.*-30

The commenter objects to the use of the word “save” to describe the Project and states that the word’s use misrepresents the “fundamental purpose” of the Project. The fundamental purpose of the Project is described in the Draft EIR Vol. 1, Executive Summary, particularly page ES-2. The Project would pump groundwater from the Fenner Watershed and convey it to support beneficial uses in the service areas of Project Participants. The term “save” is appropriate because the Project would divert and capture groundwater before it joins the highly saline salt sink beneath the Dry Lakes and ultimately evaporates. Putting this water to beneficial uses prior to losing it to evaporation is appropriately referred to in the Draft EIR as “conservation” and water “savings.” Additional information is provided in **Master Response 3.15 Terminology**. Regardless of the terminology used, the Draft EIR adequately describes the proposed actions of the Project that could result in environmental impacts. Those impacts are adequately described and analyzed in the Draft EIR. The terminology used does not affect the analysis in any way. The commenter is referred to **Responses O_NPCA-CBD et al.-6** and **O_NPCA-CBD et al.-7**.

O_NPCA-CBD *et al.*-31

The commenter states that recharge proposed for the Phase 2 Imported Water Storage Component was inadequately analyzed and that “tiering” analysis is only permitted for secondary impacts. The Draft EIR analyzed Phase 2, the Imported Water Storage Component, at a programmatic level because details of the Component are not sufficiently developed for project-level analysis at this time. When the future approval is unspecified and uncertain, no purpose would be served by requiring an EIR to engage in a Project level of review as to future environmental consequences. For Phase 2, Project Participants have not been identified and elements of the Component, including the potential quantity, source and schedule for imported water as

well as the spreading, storage and extraction have not been developed in sufficient detail to allow for project-level review at this time. Subsequent analysis under CEQA is required before implementing Phase 2. Phase 1 of the proposed Project is a stand-alone Project, independent from Phase 2, and is thus a viable Project whether or not Phase 2 goes forward. Subsequent expansions or modifications of the Project facilities or objectives with regard to Phase 2 may or may not be implemented. In this light, the Draft EIR identifies possible future modifications or expansions related to Phase 2 that are not essential for the fundamental purpose of Phase 1. CEQA does not require that all future expansions or modifications of a proposed Project be envisioned and designed sufficiently to be afforded project-level analysis at one time. The Draft EIR evaluates Phase 1 but notifies interested parties that future modifications or expansions may be implemented at an unspecified time in the future as part of Phase 2. In addition, tiering from a programmatic EIR is expressly allowed under CEQA (see CEQA Guidelines section 15152). See also **Master Response 3.12** Project vs. Program Level Analysis.

O_NPCA-CBD *et al.*-32

The commenter states that the objective to support ARZC operations is speculative. See **Response O_NPCA-CBD *et al.*-2** and **Master Response 3.13** Right-of-Way and NEPA.

O_NPCA-CBD *et al.*-33

The commenter states that the EIR fails to provide an adequate Project Description because it mischaracterizes the Project as a “conservation” project. The commenter is referred to **Responses O_NPCA-CBD *et al.*-6** and **O_NPCA-CBD *et al.*-7**.

The commenter further contends that the EIR must explain how the conservation goals of the California Constitution are met by the measures included in the Project. The California Constitution is referenced in the Draft EIR to emphasize that it is a long standing and fundamental policy in the State of California to optimize the “reasonable and beneficial use” of water resources in “the interest of the people and for the public welfare.” Providing this information as background information does not alter the environmental analysis of the Project provided throughout the Draft EIR. The EIR analyzes a single, stable Project that is detailed in Chapter 3 of the Draft EIR. Further, it employs consistent and reasonable definitions for all terminology used, including the term “conservation.” The

commenter is referred to **Master Responses 3.15** Terminology and **3.7** Water Rights.

O_NPCA-CBD *et al.*-34

The comment states that the Draft EIR improperly uses the term “beneficial uses.” As discussed in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-43, Table 4.9-4, the Colorado RWQCB’s *Water Quality Control Plan* for the Colorado River Basin – Region 7 identifies the beneficial uses of the Bristol, Cadiz, and Hydrologic Units as municipal, agriculture and industrial uses. Given this, the Draft EIR does not improperly use the term “beneficial uses” when referring to use by Project Participants of the Fenner Valley water for municipal uses. Further, the comment is not relevant to the adequacy of the environmental impact analysis required by CEQA. See **Responses O_NPCA-CBD et al.-6** and **O_NPCA-CBD et al.-7** and **Master Responses 3.15** Terminology and **3.7** Water Rights.

O_NPCA-CBD *et al.*-35

The commenter states that the role of the FVMWC is inadequately explained. See **Response O_NPCA-CBD et al.-29**. Further details of FVMWC's role other than operator of the Project are not required for environmental analysis under CEQA. The Draft EIR does not need to speculate whether the FVMWC shareholders would in turn sell the water and what the profits of the sales would be as those are not environmental concerns. The role of the FVMWC is described in the Draft GMMMP as updated (Final EIR Vol. 7, Appendix B1 Updated GMMMP). The commenter is referred to **Master Response 3.8** GMMMP.

O_NPCA-CBD *et al.*-36

The commenter states that the option of underground or aboveground power lines must be decided prior to environmental analysis. As stated in the Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-23 and 3-40, the power would be distributed to the well pads either underground or overhead (with 30-foot overhead power poles) and would connect to each well head following the access road work. The analysis in the Draft EIR evaluates and discloses the potential environmental impacts of proceeding under either option. The commenter is also referred to Draft EIR Vol. 2, Appendix D Power Requirements Analysis.

O_NPCA-CBD *et al.*-37

The comment states that the Project Description lacks a description of the Project’s “economic characteristics,” per CEQA Guideline section 15124(c), and questions the cost and benefit assumptions of the Economic Impact Report. As noted in

the Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-14 and 3-19 to 3-22, the Project would most likely be financed *privately* and, in any event, the costs would be recouped through long term water sale agreements. The general description of economic characteristics was provided in the Draft EIR as required in CEQA Guideline section 15124(c). Further, contrary to the comment, reference to the Economic Impacts Report was provided as a footnote on p. 3-48 under the *Workers* subheading. CEQA does not require a discussion of socioeconomic impacts when analyzing potential project impacts. CEQA addresses only environmental impacts, not social or economic impacts; social or economic impacts are only relevant to the extent they cause an environmental impact (*e.g.*, blight) (CEQA Guideline § 15131). While not required by CEQA, public costs and revenues of a project may be analyzed concurrently with environmental review. As such, the Economic Impacts Report was provided as Appendix I in the Draft EIR Vol. 4 and an analysis of Socioeconomics was provided at Draft EIR Vol. 1, Section 4.10 Land Use and Planning, pp. 4.10-4 to 4.10-8.

O_NPCA-CBD *et al.*-38

The commenter requests an assessment of costs to rate payers and to homeowners whose wells might be affected by Project pumping. The Project would provide an opportunity for Project Participants to enter into a long term water supply agreement that is in the interests of their rate payers. It is expected that the Participants will rely upon the EIR, if certified by SMWD, to adopt their individual long term water supply agreements. As part of this approval, rate payers will have the opportunity to evaluate the agreements and the Project's potential to adversely or beneficially affect long term water rates. The rate payers' potential future comments on Participants' long-term water supply agreements do not pertain to the adequacy of the environmental analysis contained in the Draft EIR. Please also refer to **Master Response 3.3** Groundwater Pumping Impacts for additional information regarding impacts of groundwater pumping on nearby private wells and **Master Response 3.8** GMMMP concerning mitigation of potential impacts to third party wells.

O_NPCA-CBD *et al.*-39

The commenter highlights a sentence in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-53, that contains a typographical error which that incorrectly identifies SMWD as a responsible agency. In response to this comment the sentence on page 3-53 in column three has been revised as follows:

A Project Participant and Lead Responsible Agency pursuant to California Public Resources Code 21069, SMWD would evaluate potential impacts of the proposed Project within its boundaries and has discretion to approve or reject its participation in the proposed Project.

O_NPCA-CBD *et al.*-40

The commenter states that the Draft EIR does not identify what agency has construction permit authority. The County of San Bernardino would normally have zoning and building permitting authority over development in its jurisdiction. However, pursuant to Government Code section 53091, state agencies such as SMWD are immune from local building and zoning ordinances for “the location or construction of facilities for the production, generation, storage and treatment or transmission of water...” Draft EIR Vol. 1, Section 4.10 Land Use and Planning, p. 4.10-20. In addition, facilities related to water (i.e. integral to the operation of water storage and transmission) receive a qualified immunity, which SMWD must confirm at a public hearing prior to Project approval. *Id.* As lead agency and the largest participant in FVMWC, SMWD would oversee compliance with the California Building Code (CBC) requirements. The commenter is referred to **Master Response 3.10 CEQA Lead Agency**.

O_NPCA-CBD *et al.*-41

The commenter states that the Draft EIR fails to describe the relationship between SMWD and Metropolitan. The Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-54, notes that approvals from Metropolitan are necessary to implement the Project. The Final EIR clarifies that Metropolitan is a responsible agency in Vol. 6, Chapter 5 Draft EIR Text Changes. The description of CRA tie-in options beginning on page 3-34 acknowledges that the ultimate option for facilities used to tie into the CRA is subject to coordination with and approval from Metropolitan.

O_NPCA-CBD *et al.*-42

The commenter suggests that because it appears the export system capacity would be 105,000 AFY and there are apparently no permits that would limit the export amount, the Draft EIR should have evaluated the potential impacts of the Project using an assumed export maximum of 105,000 AFY. As discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-6, the exporting limitations are based on the maximum combined capacity of the 43-mile conveyance

pipeline to the CRA and the potential use of the converted natural gas pipeline for Phase 2. Phase 1 capacity would be limited to the 75,000 AFY capacity of the CRA pipeline. The Phase 1 pumping is limited to an average of 50,000 AFY over 50 years utilizing the CRA pipeline. Pumping in excess of this amount would only occur if Phase 2 the Imported Water Storage Component is approved and carried out. See **Master Response 3.8** GMMMP. Should the natural gas pipeline ultimately be utilized for Phase 2, impacts from exporting 105,000 AFY of conserved and stored water would be analyzed in project-level review for Phase 2 after Project participants are identified and if use of the natural gas pipeline will occur. Such analysis at the present time is speculative.

The commenter also states that 50,000 AFY is not a safe yield as defined by the state. The Draft EIR discusses the legal framework for the beneficial uses of water, including the state definition of safe yield in Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-61 to 4.9-63. Extracting groundwater in excess of the natural recharge is necessary to reverse the hydraulic gradient and is the only way to fully reduce evaporation from the Dry Lakes. The Draft EIR analyzed the impacts of such extraction and appropriately concludes that 50,000 AFY will not cause significant impacts with mitigation and therefore can be safely pumped. See Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-48 to 80. The commenter is referred to **Master Response 3.3** Groundwater Pumping Impacts.

Cadiz Inc., SMWD, and FVMWC have entered into an MOU with the County of San Bernardino that establishes a process for the Project to seek an exclusion from the Desert Groundwater Management Ordinance.⁴⁴ See the Final EIR Vol. 7, Appendix N MOU by and among the Santa Margarita Water District, Cadiz Inc., Fenner Valley Mutual Water Company, and the County of San Bernardino. The MOU is a first step, and it does not obligate SMWD to proceed with the Project, or to presume that the environmental documentation for the Project will be certified, nor does it require the County to approve the GMMMP. No obligation included in the MOU is binding on SMWD or the County until such time as the District and County complete their respective environmental reviews of the Project and decide to approve the Project and the GMMMP respectively. The MOU

⁴⁴ San Bernardino County Code of Ordinances, Title 3, Div. 3, Ch. 6, Art. 5, § 33.06551.

provides a framework for managing the basin consistent with both the California Supreme Court precedent and the County's Desert Groundwater Ordinance. It is anticipated that, in addition to implementation of the Mitigation Measures that would be adopted by SMWD as a part of its approval of the Project, the aquifer will be monitored and managed through implementation of the GMMMP. The GMMMP will be enforced by the County and it will include specific objective criteria for determining when the Project may cause undesirable results including substantially depleting groundwater supplies or interfering with recharge such that the aquifer volume or groundwater levels would not support existing land uses or planned uses for which permits have been granted. The commenter is referred to **Master Responses 3.8 GMMMP and 3.7 Water Rights**.

O_NPCA-CBD *et al.*-43

The commenter states that the Draft EIR fails to adequately evaluate impacts to aesthetics because it defines the affected geographic area too narrowly by not addressing potential impacts within the surrounding designated wilderness areas and it focuses only on short-term aesthetic impacts. As mentioned in the Draft EIR Vol. 1, Section 4.1 Aesthetics, the wellfield would be visible from long range views from higher elevations surrounding the valley but not from Amboy Road, the nearest public road. The well pads and power lines are considered low intensity development that would not include buildings or structures that would substantially alter the landscape. A Southern California Edison power line currently parallels the ARCZ as it crosses the desert, as described in the Figure 4.13-1. The conveyance pipeline would be constructed underground and, once installed, would not alter the local aesthetics, which include the existing ARZC railroad track. Periodic air relief valves and blow off valves would be visible only at close range near the railroad tracks. These 6-foot tall structures would not substantially alter or reduce the quality of the scenic resources near the railroad. Moreover, the Project location is very remote, there are no scenic highways within the Project vicinity (p. 4.1-13, 4.1-16) and the Project wellfield would make up less than 1 percent of Cadiz Inc. property in the wellfield area (p. 4.1-17).

The Draft EIR addresses short range and long range views. The Project would not alter the ecosystems in the conjoining Watersheds, as is suggested in the comment. The Project would not significantly impact vegetation because of the existing depth of groundwater or impact flows to springs due to the absence of

a hydrological connection. Impacts to wildlife would be mitigated to less than significant levels. The commenter is referred to **Master Responses 3.4 Springs, 3.6 Vegetation, and 3.9 Biological Resources.**

The Draft EIR p. 4.1-3 identifies five Wilderness areas within an approximately 5 mile radius of the Project. The Trilobite Wilderness Area is located 3.5 miles north of the Project site. Views of the Project area would be long range and Project facilities would be difficult to see and softened by vegetation. The wellfield development would consist of small well pads separated generally by 1,500 feet. Equipment on the well pads would generally not exceed eight feet in height. If power lines are used, they would be approximately 20 feet tall and would not disrupt long range views.

The Cadiz Dunes Wilderness Area is located west of and adjacent to the proposed water conveyance pipeline along an approximately 5-mile-long portion of the ARZC ROW, between Archer and Chubbuck. The construction activities will be visible from this area, but once construction is complete, the underground pipeline will be out of view. At its closest point, the Cadiz Dunes Wilderness is 100 feet west of the ARZC ROW. Because the Cadiz Dunes are low-lying features on the landscape, recreationists visiting the Cadiz Dunes area would not have views of the Project. However, the edge of the Dunes do have a view of the ARZC railroad track, and that will not change.

The Turtle Mountains Wilderness Area is located approximately 4.2 miles to the east. None of the Project facilities are visible from this distance. The Old Woman Mountains Wilderness Area is located east of the ARZC ROW and is closest to the ROW at the segment between Chubbuck and Milligan. From higher elevations, views of the wellfield north of the Old Woman Mountains will be long range. Project facilities will be difficult to see due to the low density nature of the Project. Views from vantage points in the Turtle Mountains and Old Woman Mountains consist of vast expanses of open desert land interspersed by scattered linear features that cross the landscape, including existing utility poles and lines, unpaved access roads, and railroad lines. The Sheephole Valley Wilderness Area is located approximately 5 miles west of the Project site. Given

this, the EIR appropriately concluded that any aesthetic impacts would be less than significant.

There are two "eligible" State Scenic Highways: Interstate 40 (I-40), which is located approximately 20 miles to the north of the proposed spreading basins, and SR 62, which is located approximately 1 mile south of the intersection of the ARZC ROW and the CRA. The National Trails Highway, which is the former Route 66, traverses the site approximately three miles north of Cadiz. Views of the wellfield from the National Trails Highway would not be significantly affected. A new visual simulation (Final EIR Vol. 6, Chapter 5 Draft EIR Text Revisions, Figure 4.1-8) has been prepared to illustrate the visibility of the well pads on long range views from the National Trails Highway. The Project would not be visible from I-40, which is located approximately 16 miles north of the Project site. SR 62 is located less than 1 mile south of the ARZC ROW and CRA intersection and runs parallel to the segments of ARZC ROW and CRA located near Rice, California. Construction of the pipeline at the southernmost end and any facilities installed at the intersection of the ROW and CRA may be visible from portions of SR 62. Other Project facilities including staging areas on the Danby Property, air relief valves, and pipeline installation footprint would not be visible from any Scenic Highway due to the distances and topography. The Draft EIR does consider the scenic resources identified in the comment on p. 4.1-18 and concludes that impacts would be less than significant (Draft EIR Vol. 1, Section 4.1 Aesthetics). **Figure 4.1-8** has been added to the Final EIR Vol. 6, Chapter 5 and provides a visual simulation of potential views of the wellfield area from National Trails Highway. As illustrated in the simulation, the low density development would not substantially alter views from the nearest highway.

O_NPCA-CBD *et al.*-44

The commenter requests information about night lighting. As mentioned in the Draft EIR Vol. 1, Section 4.1 Aesthetics, p. 4.1-21, construction of the proposed wellfield would, in some cases, occur 24 hours a day and night lighting would be required. However, this would only be temporary and, with implementation of Mitigation Measure **AES-1**, would not result in permanent nighttime lighting features. Mitigation Measure **AES-1** would require that lighting would be shielded so that light is directed downward and away from adjoining properties.

Construction lighting would be removed once construction ceases.

During operations, well pads within the wellfield may be equipped with lighting features, but these would only be used during infrequent nighttime maintenance activities and would be on automated timers to shutoff and avoid unnecessary lighting. See Mitigation Measure **AES-2**.

O_NPCA-CBD *et al.*-45

The commenter summarizes specific comments repeated below. Refer to **Responses O_NPCA-CBD *et al.*, -46** through **O_NPCA-CBD *et al.*, -59** and to **Master Response 3.10** CEQA Lead Agency.

O_NPCA-CBD *et al.*-46

The commenter states that the Draft EIR should have established a baseline for visibility as of the time the Notice of Preparation was published rather than install nephelometers during Project operations. Existing conditions are shown on Tables 4.3.2 Mojave Desert Air Basin Attainment Status and 4.3-3, Ambient Air Quality in Project Vicinity (2008-2010) (Draft EIR Vol. 1, Section 4.3 Air Quality). Respirable particulate matter (PM10) is in non-attainment and exceeded state standards 6 days in 2009 and 0 days in 2010. PM10 can produce haze and limit visibility. However, the Project would not contribute significantly to PM during construction or operations. Construction emissions of PM10 and PM2.5 are below MDAQMD thresholds of significance after mitigation. The commenter is referred to Draft EIR Vol. 1, Section 4.3 Air Quality, Table 4.3-5, which has been revised in the Final EIR Vol. 6, Chapter 5 Draft EIR Text Changes. In addition, operational PM10 emissions from natural gas engines and the Dry Lakes would be less than significant without mitigation. The commenter is referred to p. 4.3-15 of the Draft EIR, and Table 4.3-6, which has been revised in the Final EIR Vol. 6, Chapter 5 Draft EIR Text Changes.

As discussed in the Draft EIR Vol. 1, Section 4.3 Air Quality on pages 4.3-15 and 4.3-16, the Draft GMMMP includes measures to monitor Project operations and potential effects on critical resources. The measures are presented in Chapter 6 of the Draft GMMMP and are referred to as Project Design Features in the EIR (Draft EIR Vol. 2, Appendix B1 GMMMP and, as updated, Final EIR Vol. 7, Appendix B1 Updated GMMMP). Although no potentially significant impact to air quality from lakebed dust would occur as a result of the Project (see **Master Response 3.5**

Dry Lakes and Dust), as a conservative monitoring protocol, the Updated GMMMP provides for monitoring of air quality in the Cadiz Valley. To monitor the condition of the Dry Lakes consistent with recommendations of the Groundwater Stewardship Committee and San Bernardino County and to provide additional data on the environment of the area, FVMWC will install four nephelometers one downwind and one upwind of Bristol Dry Lake and one downwind and one upwind of Cadiz Dry Lake. These nephelometers will be placed on privately-owned property, and outside the wind shadow of the agricultural properties. Average annual air quality data requires multiple years of data collection. The initial years of data collection will monitor baseline information provided in the Draft EIR prior to significant drops in groundwater levels, in order to detect any changes in levels of dust generation on the Dry Lakes.

Four nephelometers will provide data on a daily basis and records opacity of the air, measuring the effect of dust on visibility. Data will be collected in the pre-operational phase of the Project and in the early years of the Project, before groundwater levels beneath the Dry Lakes change. Since wind velocity and dust storms are highly variable, the data will record trends over time. Data will also be collected during the operational and post-operational phase of the Project and compared to baseline conditions to evaluate whether Project operations have impacted air quality. A summary of these data and data analysis from the nephelometers will be submitted annually to the TRP. This analysis will provide information for the long term management of the facilities in the valley.

In addition, annual visual observations will be conducted on each of the Dry Lakes to record surface soil conditions. The visual observations will note soil texture and record susceptibility to wind erosion. Photographs of the soil will be taken. This data will record conditions over time at the same locations on each of these Dry Lake surfaces.

O_NPCA-CBD *et al.*-47

The commenter questions the planned locations of the nephelometers and asks that a wind rose be included in the EIR. The nephelometers would be located upwind and downwind of the Bristol Dry Lake and Cadiz Dry Lake to confirm technical conclusions regarding fugitive dust concentrations and soil chemistry of the two Dry Lakes. In the Draft EIR Vol. 3, Appendix E2 Fugitive Dust and Effects from Changing Water

Table at Bristol and Cadiz Playas, the predominate wind direction in the valley is identified as toward the southeast. This wind direction is based on empirical information from satellite data and soil staining patterns from the Bristol Cone as observed in aerial photographs. It is not anticipated that the Project will have any material effect on the concentration of dust emanating from the Bristol and Cadiz Playas nor affect the severity of area dust storms. Nonetheless, locations of the nephelometers will establish a set of baseline data of visibility in the valley from which future analysis can be compared. The precise locations of the nephelometers will be determined as part of the final design consistent with the GMMMP, but the general locations are depicted in Figures 5-1 and 5-2 of the Updated GMMMP. The commenter is referred to **Master Response 3.5** Dry Lakes and Dust and **Response O_NCPA-CBD et al.-46**.

O_NPCA-CBD *et al.*-48

The commenter states that the Draft EIR does not adequately justify the 10-mile radius for analyzing impacts to sensitive receptors and should have included the analysis of impacts to air quality in the Mojave National Preserve. The air quality analysis conducted for the EIR did not limit the study area to 10 miles, rather, it was based on regional monitoring and analyzed effects within the Mojave air basin. The Draft EIR Vol. 1, Section 4.3 Air Quality analyzes the potential adverse affects of the Project's construction and operational air emissions, and the Mojave Desert Air Basin which includes the Mojave National Preserve is included in the analysis. MDAQMD Rules and air quality improvement plans are identified, and the Draft EIR evaluates the consistency of the Project with regional air quality improvement plans established by MDAQMD. Air pollution in the region is generally the result of poor quality air imported from the western urbanized areas and combustion emissions from the highways and railroads that traverse the desert.

Table 4.3-6 on page 4.3-13 summarizes operational air emissions associated with the proposed Project. Operational emissions are well below significance thresholds. According to MDAQMD thresholds of significance, the proposed Project's contribution to the regional air quality would not be significant. Short term construction emissions could contribute NO_x levels in excess of significance thresholds, but the temporary nature of these emissions would not result in degraded air quality in neighboring National Parks.

Impacts to sensitive receptors are evaluated in Section 4.3 of the Draft EIR. The analysis concludes that sensitive receptors are too far to be adversely affected by Project emissions. The South Coast Air Quality Management District has developed localized significance thresholds designed to evaluate impacts to sensitive receptors from local emissions. The thresholds apply to land uses within 1,000 feet of the Project site. Since the closest sensitive receptors are over 3.3 miles north of the wellfield, no localized significance analysis or health risk assessments would be necessary. The commenter is also referred to Draft EIR Vol. 3, Appendix E2 Fugitive Dust and Effects from Changing Water Table at Bristol and Cadiz Playas.

O_NPCA-CBD *et al.*-49

The commenter states that air quality impacts of the Project should include water service areas beyond the MDAQMD. The commenter is referred to the Draft EIR Vol. 1, Chapter 6 Growth-Inducement Potential and Secondary Effects of Growth, which addresses the potential for indirect environmental impacts of population or employment growth wherever Project water would be provided. The Draft EIR acknowledges on page 6-63 that although the amount of growth that could be accommodated by the Project would be small, secondary effects of growth including to air quality are significant and unavoidable throughout the South Coast Air Basin. In response to the element of the comment regarding the choice of lead agency for the Project, the commenter is also referred to **Master Response 3.10** CEQA Lead Agency.

O_NPCA-CBD *et al.*-50

The commenter questions the analysis for the potential to generate dust off of the Dry Lakes. Groundwater levels under much of the Bristol Dry Lake, under current conditions where crusting is observed, is in excess of 15 feet and over 65 feet at the eastern edges under existing conditions. The surface soils under current conditions are well beyond the influence of groundwater and exhibit a puffy, dry quality, yet are resistant to wind erosion. This is due to the chemical composition of the soils. Groundwater levels do not influence surface soil structures at the Dry Lakes. This comment is further responded to in **Master Response 3.5** Dry Lakes and Dust.

The commenter also questions the effects of drawdown from groundwater pumping at the Dry Lakes. This comment is responded to in **Master Response 3.3** Groundwater Pumping Impacts. The pumping is intended to reduce groundwater

evaporation. Transpiration does not occur on the Dry Lakes due to the lack of vegetation.

The commenter requests more information regarding the limitation of certain non-native plants to control dust because the plants are annual and are not present throughout the year. In the Draft EIR Vol. 3, Appendix E2 Fugitive Dust and Effects from Changing Water Table at Bristol and Cadiz Playas, the soils assessment report found that some non-native plants are contributing to the existing sand dispersion trends in the valley. However, this trend is not related to groundwater depths because none of the plants, including the four-wing saltbush, depend upon groundwater for their survival as their roots are not deep enough to reach the low groundwater table. The commenter is referred to **Master Responses 3.5** Dry Lakes and Dust and **3.6** Vegetation.

O_NPCA-CBD *et al.*-51

The commenter states that the Dry Lakes could become a source of PM10 particulate matter. The commenter is referred to **Master Response 3.5** Dry Lakes and Dust and **Response O_NPCA-CBD *et al.*-46.**

O_NPCA-CBD *et al.*-52

The commenter asks why PM10 levels declined from 2008 to 2010. Measured PM10 levels showed declines at the nearest air monitoring stations over that period. These changes could be attributed to reduced emissions locally due to MDAQMD policies or to reduced imported air pollution. Long term trends may continue to decline or may spike depending on weather conditions.

O_NPCA-CBD *et al.*-53

The commenter asks why two different monitoring locations are listed in Table 4.3-3 Ambient Air Quality in Project Vicinity (2008-2010) and why only one location was used to measure both pollutants. The data represents the closest ambient data available for each pollutant. The CARB and MDAQMD regional air quality monitoring network provide information on ambient concentrations of non-attainment criteria air pollutants in the MDAB. The MDAQMD monitors air quality conditions at nine locations throughout the MDAB, including Joshua Tree National Monument monitoring station and the Victorville monitoring station. The Joshua Tree National Monument monitoring station is the nearest monitoring system, approximately 40 miles southwest of the Project Site, with ozone data. The Victorville

monitoring station, approximately 100 miles west, is the closest station monitoring for PM₁₀.

O_NPCA-CBD *et al.*-54

The commenter states that the cumulative construction air analysis is insufficient because it must estimate the cumulative impact of the Project and the federal solar project. Project construction alone, which is fully disclosed in the Draft EIR Vol. 1, Section 4.3 Air Quality, p. 4.3-12, would exceed significance thresholds for NO_x established by the MDAQMD for activities and operations within the high desert portion of the Mojave Desert Air Basin. When considered in conjunction with overlapping construction projects in the MDAQMD (see Draft EIR Vol. 1, Chapter 5 Cumulative Impacts, Table 5-2 starting at p. 5-20), the Project's contribution to cumulative air quality impacts are considered to be cumulatively considerable. This is a conservative conclusion.

O_NPCA-CBD *et al.*-55

The commenter states that the Draft EIR lacks mitigation for airborne dust that it believes is caused by the Project. Mitigation Measures **AQ-1** through **AQ-4** recommended in the Draft EIR Vol. 1, Section 4.3 Air Quality, p. 4.3-17 would be implemented during construction to reduce airborne dust impacts to less than significant levels. In addition, the Project would be required to comply with applicable rules and regulations set forth MDAQMD that would also limit the level of impacts to less than significant levels. See Mitigation Measure **AQ-1** and the Draft EIR on page 4.3-17. Although, NO_x from construction would be remain significant and unavoidable with mitigation, Mitigation Measure **AQ-3** would still reduce levels of impact.

During Project operations, the chemistry of the soils on the Dry Lakes form a self-healing crust that is generally resistant to wind erosion. Furthermore, this wind resistant crust was found at the eastern portion of Bristol Dry Lake where groundwater depths are greater than 65 feet. The soil chemistry on the eastern portion of Bristol Dry Lake is the same as is found on the western edge of Bristol Dry Lake and the northern portion of Cadiz Dry Lake where groundwater depths are closest to the surface, i.e. less than 10 feet. Since there is no indication that Project operations would increase dust emissions from the Dry Lakes, mitigation is not required by CEQA. See Draft EIR p. 4.3-15. Nonetheless, consistent with the Project Design Features of the Updated GMMMP, the Draft EIR includes Mitigation Measure **AQ-5** that requires soil monitoring and the installation of nephelometers to

record air quality. The commenter is also referred to **Master Responses 3.5** Dry Lakes and Dust and **3.8** GMMMP.

During the project operations, continuing observation of groundwater elevations will occur including levels near and beneath the Dry Lakes.

The commenter asks who will perform the annual visual observations of the soil, what qualifications the person will have, what criteria will be used to determine the soil texture and susceptibility to wind erosion, what procedures and criteria will be used during visual inspections, and how the FVMWC has the required expert knowledge to perform such inspections when the FVMWC does not include any independent experts, such as representatives from NPS or USGS. The monitoring required by the GMMMP will be undertaken by the FVMWC and TRP and enforced by the County and will be conducted and evaluated by individuals with the required level of expertise. The Updated GMMMP requires preparation of an air quality monitoring plan to be approved by the County. The commenter is referred to **Master Response 3.8** GMMMP for a discussion on the make up of the FVMWC and TRP and enforcement of the Management Plan. The data acquired by the monitoring will be publically available.

The commenter is concerned that yearly soil inspections are insufficient. As discussed in **Master Response 3.5** Dry Lakes and Dust, the salt crust on the Dry Lakes does not depend on the capillary rise of groundwater. For locations elsewhere in the watershed, as described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-28 to 4.9-31, the depth to groundwater is too deep to provide moisture to surface soils.

Yearly inspections are sufficient since changes in groundwater levels will occur gradually over many years. Frequent site visits to characterize soils would not be necessary.

O_NPCA-CBD *et al.*-56

The commenter states that daily watering of construction sites could lead to invasive vegetation. The watering of construction sites would occur at different points and would vary according to the construction locations. Construction activities and watering for the sites would not occur in any area long enough to establish invasive weeds. If any invasive weeds were found to be

supported by watering, they would not survive long-term without water.

O_NPCA-CBD *et al.*-57

The commenter asserts that allowing trucks to idle for 30 minutes is too long and an arbitrary amount of time. MDAQMD does not provide a standard shutoff period for equipment idling. However, to reduce truck idling further in response to this comment, the mitigation measure has cut in half the time trucks will be allowed to idle, as follows.

AQ-3: The following measures shall be implemented during construction of the proposed Project:

- All equipment shall be maintained as recommended by manufacturer's manuals.
- Idling engines shall be shut down when not in use for over 15~~30~~ minutes.

O_NPCA-CBD *et al.*-58

The commenter states that the Draft EIR fails to adequately reduce dust emissions from fallowed fields because "mitigation will be carried out by the agricultural operator" and this not an enforceable measure. The Draft EIR Vol. 1, Section 4.3 Air Quality, p. 4.3-14 states that agricultural activities are subject to County and MDAQMD management practices to minimize dust emissions. Currently, over one square mile of agricultural land at the Cadiz Inc. property is in a fallowed state as a result of normal agricultural operations. Cadiz Inc. complies with MDAQMD's Rule 403 that requires the agricultural operation to manage fallowed lands in a manner that avoids excessive dust emissions. During construction and Project operations, compliance with the County and MDAQMD's Rule 403, a fully enforceable regulation, would continue to ensure that impacts related to agricultural dust are minimized. The Draft EIR concludes that no additional mitigation measures are needed beyond compliance with Rule 403.

O_NPCA-CBD *et al.*-59

The commenter states that the Draft EIR fails to adequately analyze mobile source emissions and asks for the number of on-road vehicle trips per day and the pollution generated for each trip. The Draft EIR Vol. 1, Section 4.3 Air Quality, p. 4.3-13 states that operation of the Project would result in fewer than three trucks per day travelling less than 20 miles each, on average, for maintenance. The three trucks per day for operations would be a minimal addition of vehicular trips to current traffic in the area. The resulting daily emissions would be less than the significance thresholds. Supporting data is shown in the updated

Appendix E3 Emissions Worksheets Updated, included in Volume 7 of this Final EIR.

During construction, worker commute trips would vary by construction phase with conservative estimates of 100 to 2,500 miles per day per phase estimated in Table 3-5 of the Draft EIR. These trips were derived assuming four workers per vehicle. Actual daily trips would be substantially lower with the use of worker commute buses. Worker access trips would be partially on paved roads and partially on unpaved roads from worker camps depending on construction site locations. Workers would be housed at existing housing in Cadiz when the construction sites are in close proximity, or would camp in designated areas along the pipeline corridor to minimize long-distance site access trips. Up to ten delivery trips per day to staging areas at Cadiz or near the southern terminus of the pipeline from distant off-site locations (150 miles) is assumed. Access to construction sites from staging areas near SR-62 and the National Trails Highway and to and from worker camps would be controlled to minimize dust emissions from unpaved roads to less than significant levels. Daily delivery of pipe and other equipment to construction sites would be via trucks or the railway between the staging areas and construction site. Emissions calculations are provided in Table 4.3-5, which has been updated and included in Final EIR Vol. 6, Chapter 5 Draft EIR Text Revisions. Supporting data is shown in the Draft EIR Vol. 3, Appendix E1 URBEMIS 2007 Output Sheets and E3 Emissions Worksheets which has been updated and included in the Final EIR Volume 7, Chapter 8 Draft EIR Revised Appendices.

As described in the Draft EIR Vol. 1, Section 4.3.3 Air Quality, pp. 4.3-17 to 4.3-18, dust control measures and speed limits will be implemented during construction activities and will be in compliance with the rules and regulations of the MDAQMD. The daily watering requirements are a minimum of twice daily but also require that watering be performed as frequently as needed to prevent excessive dust. These requirements will be incorporated into the construction bid documents and construction contractors will be required to comply with the requirements as a condition of Project approval.

O_NPCA-CBD *et al.*-60

The commenter states that surveys for Mojave fringe-toed lizard, burrowing owl and American badger are inadequate. The Draft EIR provides 20 studies in 9 appendices, plans, and reports

containing technical supporting information. The Project would not affect the springs in the Watershed, including those used by the Mojave fringe-toed lizard, burrowing owl, and American badger. Vegetation and wildlife have no access to the groundwater due to the great depth at which the water table begins (more than 300 feet bgs in the Fenner Gap and approximately 150 feet bgs in Cadiz). Flora and fauna rely on surface water runoff and precipitation. Therefore, the Project does not impact animal or plant access to water. The commenter is also referred to **Master Responses 3.4 Springs and 3.6 Vegetation**.

Potential impacts to mammals, including Nelson's bighorn sheep, burrowing owl, and American badger were found to be less than significant with mitigation and are described in Draft EIR Vol. 1, Section 4.4 Biological Resources, pp. 4.4-24 and 4.4-43. The Draft EIR Vol. 3, Appendix F1 Focused Survey for Desert Tortoise, Habitat Evaluation for Burrowing Owl, and General Biological Resources Assessment provides an extensive assessment of the biological resources within the footprint of the Project that could be affected by construction and operation or the Project. The Draft EIR lists the sensitive wildlife and plant life that exists in the region and reports species identified during surveys of the pipeline corridor and wellfield. The Draft EIR acknowledges that additional surveys are required within the wellfield when final designs are developed that further specify exact locations of well pads, utility lines, and access roads. However, reconnaissance surveys of the wellfield area provided sufficient information, contained in the Draft EIR, to provide a thorough understanding of what species may be present and the Project's potential impacts on biological resources. This comment is further addressed in **Response O_MDLT-2**.

As stated in the Draft EIR on page 4.4-37, field surveys for plants, birds and mammals, included protocol level surveys for the burrowing owl. During the field surveys, the Mojave fringe-toed lizard was observed within sandfields east of Danby Dry Lake along the ARZC ROW; signs of American badgers were found throughout the proposed Project site including the wellfield area and ARZC ROW; and surveys conducted by CMBC found burrowing owls and burrows with owl sign throughout all proposed Project areas. Therefore, these species were investigated during the field surveys for the proposed Project and were determined to be present in the Project area.

Mitigation Measures **BIO-8**, **BIO-10**, and **BIO-11** were included in the Draft EIR to mitigate potential impacts to these three species.

O_NPCA-CBD *et al.*-61

The commenter states that the Draft EIR inadequately analyzes impacts to desert tortoise and needs to provide a data-based estimate of desert tortoise population on the Project site and to analyze avoidance opportunities and methods for minimization of impacts. Surveys conducted by Circle Mountain Biological Consultants, Inc. (CMBC) included in the Draft EIR Vol. 3, Appendix F1 Focused Survey for Desert Tortoise, Habitat Evaluation for Burrowing Owl, and General Biological Resources Assessment established baseline information on the presence and use of desert tortoise throughout the Project area. The Draft EIR Vol. 1, Section 4.4 Biological Resources discusses potential impacts to desert tortoise beginning on p. 4.4-39. As stated in Appendix F1, CMBC contacted CDFG Wildlife Biologist, Jim Sheridan, to inquire about appropriate survey protocol. Mr. Sheridan referred CMBC to the 2010 survey protocol (U.S. Fish and Wildlife Service 2010). USFWS Wildlife Biologist Judy Hohman was also contacted to obtain information regarding survey methodologies. Ms. Hohman recommended that various project components (including staging areas, haul routes, etc) be evaluated together as one project in order to address the need for a well defined action area (Draft EIR Vol. 3, Appendix F1, p.5).

For desert tortoise surveys, protocol first identified by the USFWS in 1992 and recently revised in 2010 was followed. The protocol recommended transects be surveyed at 30-foot intervals throughout the Project impact area and additionally at 655-foot, 1,310-foot, and 1,970-foot intervals beyond the Project perimeter. Protocol-level surveys were performed throughout the pipeline ROW. For the Project wellfield, a survey was conducted of the entire area of potential impact but at greater intervals due to the fact that well locations had not been identified. Since specific well pad locations had not been established, rather than conduct the 30-foot interval survey protocol centered on each specific well pad and access road, a comprehensive grid survey pattern at 100-foot was implemented to provide coverage of the entire potential wellfield area (an area including 10 640-acre sections, 2 320-acre half sections, an additional 160-acre parcel and the 320-acre spreading basin area) to allow evaluation of habitat quality and evidence of tortoise presence / use and

support impact analysis and mitigation measure development in the Draft EIR (Draft EIR Vol. 3, Appendix F1, p.7). This survey approach provided for assessment of the maximum potential action area (area of direct and indirect impact associated with development and use of the wellfield) so that potential impacts to biological resources could be evaluated in the Draft EIR (Draft EIR Vol. 3, Appendix F1, p.5). Surveys of both the pipeline corridor and the wellfield were completed in appropriate months (September and October) in accordance with the USFWS survey protocol.

No living tortoises were found within the wellfield study area, but the survey transects conducted in this 12-square mile area were not sufficiently dense to verify complete absence. Rather, the surveys in the wellfield area were designed to give an indication of tortoise density. In the wellfield, evidence of living tortoise was restricted to two sections in the northeastern corner of the wellfield (Section 17 and 18), with carcasses found in Section 8 and 35. The carcass found in Section 35 appears to have died in the early 1940's and was the only tortoise sign found in the central and western portions of the proposed wellfield. The survey evidence suggests that tortoises are mostly or completely absent from 8 out of the 11 sections comprising the proposed wellfield and are most likely to be encountered in the three easternmost sections and least likely in the remainder of the wellfield (Draft EIR Vol. 3, Appendix F1, p. 19). Although no living tortoises or active burrows were found within the ARZC ROW or wellfield area, individual tortoises may still be impacted if they entered the Project area during construction activities.

Mitigation Measures **BIO-1** through **BIO-7** are presented in the Draft EIR to address potential impacts to the desert tortoise and primarily involve measures to avoid impact altogether during Project construction and operation. Commenter indicates that the EIR needs to analyze avoidance opportunities and also requests that additional detail be provided for some of these mitigation measures. In response to this comment (and comment **O_NPCA-CBD et al.-63**, below) Mitigation Measures **BIO-1** through **BIO-7** have been strengthened and augmented to provide additional detail. The revised Mitigation Measures are included in Chapter 5 Draft EIR Text Changes of this Final EIR. See **Master Response 3.9** Biological Resources.

O_NPCA-CBD *et al.*-62

The commenter states that the Project should avoid designated critical habitat for desert tortoise. All Project facilities will be located outside of desert tortoise critical habitat areas. The desert tortoise critical habitat finalized in 1994 (see discussion of 1994 critical habitat in the Draft EIR Vol. 1, Section 4.4.2 Biological Resources, Figure 4.4-3, p. 4.4-20) extends from the north through the upper Fenner Valley and Southward into the Ward Valley. With respect to the Project facilities, the critical habitat ends just north of the wellfield and extends southward but ends before reaching the ARZC ROW.

The Groundwater Conservation and Recovery Component of the Project would be located adjacent to but outside of designated critical habitat for the desert tortoise (Figure 4.4-3). No portions of the Project area are in either Chemehuevi critical habitat or the associated DWMA. The southwestern boundary of the Chemehuevi DWMA coincides with the southwestern extent of Ward Valley, which approaches the ARZC ROW from the northeast as shown in the Draft EIR Vol. 3, Figure 9 in Appendix F1 Focused Survey for Desert Tortoise, Habitat Evaluation for Burrowing Owl, and General Biological Resources Assessment.

During CMBC's 2010 Desert Tortoise Survey, CMBC found desert tortoise scat, carcasses, and an old burrow along the northern portion of the water conveyance pipeline within the ARZC ROW. The burrow found was not considered to be active. All evidence of living tortoises was found between the north end of the ARZC ROW and Old Woman Mountains, with carcasses found to the south. Tortoises may be absent or occur in very low densities south of Old Woman Mountains and are not considered common anywhere along the ARZC ROW, apparently occurring in low densities along northern reaches. CMBC concluded that tortoises most likely do not reside along the ARZC ROW, but may occasionally enter into the ARZC ROW portion of the Project. Though not detected at the conceptual spreading basin area, habitats there are among the least impacted and most suitable, and tortoise(s) may occur there. Schuyler Wash (depicted in the Draft EIR Vol. 3, Appendices F2 Streambed Delineation, Figure 5) also appears to be an important resource to tortoises. Tortoises may use this wash as a travel corridor, and/or they are relying on resources provided by the wash, apparently concentrating their use in this area.

As revised (see Final EIR Vol. 6, Chapter 5 Draft EIR Text Revisions) Mitigation Measures **BIO-1** through **BIO-7** would reduce potential impacts to desert tortoise to less than significant levels. This data is described in detail in the Draft EIR Appendix F1.

O_NPCA-CBD *et al.*-63

The comment states that population numbers of affected tortoise are not identified. As stated in **Response O_NPCA-CBD *et al.*-61**, the surveys in the wellfield area were designed to give an indication of tortoise density. This level of effort was sufficient for purposes of preparing the Draft EIR analysis. An exact count would not change any of the recommended mitigation measures which are designed to avoid any harm to the desert tortoise.

None of the temporarily or permanently affected areas are within special conservation areas or designated critical habitat for desert tortoise or areas with high habitat value or high-densities of individuals, except for the observation well within the Piute Wash Watershed, which would be within desert tortoise designated critical habitat. However, compensating at a 1:1 ratio for permanently affected habitat and at a 0.5:1 for temporarily impacted habitat as identified in Mitigation Measure **BIO-7** would ensure that impacts to desert tortoise through habitat reduction resulting from Project construction activities would be less than significant.

O_NPCA-CBD *et al.*-64

The commenter states that the Draft EIR fails to adequately assess impacts to bighorn sheep. The Draft EIR discusses impacts to Nelson's bighorn sheep in the Draft EIR Vol. 1, Section 4.4 Biological Resources, p. 4.4-43. None of the Project facilities would be constructed within Bighorn Sheep Wildlife Habitat Management Areas. Nelson's bighorn sheep prefers habitat primarily on or near mountainous terrain above the desert floor. Bighorn sheep habitat designated by BLM is located around the proposed Project areas (see p. 4.4-25, Figure 4.4-4) to the northeast and northwest. They generally avoid the valley floors except to cross from one mountain range to the other. Figure 4.4-4 identifies areas potentially used by bighorn sheep to migrate between mountain habitats, including the connection between the Ship and Marble Mountains and the connection between the Old Woman and Iron Mountains.

Nelson's bighorn sheep have not been observed during field surveys, but suitable habitat is present within the adjacent and

surrounding mountain ranges. This species may enter the Project site and the surrounding desert area while foraging during winter months.

No permanent linear fencing or linear barriers would be installed as part of the Project that would impede movement by wildlife. Fences would surround well pads and potentially other structures along the pipeline ROW. However, these would not truncate habitat or create linear barriers that would impede wildlife movement. Wildlife would be able to navigate around these fences with ample space even for larger mammals such as the bighorn sheep. Temporary construction exclusion fencing would follow the construction activities but would not result in permanent barriers to wildlife movement. Well drilling would occur 24-hours a day for several weeks for each well. During these activities, construction activity would be continual and would deter wildlife in the immediate vicinity. However, the distances between well sites (approximately 1,500 feet) would leave ample room for wildlife movement from one side of the valley to the other. Construction of the proposed Project would not affect the habitat or movement of the bighorn sheep.

O_NPCA-CBD *et al.*-65

The commenter states that the Project might adversely impact seeps, springs, and water sources used by bighorn sheep. Please see **Master Response 3.4 Springs**.

The commenter states that the Springs Fieldwork was not included in Appendix H4. The Springs Fieldwork, Plates 1-11 was included in the Draft EIR Vol. 4, Appendix H4 Springs Fieldwork.

O_NPCA-CBD *et al.*-66

The commenter states that some investigators have concluded that the effects of climate change will result in warming and drying that will affect vegetation and thus the effects on precipitation and recharge in the Bristol, Cadiz, Fenner, and Orange Blossom Wash Watersheds are not uncertain, as the Draft EIR states. To the contrary, climate change predictions are inherently difficult to make because of the enormous amount of data and numerous assumptions that go into climate models. Using climate change predictions to then pre-determine weather patterns over multiple decades adds to the uncertainty. As discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-10 to 4.9-15, climate change may alter vegetation and precipitation trends in the Mojave Desert.

However, the specific effects on vegetation in the Project watersheds are uncertain and not related to Project effects. This is the case because there is enough existing native storage in the basin to serve the Project without undesirable results even if recharge is limited to only 5,000 AFY. This comment is further addressed in **Responses A_NPS-52, O_OCC1-7, and O_NPCA-CBD *et al.*-92 and 93.**

O_NPCA-CBD *et al.*-67

The commenter states that the Draft EIR fails to evaluate the impacts to lizard species from sand transport changes caused by the Project and fails to evaluate the impacts of the Project on lizard breeding and foraging habitat, including in areas outside of the Project site. The Mojave fringe-toed lizard is not a listed species under the ESA or CESA, but it is a California Species of Concern and a BLM-sensitive species. Suitable habitat for the Mojave fringe-toed lizard is only present along the pipeline route where loose sandy habitat is present east of Danby Dry Lake. This species was observed during surveys conducted by CMBC in 2010 within sandfields east of Danby Dry Lake along the ARZC ROW. The sandfields located within the ARZC ROW that would be directly affected by construction are confined to small areas near Danby Dry Lake.

Habitat for the lizard is dependent on the availability of wind-blown sand. Once construction is complete, wind-blown sand would accumulate in patterns similar to existing conditions, providing foraging and breeding habitat for the lizard. The Project would not interfere with lizard activity since the large Cadiz Dunes Wilderness Area would not be accessed or otherwise affected in any way by the Project. Direct impacts to the species would be reduced to a level less than significant through implementation of Mitigation Measure **BIO-8**. See also **Master Response 3.9** Biological Resources.

O_NPCA-CBD *et al.*-68

The commenter states that the Draft EIR failed to adequately assess impacts to kit fox. All mammal species observed or determined present by sign, with the exception of pallid bats, are considered relatively common to remote desert areas, including the kit fox (*Vulpes macrotis*).⁴⁵ The kit fox are not considered special-status species because they are not rare or protected under the FESA or CESA. Please refer to Draft EIR Vol. 3, Appendix F1 Focused Survey for Desert Tortoise, Habitat Evaluation for Burrowing Owl, and General Biological

⁴⁵ CMBC, 2011

Resources Assessment for additional information regarding kit fox; inactive kit fox dens are numbered and shown on Exhibit I10 of Appendix F1. Passive relocation is not suggested for the Project since the species are common and active dens were not located.

O_NPCA-CBD *et al.*-69

The commenter states that the Draft EIR failed to adequately assess impacts to American badger. As stated in the Table 4.4-1, suitable habitat for badger is present within the Project study area. No American badgers or primary burrow systems were observed during CMBC surveys in 2010; however, evidence of their foraging (digs) was apparent throughout all the proposed Project areas surveyed. As part of the burrowing owl habitat assessment conducted in 2010, surveyors collected UTM coordinates for 53 badger digs along the ARZC ROW and 59 digs in the surveyed wellfield areas. Installation of the pipeline and construction of ancillary facilities is not likely to kill any badgers but may cause them to disperse, which is not considered significant impact. See Draft EIR Vol. 3, Appendix F1 Focused Survey for Desert Tortoise, Habitat Evaluation for Burrowing Owl, and General Biological Resources Assessment, p. 46. Further, Mitigation Measure **BIO-11** was proposed to ensure that impacts to this species would be reduced to a less than significant level.

O_NPCA-CBD *et al.*-70

The commenter states that compensation acreage needs to be established for burrowing owl. Impacts to burrowing owl are discussed in the Draft EIR Vol. 1, Section 4.4 Biological Resources, p. 4.4-43 and pp. 4.4-47 to 4.4-48. Since the Project is a low intensity development, the entire Project area will continue to be suitable for burrowing owl habitat following construction. As a result, no compensation property is required for this non-listed species.

O_NPCA-CBD *et al.*-71

The commenter states that the Draft EIR fails to evaluate potential impacts to golden eagles. The golden eagle is identified as potentially present in Draft EIR Vol. 1, Section 4.4 Biological Resources, p. 4.4-42. The golden eagle nests on cliffs of all heights and in large trees near open areas. No nests were observed in the Project area. The Biological Resources Reports prepared for the Project (Draft EIR Vol. 3, Appendix F) indicate that the golden eagle is not likely to nest or forage in the area. Although this species was observed west of the Iron Mountains during field surveys conducted in 1999 it was not observed

during the more recent survey. The Draft EIR concludes that this species is not expected to nest or forage in the Project area. Due to the low intensity development of the proposed Project, impacts to eagles and foraging habitat would be minimal. Therefore, golden eagle take permit under the Bald and Golden Eagle Act is not warranted.

O_NPCA-CBD *et al.*-72

The commenter states that impacts to cryptobiotic soils, or areas that exhibit “desert pavement,” could increase dust emissions in the Project area. The Draft EIR discusses cryptobiotic soils in Vol. 1, Section 4.4 Biological Resources, p. 4.4-49. The Draft EIR concludes that areas with cryptobiotic soils or areas that exhibit “desert pavement” could be impacted due to construction equipment operating within the Project footprint. However, due to the small extent of disturbance, air emissions would not be increased substantially. Please also see **Master Response 3.5** Dry Lakes and Dust.

O_NPCA-CBD *et al.*-73

The commenter states that the Draft EIR fails to identify wildlife connectivity impacts. Wildlife movement corridors are discussed in the Draft EIR Vol. 1, Section 4.4 Biological Resources, p. 4.4-27. Impacts to Wildlife movement corridors are on page 4.4-52. The analysis concludes that due to the lack of linear impediments such as fences and public roads and due to the low intensity development from the Project, impacts would be less than significant. See **Response O_NPCA-CBD *et al.*-64**.

O_NPCA-CBD *et al.*-74

The commenter states that the Draft EIR inadequately identifies plant communities. Plant communities found in the Project area are described beginning in the Draft EIR Vol. 1, Section 4.4 Biological Resources, p. 4.4-2. Mojave Wash Scrub is described in detail. Biological surveys documented in the Draft EIR Vol. 3, Appendices F2 Streambed Delineation and F3 Rare Plant Survey Report describe habitats and vegetation found in the Project area. No listed species were identified in the surveys.

O_NPCA-CBD *et al.*-75

The commenter asserts that the Draft EIR fails to cover all species named under the San Bernardino County desert Native Plant Protection Ordinance, as well as species identified in the State Desert Native Plants Act, which is incorporated into the County Protection Ordinance. The commenter further states that efforts to transplant desert plants are generally ineffective. The Project permanent footprint consists of up to 113 acres (Table 4.4-2) in the wellfield and the remainder would be within the

existing ARCZ ROW, with a total Project footprint of less than 250 acres. The large area within which the wells may be sited allows for considerable flexibility to avoid removal of the native plants listed in **BIO-16**. To the extent avoidance is not possible, efforts will be made to relocate the plants pursuant to **BIO-17**. If relocation is unsuccessful, the impacts would remain less than significant due to the Project's limited footprint. The County Native Plant Ordinance is referenced in the Draft EIR to demonstrate consistency of the mitigation measures with the local plan policies even though SMWD is exempt from such compliance. SMWD would voluntarily coordinate with the County to ensure consistency with applicable ordinances (see Draft EIR Vol. 1, Section 4.4 Biological Resources, p. 4.4-33).

O_NPCA-CBD *et al.*-76

The commenter states that the Draft EIR fails to adequately assess impacts to rare plants. The commenter also states that the rare plant survey relied on in the EIR was only a "draft." A rare plant survey was conducted in the Project area during the spring of 2011, during the flowering period for rare plants, pursuant to CDFG rare plant survey guidelines. The report included in the Draft EIR is the final rare plant survey report. The cover page has been updated in the Final EIR to show it is a final document, and is included as Final EIR Vol. 3, Appendix F3 Rare Plant Survey Report Updated. The survey identified no rare plants in the impact area. Mitigation Measure **BIO-14** in Draft EIR Vol. 1, Section 4.4 Biological Resources requires additional surveys to be conducted prior to construction and avoidance measures to be implemented during construction. Implementation of this mitigation measure provides sufficient protection for rare plants including the plants listed in the County Ordinance from which SMWD is exempt. SMWD would voluntarily coordinate with the County to ensure consistency with applicable ordinances.

O_NPCA-CBD *et al.*-77

The commenter states that the evaluation of phreatophytes in the Draft EIR is flawed and known phreatophytic vegetation including palo verde, smoke tree, and cat's claw were not analyzed. The presence of these species is known in the Project area as discussed in Section 4.4 Biological Resources. Surveys were conducted at the right time of year for detecting these species. These species may have deeper roots that access groundwater, but they do not rely exclusively on groundwater. The depth to groundwater for fresh water is too deep to support even deep-rooted plants. The comment indicates that some plants have roots up to 200 feet deep. No citation for this claim or plant

species was provided as evidence of this claim. None of the plant species identified in the Project area are known to have roots in excess of 25 feet as documented in the literature cited in the Draft EIR. Some plants could access groundwater if it were available, but there is no indication of this occurring as described in the special study conducted to evaluate this issue in the Project area included in the Final EIR Vol. 7, Appendix F4 Vegetation, Groundwater Levels and Potential Impacts from Groundwater Pumping Near Bristol and Cadiz Playas Updated. As described in this study, lowering the groundwater will have no effect on surface vegetation. Although the four-wing saltbush is found at the margin of Bristol Dry Lake, the depth to groundwater at this location is over 65 feet. The roots of the four-wing saltbush, which extend 13 to 25 feet bgs, do not descend deep enough to reach or depend upon groundwater at this location. This phreatophytic plant is called a facultative phreatophyte because it can benefit from but does not depend upon groundwater. This comment is further addressed in **Master Responses 3.5** Dry Lakes and Dust, **3.9** Biological Resources, and **3.6** Vegetation.

O_NPCA-CBD *et al.*-78

The commenter states that mitigation measures with plans for future surveys, such as the Desert Tortoise Avoidance and Protection Plan and a Habitat Compensation Plan, are inadequate because the surveys should be conducted and included in the EIR.

Each of the plans must include specific objective performance criteria pursuant to CEQA Guidelines section 15126.4. Future studies are permissible if coupled with measures designed to address impacts identified in the study.⁴⁶ And a lead agency may rely on future studies to tailor mitigation measures to fit the on-the-ground environmental conditions.⁴⁷

The additional plans suggested in the comment are each components of the Sensitive-Status Species and Sensitive Habitat Restoration Plan and Waters of the State Mitigation Plan. As noted in **BIO-8**, no translocation plan for Mojave fringe-toed lizard is required. Mitigation Measure **BIO-12** and **BIO-13** would ensure that roosting bats are not affected through avoidance. **BIO-9** would ensure that other nesting birds are not adversely affected through impact avoidance. No passive

⁴⁶ *Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1275.

⁴⁷ *National Parks & Conservation Ass'n v. County of Riverside* (1999) 71 Cal.App.4th 1341, 1366.

relocation plans are necessary or are proposed for the kit fox or American badger. Implementation of **BIO-10** is sufficient to protect burrowing owl in accordance with the California Burrowing Owl Consortium guidelines. Raven reduction plans are not suggested, but measures in **BIO-3** to reduce attraction to ravens would ensure minimal attraction to these predators. The Draft EIR includes these important protection measures. No additional plans are needed.

O_NPCA-CBD *et al.*-79

The commenter states that the Project must comply with the Endangered Species Act. The comment is noted. The commenter also states that more information is needed about avoidance or minimization measures for the desert tortoise. The commenter is referred to **Response O_NPCA-CBD *et al.*-61**.

O_NPCA-CBD *et al.*-80

The commenter expresses opinion regarding the inadequacy of the cumulative impacts analysis for biological resources. The Draft EIR Vol. 1, Chapter 5 Cumulative Impacts provides an extensive assessment of cumulative impacts including impacts to biological resources. All Project impacts to Biological Resources would be mitigated to a level of less than significant. The only formally listed species with potential to occur in the Project area is the desert tortoise. However, the Project will not be located in any Desert Wildlife Management Areas or within desert tortoise critical habitat. The Draft EIR confirms that the Project would not permanently affect more than 250 acres of desert that supports marginal quality desert tortoise habitat (Draft EIR Vol. 1, Section 4.4 Biological Resources, Table 4.4-2). Harm to desert tortoise would be avoided through implementation of a comprehensive set of monitoring and mitigation measures that reduce to less than significant interference with desert tortoise and impairment of the marginal desert tortoise habitat. See Mitigation Measures **BIO-1** through **BIO-7**. The Project's contribution to the cumulative effects on desert tortoise from all the development in the desert which includes tens of thousands of acres affected by approved and planned solar projects is minimal and not considered to be significant due to the marginal habitat quality, low tortoise densities, and avoidance of critical habitat. Accordingly, the Project's impact on desert tortoise and its habitat would not be cumulatively considerable.

O_NPCA-CBD *et al.*-81

The commenter asks how cultural resources were identified during surveys. As the commenter notes, a cultural resources surface survey of the pipeline Project area was conducted;

however, no subsurface testing or excavation has been conducted to date. During the surface survey, archaeologists inspected road cuts, washes and other areas that were visibly eroding, and rodent burrows for any evidence of buried archaeological resources; none was observed. The Draft EIR acknowledges that the Project may encounter a buried or otherwise obscured cultural resource during construction and could have a significant impact on that resource (please see the Draft EIR Vol. 1, Section 4.5 Cultural Resources, p. 4.5-43). Mitigation Measure **CUL-6** and **CUL-7** would mitigate such potential impacts to a less-than-significant level. Mitigation Measure **CUL-6** would require an archaeological monitor to be present during ground-disturbing activities within 100 feet of significant resources, and Mitigation Measure **CUL-7**, which provides contingency measures for the accidental discovery of cultural resources during Project implementation. Destructive subsurface testing is not recommended by the Cultural Resources Report or required.

The commenter states that the wellfield area has not been surveyed for cultural resources. A portion of the wellfield area was previously surveyed and 16 resources were identified. See Draft EIR, p. 4.5-29. Due to the large area within which the wells will be placed, mitigation measures were proposed to ensure the wellfield is configured to avoid impacts to cultural resources. Since the preparation of the Draft EIR, additional field surveys were conducted to identify additional resources. A cultural resources survey of the footprint of the proposed well pads, connector pipeline, and access roads, as well as CRA tie-in Options 2a and 2b, and proposed staging areas, was conducted between May 15 and June 2, 2012, which is summarized in the Final EIR Vol. 7, Appendix O Cultural Resources Survey Report – June 2012. Survey methods were similar to those used during survey of the water conveyance pipeline in 2010, with surveyors using transects of no greater than 15 meters. A 100-foot buffer around proposed well pads, access roads, and connector pipelines was surveyed. Staging areas and CRA tie-in Option areas were surveyed in their entirety, with no buffer. A total of 53 resources were identified as a result of the survey, including 45 new archaeological sites, five isolates, and three previously recorded archaeological sites. No built environment resources were identified during the survey. Ten of the new archaeological sites are prehistoric, 34 are historic-era, and one contains both prehistoric and historic-era components. Based on their lack of

data potential, the five isolates and six of the historic-era archaeological sites are recommended not eligible for listing in the National Register of Historic Places or California Register of Historical Resources, and are not considered historical resources or unique archaeological resources under CEQA. The remaining 42 archaeological sites are potentially significant historical resources and, therefore, subject to Mitigation Measures **CUL-1** through **CUL-7**. See Appendix O.

If significant historical resources are located in the proposed pipeline, well pad or access road areas, the Project would be redesigned or relocated to entirely avoid the resources, consistent with Mitigation Measure **CUL-2**. The well pads would each require up to 10,000 square feet (0.25 acres) of land. Access roads would be 25 feet wide. The exact locations of the wells and access roads are easily relocated within a quarter mile area. This provides ample room to avoid any significant historical resources. Significant resources within the staging areas and CRA tie-in area would also be avoided where feasible. If significant historical resources cannot be avoided, a treatment plan for these resources would be prepared and implemented, as required by Mitigation Measure **CUL-4**. The surveys confirm the Draft EIR's finding that construction of the wellfield or work in the staging areas could impact previously unknown historical and archeological resources such that the implementation of Mitigation Measures **CUL-1**, **CUL-2**, **CUL-3**, **CUL-4**, **CUL-5**, **CUL-6**, and **CUL-7** are required to reduce those potentially significant impacts to a less than significant level.

O_NPCA-CBD *et al.*-82

The commenter states that the Draft EIR fails to adequately assess the ineligibility of cultural resources. The commenter is referred to the Draft EIR Vol. 1, Section 4.5 Cultural Resources, p. 4.5-26, where an explanation is provided as to why the 31 cultural resources were determined to be ineligible for listing in the CRHR. Further, the lead agency does not consider these resources to be historical resources per CEQA Guidelines §15064.5(a)(4) as there is no evidence that the 31 historic era resources satisfies the criteria of Public Resources Code section 5020.1(j) [historically or archaeologically significant, or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California] or section 5024.1 [the standards for

eligibility for the CRHR]. The Draft EIR correctly evaluates all resources under each of the definitions provided in CEQA Guidelines §15064.5(a), and under the definitions of unique archaeological resources provided in PRC Section 21083.2. As stated on p. 4.5-26 of the Draft EIR, in addition to not meeting the eligibility criteria for the CRHR, the 31 resources “do not otherwise meet CEQA’s definitions for historical resources and unique archaeological resources.”

O_NPCA-CBD *et al.*-83

The commenter states that the wellfield area has not been surveyed for cultural resources. A portion of the wellfield area was previously surveyed and 16 resources were identified. See Draft EIR, p. 4.5-29. Due to the large area within which the wells will be placed, mitigation measures were proposed to ensure the wellfield is configured to avoid impacts to cultural resources. Since the preparation of the Draft EIR, additional field surveys were conducted to identify additional resources. A cultural resources survey of the footprint of the proposed well pads, connector pipeline, and access roads, as well as CRA tie-in Options 2a and 2b, and proposed staging areas, was conducted between May 15 and June 2, 2012, which is summarized in the Final EIR Vol. 7, Appendix O Cultural Resources Survey Report – June 2012. Survey methods were similar to those used during survey of the water conveyance pipeline in 2010, with surveyors using transects of no greater than 15 meters. A 100-foot buffer around proposed well pads, access roads, and connector pipelines was surveyed. Staging areas and CRA tie-in Option areas were surveyed in their entirety, with no buffer. A total of 53 resources were identified as a result of the survey, including 45 new archaeological sites, five isolates, and three previously recorded archaeological sites. No built environment resources were identified during the survey. Ten of the new archaeological sites are prehistoric, 34 are historic-era, and one contains both prehistoric and historic-era components. Based on their lack of data potential, the five isolates and six of the historic-era archaeological sites are recommended not eligible for listing in the National Register of Historic Places or California Register of Historical Resources, and are not considered historical resources or unique archaeological resources under CEQA. The remaining 42 archaeological sites are potentially significant historical resources and, therefore, subject to Mitigation Measures **CUL-1** through **CUL-7**. See Final EIR Appendix O.

If significant historical resources are located in the proposed pipeline, well pad or access road areas, the Project would be redesigned or relocated to entirely avoid the resources, consistent with Mitigation Measure **CUL-2**. The well pads would each require up to 10,000 square feet (0.25 acres) of land. Access roads would be 25 feet wide. The exact locations of the wells and access roads are easily relocated within a quarter mile area. This provides ample room to avoid any significant historical resources. Significant resources within the staging areas and CRA tie-in area would also be avoided where feasible. If significant historical resources cannot be avoided, a treatment plan for these resources would be prepared and implemented, as required by Mitigation Measure **CUL-4**. The surveys confirm the Draft EIR's finding that construction of the wellfield or work in the staging areas could impact previously unknown historical and archeological resources such that the implementation of Mitigation Measures **CUL-1**, **CUL-2**, **CUL-3**, **CUL-4**, **CUL-5**, **CUL-6**, and **CUL-7** are required to reduce those potentially significant impacts to a less than significant level.

O_NPCA-CBD *et al.*-84

The comment states that two resources (Resource CA-SBR-9853H and Resource CA-SBR-11583H) were not effectively analyzed. As summarized in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-47, construction and operation of Project facilities within the ARZC ROW would occur without affecting the operation of the railroad, and the railroad (i.e. resource CA-SBR-9853H) would not be physically impacted by Project construction. The pipeline would be installed at least 50 feet from the railroad, except where railroad crossings would be required. These crossings would be achieved through jack and bore or directional drilling methods and would be installed, maintained, renewed, and repaired at a depth of not less than five feet below the base of the rail. The jack and bore methodology uses a horizontal drilling technique where the drill bit is followed as the drilling proceeds by a pipe that supports all sides of the borehole or tunnel. This technique does not disturb the ROW in any way and does not interrupt rail service. Approvals from the railroad and CPUC would be required to install the under-crossings.

Following installation of the Water Conveyance Pipeline, the ROW would be restored to its previous condition. Spoils from the trenching would be spread around the construction zone to minimize mounding; no spoils would be hauled off site. The

additional soils would slightly alter the topography of the ROW. See Draft EIR pp. 4.1-19 and 4.6-35. Therefore, there would be no impacts to the visual character of the resource, nor to its integrity or ability to convey its historic significance.

Resource CA-SBR-11583H (Cadiz-Parker Road) would not be significantly impacted by the proposed Project. Resource CA-SBR-11583H was recommended eligible for listing in the CRHR under Criterion 1 based on its association with the construction of the ATSF Parker Cutoff and the early settlement of the region. The road is currently unpaved and unmaintained, and appears to have been unpaved throughout its existence. The proposed Project would not alter the historic alignment of the road, nor would it change the general appearance of the road; therefore, the Project would not affect the resource's integrity. The use of the road for the transportation of heavy machinery would not affect the resource's ability to convey its significance under Criterion 1, since the criteria focuses on its geographic association with the development of the railroad, not the physical condition of its surface. Therefore, project-related impacts will not result in a substantial adverse change in the significance of resource CA-SBR-11583H and the impacts anticipated to the resource are considered less than significant.

O_NPCA-CBD *et al.*-85

The commenter states that the wellfield area has not been surveyed for cultural resources. See **Response O_NPCA-CBD et al.-83**.

O_NPCA-CBD *et al.*-86

The commenter expresses a general concern that inappropriate time frames and estimated water recharge rates are used. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

The commenter states that the mitigation measures for subsidence would occur after the subsidence had already occurred. As discussed in the Updated GMMMP (Vol. 7, Appendix B1 Updated GMMMP, Sections 5.6 and 5.7), the monitoring measures for subsidence are designed to detect subsidence and trigger corrective measures before action levels are exceeded. This comment is further addressed in **Master Response 3.8** GMMMP.

O_NPCA-CBD *et al.*-87

The commenter asserts that the use of a 50-year recovery period is inadequate and that a longer recovery period should have been used. The Draft EIR did not choose a recovery period, but rather

ran models to determine what the recovery period would be under each of the recharge scenarios (32,000 AFY, 16,000 AFY, and 5,000A AFY). The recovery periods for three scenarios are discussed in detail in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-63 to 4.9-72. Under the Project Scenario (32,000 AFY), the predicted recovery period is 67 years (p. 4.9-66). This comment is further addressed in **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.3** Groundwater Pumping Impacts.

O_NPCA-CBD *et al.*-88

The commenter states that the recharge rate for the Project Scenario should be 16,000 AFY. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. See also the Draft EIR Vol. 4, Appendices H1 Cadiz Groundwater Modeling and Impact Analysis, H2 Supplemental Assessment of Pumping Required, and H5 Addendum to September 1, 2011 Cadiz Groundwater Modeling and Impact Analysis.

O_NPCA-CBD *et al.*-89

The commenter states that if the model used 50,000 AFY as the average annual pumping rate, then the model results might be unreliable if the pumping rate varies between 25,000 and 75,000 AFY. As discussed in the Draft EIR (Vol. 4 Appendix H2 Supplemental Assessment of Pumping Required, p. 3), the model was also run to model the aquifer response to varying the pumping rate between 25,000 and 75,000 AFY, while maintaining the long-term average of 50,000 AFY. Based on the model, pumping at the higher rate (75,000 AFY) increases the conservation benefits of the Project by achieving hydraulic control more quickly (Appendix H2, p. 10).

The commenter requests an explanation for the use of 50,000 AFY in the groundwater model. This comment is addressed in the response to comment **O_NPCA-CBD *et al.*-42** and **Master Response 3.1** Groundwater Recharge and Evaporation.

O_NPCA-CBD *et al.*-90

The commenter states that the corrective measures described in the Draft GMMMP (Draft EIR Vol. 2, Appendix B1 Draft GMMMP) will be implemented too late to mitigate impacts with respect to subsidence. Mitigation Measure **GEO-1**, which is also included in the Draft and Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP), includes monitoring features that are designed to detect potential impacts before resources have been impacted and to allow enough time to prevent

negative effects. The commenter is referred to **Master Response 3.8** GMMMP.

The commenter also expressed concern regarding what constitutes “an adequate time and the effectiveness of each corrective action.” As described on pages 4.6-35 through 4.6-38 of the Draft EIR, the model predicts that subsidence, if any, would occur gradually and be dispersed laterally with minimal impacts. Nonetheless, Mitigation Measure **GEO-1** and the Updated GMMMP include measures to monitor land subsidence trends on an annual basis and corrective measures to be implemented in the unlikely event that the land subsidence response is outside of the action criteria. A network of extensometers will be installed to monitor subsidence in the area of the wellfield and near the Dry Lakes. Subsidence is predicted to occur slowly, fractions of an inch per year. If subsidence occurs at greater rates, corrective measures will be implemented to either arrest the rate of subsidence or mitigate subsidence effects to surface resources. With cessation of pumping, groundwater elevations will be stabilized and subsidence will be arrested. (See **Master Response 3.3** Groundwater Pumping Impacts) Mitigation Measure **GEO-1** and the Updated GMMMP include three extensometers that monitor continuously, annual benchmark surveys, and InSAR monitoring at five year intervals to closely monitor for any land subsidence. As shown by the subsidence modeling (Draft EIR pp. 4.6-35 through 4.6-38), subsidence occurs gradually over time as groundwater levels are lowered, so the proposed monitoring program will capture the onset of subsidence and its trends, which will be used to refine further projections into the future. The Updated GMMMP includes annual review of monitoring data and 5-year updates to the groundwater modeling assessments. These 5-year updates will use the monitoring data to make any refinements to the models and actual operations of the Project. The groundwater models will be used to update projections to groundwater level responses, saline water migration, and subsidence to assess if there are any differences (meaning more adverse impacts) between the updated projections and projections completed for the EIR. The purpose of these 5-year updates are to ensure compliance with the findings of the EIR and address potential impacts before they happen as opposed to after they happen.

O_NPCA-CBD *et al.*-91

The commenter states that the mitigation measure cannot arrest subsidence. As described in Mitigation Measure **GEO-1** and the

Updated GMMMP, each of the monitoring features are designed to detect potential impacts before critical resources have been impacted and to allow enough time to prevent negative effects. As explained in the Draft EIR Vol. 1, Section 4.6.3 Geology and Soils, pp. 4.6-29, the model predicts that subsidence, if any, would occur gradually and be dispersed laterally with minimal impacts. Nonetheless, land and surface would be monitored and, if subsidence is detected under and early warning criteria, corrective measures would be triggered as explained in the Updated GMMMP, Section 6.3. See Final EIR Vol. 7, Appendix B1 Updated GMMMP and **Response O_NPCA-CBD *et al.*-90**.

As discussed in Mitigation Measure **GEO-1** and the Updated GMMMP, the corrective measures first consider repairs to structures or mitigation agreements to impacted parties, since it is recognized that some subsidence may be inelastic, that is, non-recoverable. In the event that the initial corrective measures are ineffective or infeasible, then the Project operations will be modified, including cessation of pumping to stop the withdrawal of groundwater from areas most affected, as described in **Master Response 3.8** GMMMP. The Updated GMMMP includes annual review of monitoring data and 5-year updates to the groundwater modeling assessments. These 5-year updates will use the monitoring data to make any refinements to the models and actual operations of the Project. The groundwater models will be used to update projections to groundwater level responses, saline water migration, and subsidence to assess if there are any differences (meaning more adverse impacts) between the updated projections and projections completed for the EIR. The purpose of these 5-year updates are to ensure compliance with the findings of the EIR and address potential impacts before they happen as opposed to after they happen

O_NPCA-CBD *et al.*-92

The commenter states that the greenhouse gas (GHG) emissions analysis is insufficient in that it does not establish a benchmark. As stated in Section 4.7.3, Methodology in the Greenhouse Gas Emissions of the Draft EIR, there is no agreed consensus in the State of California among CEQA lead agencies regarding the analysis of global climate change and the selection of significance criteria. To date, CARB has not adopted significance thresholds for GHG but has left the thresholds to individual agencies and to recommendations from regional air districts. In August 2011, MDAQMD staff published CEQA guidelines that set a GHG threshold at 100,000 MTCO₂E. The

Project's contribution would be well below this threshold. However, other air districts and CARB have discussed or implemented various standards as summarized in the Draft EIR Vol. 1, Section 4.7 Greenhouse Gas Emissions, p. 4.7-16. Therefore, as the lead agency for the proposed Project, SMWD has elected, for this Project, to use the GHG significance threshold adopted by the South Coast Air Quality Management District (SCAQMD) for certain industrial uses. The SCAQMD has adopted an interim operational significance threshold of 10,000 MTCO₂e per year for stationary sources where SCAQMD is the lead agency. Given the proposed Project's proximity to the SCAQMD, SMWD believes that the SCAQMD's significance threshold is the most conservative and relevant air district-adopted GHG significance threshold to use as a benchmark for the Project. For additional GHG discussion, see also **A_MWD-6**.

O_NPCA-CBD *et al.*-93

The commenter states that if the precipitation pattern changes to less snow and more rain, then the seepage rate would also decline. This assertion is unsupported. Winter precipitation that falls as rain instead of snow will still fall within a closed watershed. As such, the runoff will still flow over the same bedrock fractures and permeable alluvial cover that the melted snow would have flown over once it had melted when temperatures warmed up in the spring and summer. In addition, during the winter, the relatively cooler temperatures would also result in lower evaporation rates, which in turn would result in greater infiltration of surface water runoff into the aquifer system to depths below the extinction depth (the depth below which evaporation is negligible). Furthermore, the groundwater that will be extracted by the Project and saved from evaporation is already in storage, and would not be affected over the 50-year life of the Project by changes in weather patterns. Furthermore, the impacts analysis presented in the Draft EIR utilized 3 estimates of recharge, 5,000 AFY, 16,000 AFY and 32,000 AFY, in order to evaluate worst case precipitation pattern scenarios. Given this, the impacts of groundwater extraction, even considering a precipitation pattern change, would remain less than significant with implementation of the GMMMP regardless of the potential for precipitation patterns to change as a result of climate change.

O_NPCA-CBD *et al.*-94

The commenter suggests that other potential mitigation measures in CARB's Recommended Action Table (Draft EIR Vol. 1,

Section 4.7 Greenhouse Gas Emissions, Table 4.7-2) apply to the Project and questions why only Measures W-1 through W-5 were selected as the parameters of the impact analysis for GHGs. As discussed in Section 4.7, CARB has identified a list of GHG reduction strategies by sector. Significant reductions are needed in the transportation, electricity, commercial and residential, and industrial sectors, as well as contributing reductions from the other sectors of the economy. The proposed Project is considered a water sector project, and as such, Measures W-1 through W-5 were selected for review in the Draft EIR.

O_NPCA-CBD *et al.*-95

The commenter expresses general concerns regarding the data, process, and analyses of the technical models discussed in the Draft EIR. This comment is addressed in **Responses O_NPCA-CBD *et al.*-96-154** as well as in **Master Response 3.1** Groundwater Recharge and Evaporation for data input and **Master Response 3.2** Groundwater Modeling for data input and model process and analysis.

O_NPCA-CBD *et al.*-96

The commenter notes that subsequent comments are supported by reports attached to the Comment Letter from John Bredehoeft and Johnson Wright, Inc. (Andrew Zdon). The Bredehoeft letter provided by the commenter and dated March 4, 2012, is largely a reprisal of his comment letter on the 2001 project that was considered by the Metropolitan Water District. The February 1, 2012 report from Johnson Wright was provided with the comment letter. Comments from both letters are addressed in **Responses O_NPCA-CBD *et al.*-97** through **154**, **O_NPCA-CBD *et al.*-AttachmentA-1** through **A-44 (Johnson and Wright)**, **O_NPCA-CBD *et al.*-AttachmentB-1** through **B-9 (Bredehoeft)**, as well as in **Master Responses 3.1** Groundwater Recharge and Evaporation, **3.2** Groundwater Modeling, and **3.3** Groundwater Pumping Impacts.

O_NPCA-CBD *et al.*-97

The commenter states that previous recharge estimates, particularly rates provided in 2001 by USGS, should be more closely considered by the Project. The recharge estimates relied on by the Project were derived through application of a 2008 USGS model as well as extensive site specific data. Furthermore, the impacts analysis presented in the Draft EIR utilized 3 estimates of recharge, 5,000 AFY, 16,000 AFY and 32,000 AFY, in order to evaluate worst case scenarios. Even in these cases, no significant impacts from Project operations were identified, with the exception of potential indirect growth effects.

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| | <p>In addition, past recharge estimates were extensively considered in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-32 to 4.9-36. This comment is further addressed in Master Response 3.1 Groundwater Recharge and Evaporation.</p> |
| O_NPCA-CBD <i>et al.</i> -98 | <p>The commenter states that the recharge estimate is more than that of previous estimates. This comment is addressed in Master Responses 3.1 Groundwater Recharge and Evaporation. See also Response O_NPCA-CBD <i>et al.</i>-97.</p> |
| O_NPCA-CBD <i>et al.</i> -99 | <p>The commenter states that the evaporation estimate is overstated. This comment is addressed in Master Response 3.1 Groundwater Recharge and Evaporation. See also Response O_NPCA-CBD <i>et al.</i>-97 where recharge estimates are discussed.</p> |
| O_NPCA-CBD <i>et al.</i> -100 | <p>The commenter expresses a general concern that the cone of depression will continue to expand for over 100 years, long after pumping stops. This comment is addressed in Master Response 3.3 Groundwater Pumping Impacts.</p> |
| O_NPCA-CBD <i>et al.</i> -101 | <p>The commenter expresses general concern that the monitoring and mitigation plan does not have sufficiently defined milestones and decision points to overcome the uncertainty associated with the technical analyses. This comment is addressed in Master Response 3.8 GMMMP. Comments regarding the technical analyses are further discussed in Master Responses 3.1 Groundwater Recharge and Evaporation, 3.2 Groundwater Modeling, and 3.3 Groundwater Pumping Impacts.</p> <p>The commenter expresses the general concern that by the time an impact is discovered, it will likely be too late to mitigate the problem through groundwater management. The EIR's mitigation measures, as well as the features of the Updated GMMMP have specifically been designed to prevent impacts before occur and correct any significant impact early. The timing of monitoring measures and corrective actions are discussed at length in the EIR and the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP) and are further discussed in Master Response 3.8 GMMMP.</p> <p>The commenter expresses a specific concern that the monitoring of the springs is insufficient because visual inspection is unlikely to reveal problems until it is too late to mitigate the damage. As</p> |

discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-19 and Draft EIR Vol. 4, Appendix H3 Assessment of Effects of the Cadiz Groundwater Conservation Recovery and Storage Project Operations on Springs and in **Master Response 3.4** Springs, there is no hydraulic connection between the springs and the aquifer. Project operations will not impact springs in the surrounding mountains that are significantly higher in elevation than the Project area and more than 10 miles from the wellfield. Therefore, spring monitoring is not a required mitigation for any Project impacts. Nonetheless, as a management feature, springs are proposed for monitoring and action criteria and corrective action are imposed under the Updated GMMMP. See **Master Response 3.8** GMMMP.

O_NPCA-CBD *et al.*-102

The commenter states that the monitoring and mitigation plan lacks sufficient independent oversight. As discussed in the Updated GMMMP, Section 1.4.4, the FVMWC will implement monitoring in consultation with the Technical Review Panel (TRP) subject to the oversight and approval of County of San Bernardino. The County of San Bernardino would review monitoring reports, determine whether early warning action criteria have been triggered and determine what preventative actions or remedies should be implemented. Further, compliance with all Mitigation Measures will be a condition of Project approval enforced by SMWD.

O_NPCA-CBD *et al.*-103

The commenter states that previous hydrologic data was not used in the analysis. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

O_NPCA-CBD *et al.*-104

The commenter states that possible subsurface underflow to the area south of the upper Fenner Watershed beneath Mojave National Preserve (MNP) is not adequately explained. As described in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-63 to 4.9-71 and Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 8.2, the model-predicted response for groundwater drawdown under all recharge scenarios (5,000 AFY, 16,000 AFY and 32,000 AFY) does not extend to beneath the MNP.

The commenter states that the potential projected effects of climate change—such as reduced rainfall—are not adequately addressed in the impact analysis. The comment is addressed in

Master Response 3.1 Groundwater Recharge and Evaporation. See also **Responses O_NPCA-CBD et al.-92** and **O_NPCA-CBD et al.-93**.

The commenter states that model impacts are not evaluated after 100 years. See **Master Response 3.3** Groundwater Pumping Impacts.

- O_NPCA-CBD et al.-105 The commenter states that the potential impacts to springs were not sufficiently explained. This comment is addressed in **Master Response 3.4** Springs.
- O_NPCA-CBD et al.-106 The commenter states that impacts from imported water mixing with the groundwater for the Imported Water Storage Component were not addressed. The potential impacts of importing CRA or SWP water for storage in the aquifer is discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-76 to 4.9-77 as part of the programmatic analysis of the Phase 2 Imported Water Storage Component. The Draft EIR concludes that although imported water would likely have higher TDS concentrations and potentially low levels of other contaminants, the imported water would comply with drinking water standards, and would be substantially diluted by the existing groundwater in storage. Since the Draft EIR assesses the Imported Water Storage Component primarily at a program level of analysis, subsequent water quality analysis would be required prior to implementing this Component and introducing imported water into the aquifer once the source of the imported water is identified. The commenter is also referred to **Response A_CVWD-3**.
- O_NPCA-CBD et al.-107 The commenter states that the Project recharge estimate is more than the previous estimates prepared by others. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. See also **Response O_CBD et al.-97**.
- O_NPCA-CBD et al.-108 The commenter states that in determining the Project evapotranspiration estimate, the Draft EIR did not consider new USGS's Death Valley data. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. See also related **Response O_NPCA-CBD et al.-97** where recharge estimate is discussed.
- O_NPCA-CBD et al.-109 The commenter questions why spring discharge was excluded from the Project's estimates of recharge. The commenter's hired

consultant Andrew Zdon, estimates spring discharge on the order of 2,000 AFY. This comment is addressed in **Master Response 3.4 Springs**.

O_NPCA-CBD *et al.*-110

The commenter states that the Project mischaracterizes the recharge estimate prepared by others. There was no mischaracterization of the results. CH2M Hill's assessment is consistent with the Davisson and Rose's estimate based on the local precipitation elevation curve. See **Master Response 3.1 Groundwater Recharge and Evaporation** for a full discussion of previous recharge estimates. See also **Response O_NPCA-CBD *et al.*-97**.

O_NPCA-CBD *et al.*-111

The commenter states that some assumptions were undisclosed in the Project's groundwater recharge analysis, noting hydraulic conductivity values. All assumptions were indeed discussed in detail, including the hydraulic conductivity input values, in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 5.5.4, which does include the estimated ranges of hydraulic conductivity prepared by both Geosciences and CH2M Hill. The estimated ranges are similar. The estimates were then calibrated within the model to match the observed water levels. The input parameters used for the models is further discussed in **Master Response 3.1 Groundwater Recharge and Evaporation**.

O_NPCA-CBD *et al.*-112

The commenter questions how playa evapotranspiration is modeled. This comment is addressed in **Master Responses 3.1 Groundwater Recharge and Evaporation** and **3.2 Groundwater Modeling**.

O_NPCA-CBD *et al.*-113

The commenter states that a sensitivity analyses of the INFIL3.0 results should be performed to identify sensitive parameters. A sensitivity analysis was not completed using INFIL3.0. Expected values were used for all input parameters and recoverable water was computed using these values. The results were compared to Geoscience Support Services Inc. (1999), USGS (2000), and Davisson and Rose (2000). The Draft EIR recognizes the differences of opinion among experts, so the impact analysis considered a range of recharge, from 5,000 AFY to 32,000 AFY. Under all recharge conditions evaluated, there are no adverse impacts.

O_NPCA-CBD *et al.*-114

The commenter asks why two different models were used (CH2M Hill and GSSI) and references a numerical model

developed by CH2M Hill that varies substantively from that presented by the 1999 GSSI model. There is only one groundwater flow, transport, and subsidence model used for the basin-wide assessments, which is presented in the Draft EIR Vol. 4, Appendix H1. The groundwater flow model presented by CH2M Hill in the Draft EIR Vol. 4, Appendix H1, Appendix A was a very local model of the Fenner Gap area and the groundwater flow model presented by CH2M Hill in the Draft EIR Vol. 4, Appendix H3 is a simplified two-dimensional model used to assess potential regional water table responses in bedrock.

O_NPCA-CBD *et al.*-115

The commenter states that the CH2M Hill Model does not present evidence that its modeling effort was performed in accordance with standard practice as described by ASTM, Anderson and Woessner (1992). The model was conducted in accordance with ASTM and Anderson and Woessner methods. The groundwater model was developed and used by or under the direction of a certified hydrogeologist, who has over 30 years of experience, including development and use of groundwater flow models, and who has been deemed an expert as such in California courts.

O_NPCA-CBD *et al.*-116

The commenter asks why geologic data of a carbonate unit from Texas was used instead of correlative carbonate units from Death Valley. The referenced 2010 CH2M Hill report included in the Draft EIR Vol. 4, Appendix H1, Sub-Appendix A, p. 4-17 notes that geologic conditions determined for carbonates in the study area have been confirmed by extensive studies in Texas of similar carbonate units. Extensive geohydrologic studies of the scope undertaken for this study (or in Texas) have not been conducted for Death Valley area and carbonate rock aquifers are not common in California. The purpose of the reference to the Edwards Aquifer in Texas was 1) the Edwards Aquifer has been extensively studied and modeled and 2) shows the nature of high conductivity that that develops in karstic carbonate aquifers. Other references could have been used, but the Edwards Aquifer references provide a very comprehensive overview, discussion and history of the hydrogeology and modeling of karstic aquifers.

O_NPCA-CBD *et al.*-117

The commenter states that evapotranspiration was overestimated because springs and vegetation would reduce the estimated recharge. As discussed in **Master Responses 3.1** Groundwater

Recharge and Evaporation and **3.6 Vegetation**, the springs and vegetation take their portion of water from precipitation first, along with some evaporation directly back into the atmosphere. The remaining amount infiltrates into the subsurface and migrates downward to the aquifer.

O_NPCA-CBD *et al.*-118

The commenter relates the concern raised by its consultant Johnson Wright Inc. that the evapotranspiration estimates for Bristol and Cadiz Dry Lakes, relied upon by the Project's modeling effort are too high and were allowed to vary between recharge scenarios.

The Cadiz groundwater model uses the Evapotranspiration Package to simulate the evaporation from the Bristol and Cadiz Dry Lakes.⁴⁸ The model calculates the evaporation based on model-calculated groundwater levels. The maximum evaporation rate is used when the water level is at the land surface. No evaporation occurs when the water level is below the specified maximum extinction depth. (See **Response A_NPS-06** for discussion on maximum extinction depth). In between these two extremes, the evaporation rate is assumed to be linear. The model-calculated evaporation from the Dry Lakes depends on the specified maximum evapotranspiration rate, extinction depth, and model-calculated water levels over the entire area of each Dry Lake. The Evapotranspiration Package used in the Cadiz groundwater model is for the purpose of providing a "sink" boundary condition to remove water from the model, consistent with the amount of natural recharge used for the model. Since the only discharge is evaporation from Dry Lakes under predevelopment conditions, the model-calculated evaporation should be 32,000 AFY, 16,000 AFY, and 5,000 AFY to correspond with a natural recharge of 32,000 AFY, 16,000 AFY, and 5,000 AFY, respectively. Therefore, maximum evapotranspiration rates were treated as a variable so that the model-calculated evaporation can match the amount of natural recharge. The use of higher evaporation rate at a few cells along Cadiz Dry Lake was used for the model instead of expanding the model grid to cover the whole Dry Lake and beyond. The modeling results would be the same by using this technique or expanding the model boundary since the evaporation would be the same based on the recharge assumptions and limited

⁴⁸ Harbaugh, A.W., Banta, E.R., Hill, M.C., and McDonald, M.G., 2000, *MODFLOW-2000, the U.S. Geological Survey Modular Ground-Water Model -- User Guide to Modularization Concepts and the Ground-Water Flow Process*: U.S. Geological Survey Open-File Report 00-92, p. 121.

geographically to the Dry Lakes. The model assumes that evaporation is the only discharge of water so the model's evaporation output will always equal the assumed recharge inputs. This comment is further addressed in **Master Response 3.2 Groundwater Modeling**. As discussed in **3.1 Groundwater Recharge and Evaporation**, the conditions at Death Valley are very different from the Project area and conclusions from one area do not necessarily translate to another area.

As discussed in **Response A_NPS-6**, the areas to the west, south, and east of the Dry Lakes are not included in the model because they represent a boundary condition beyond which groundwater from the Fenner Watershed cannot flow past but must instead evaporate.

As discussed in **Master Response 3.2 Groundwater Modeling**, evaporation from the Dry Lakes is a boundary condition, which in an undisturbed condition, is the only outlet for groundwater discharge from the basin. As the groundwater flow system must be in equilibrium, i.e., groundwater recharge must equal groundwater discharge, evaporation has to be equal to recharge. The use of higher evaporation rate at a few cells along Cadiz Dry Lake was used for the model instead of expanding the model grid to cover the whole Dry Lake and beyond. The modeling results would be the same by using this technique or expanding the model boundary because since the geology of the Cadiz Dry Lake is generally uniform and the evaporation would be the same based on the recharge assumptions and limited geographically to the Dry Lakes. The model assumes that evaporation is the only discharge of water so the model's evaporation output will always equal the assumed recharge inputs. The model assumes that evaporation is the only discharge of water so the model's evaporation output will always equal the assumed recharge inputs. Using the smaller number of grid cells, hence, saves model run time without sacrificing any impacts to model results. Pan evaporation rates are only accurate for lakes with standing bodies of water.

O_NPCA-CBD *et al.*-119

The commenter states that estimates of evaporation from the spreading basins were calculated using different rates than the estimated of evaporation from the Dry Lakes. Different rates were indeed used because standing surface water in recharge basins will evaporate at greater rates than groundwater in saturated soils beneath the playa crust. The spreading basin rate

assumed in the model is similar to the estimated evaporation rate from existing salt mining production trenches.

O_NPCA-CBD *et al.*-120

The commenter states that the cones of depression are only measured for immediate post-pumping and 50 years after pumping ceases not for 100 years after pumping. The 100 year modeling period covers the period during which any potential adverse effects of pumping would be the greatest. After 100 years, any continuing effects would be reduced and diminishing, as explained below.

The Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Figures 64 to 71 reflect the results of the modeling conducted to examine potential impacts to the basin. The figures show that after 50 years of pumping, the anticipated cones of depression decrease dramatically and, by Year 100, groundwater levels have nearly recovered to pre-Project levels. Once the extraction of groundwater ceases at Project Year 50, groundwater levels would begin to rise in response to the uninterrupted flow of groundwater from the upgradient areas, filling in the cone of depression (Appendix H1, Table 2). The water table would return to the pre-pumping levels with most of the recovery occurring near the wellfield within the first few years, as shown by the steeper hydrograph curves in Figures 70 and 71. The figures illustrate conditions through Year 100 because, with no additional pumping, groundwater levels would be nearly back to pre-Project levels after 100 years. Even under the worst case sensitivity scenario (5,000 AFY of recharge) groundwater levels would be recovering at Year 100 and any potential effects would be reduced and steadily diminishing. However, the modeling does quantify the anticipated number of years after the cessation of pumping when the groundwater levels are expected to fully recover to pre-Project levels. Full recovery for the Project Scenario is expected to occur 67 years after pumping stops, which is 17 years beyond the 100 year modeling period or Year 117 (Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, p. 4.9-71). This comment is addressed in **Master Response 3.3** Groundwater Pumping Impacts.

O_NPCA-CBD *et al.*-121

The commenter states that the cone of depression would continue to expand 50 years after the pumping stops. As described above in **Response O_NPCA-CBD *et al.*-120**, the comment correctly highlights that the edges of the cone of

depression continue to move outward as the aquifer recovers after pumping ceases between 0 and 10 feet as the basin equilibrates. As the groundwater basin recovers, this expanded effect diminishes as well. This comment is addressed in **Master Response 3.3** Groundwater Pumping Impacts. The proactive monitoring requested by the commenter would be implemented and is described in the Updated GMMMP and further discussed in **Master Response 3.8** GMMMP. The commenter also raises concerns regarding impacts to Springs during this period and these comments are further addressed in **Master Response 3.4** Springs and **Response CDFG-1**.

O_NPCA-CBD *et al.*-122

The commenter states that there is no independent oversight for the Draft GMMMP and the TRP and that local stakeholders such as the Mojave National Preserve, BLM, local landowners, and Native American Tribes and Land Trusts are not involved. SMWD is the Project's Lead Agency with responsibility for mitigation of Project impacts pursuant to the Project's Environmental Impact Report and Public Resources Code section 21081.6. As lead agency for the Project, SMWD shall enforce, as a condition of Project approval, the implementation of all adopted mitigation measures, including those measures which correspond to provisions of the Management Plan. The administrative process and CEQA provide the opportunity for stakeholders to participate. In recognition of the County's regulatory role in enforcing the Desert Groundwater Management Ordinance, SMWD will, pursuant to CEQA Guideline section 15097(a), delegate the reporting and monitoring responsibilities for those mitigation measures to the County. Therefore the County will exercise full enforcement authority and independent oversight over the GMMMP and TRP. This comment is addressed in **Response O_NPCA-CBD *et al.*-102**. The commenter generally questions the source of the water being from the Mojave Desert Preserve and the previous USGS recharge estimate studies. These topics are further addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

O_NPCA-CBD *et al.*-123

The commenter expresses a general concern that the Geoscience Support Services, Inc. (GSSI) report on existing aquifer conditions, the Geohydrologic Assessment of the Fenner Gap Area (Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C) lacks sufficient key data to adequately evaluate the interpretation of the aquifer results; specific comments on the GSSI report were

provided in the subsequent comments below. The report noted provides an analysis of pumping test data collected by CH2M Hill and uses analytical techniques appropriate to the site conditions and data. The referenced report is an appendix included in support of the larger Cadiz Groundwater Modeling and Impact Analysis report, which presents the additional data to support the aquifer modeling results. All key data is presented.

O_NPCA-CBD *et al.*-124

The commenter states that the GSSI report Geohydrologic Assessment of the Fenner Gap Area report (Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C) report ignores hydrologic data gathered over the last 20 years. As noted in the **Response O_NPCA-CBD *et al.*-123**, the referenced report is an appendix included in support of the larger Cadiz Groundwater Modeling and Impact Analysis report, which presents the additional data to support the aquifer modeling results. The hydrologic data generated over the last 20 years has not been ignored but is analyzed in context of the current state of the art aquifer modeling and limitations of prior studies. This comment is also further addressed in **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.2** Groundwater Modeling.

O_NPCA-CBD *et al.*-125

The commenter states that previously-installed wells were not included in the modeling analysis. As discussed in the GSSI report Geohydrologic Assessment of the Fenner Gap Area (Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C), the wells used for conducting the pump tests that provided input data for the model were purpose-built wells that targeted specific geologic units. The wells referred to by the commenter are assumed to be the Cadiz Inc. wells currently utilized for agricultural water supply, and not for acquiring modeling data. Data from all monitoring wells, pumping wells, and Cadiz Inc. agricultural wells used in the model are discussed in the modeling report (Draft EIR Vol. 4 Appendix H1).

O_NPCA-CBD *et al.*-126

The commenter questions the aquifer testing conducted and whether it was performed according to independent standards, specifically referring to ASTM and other experts. (e.g., Kruseman and de Ridder, 2000). The model was conducted in accordance with ASTM and industry standard methods. The aquifer tests were conducted and analyzed in accordance with professional practice under the direction of a Professional

Geologist and Certified Hydrogeologist. In addition, the data and analysis was provided to the Groundwater Stewardship Committee for review.

The commenter requests independent pumping test be done and included in the analysis and states that the EIR must provide pumping rate data sufficient to evaluate changes in drawdown characteristics. The Draft EIR evaluates potential impacts of pumping based on data collected from local test wells. The Updated GMMMP provides for FVMWC to conduct monitoring and notice action triggers to ensure that the effects on groundwater are as predicted and in a manner that avoids significant impacts. No additional pump testing is required to confirm modeling results. See **Master Response 3.8** GMMMP.

O_NPCA-CBD *et al.*-127

The commenter states that insufficient detail is presented to evaluate the aquifer test data and results. The commenter is referring to the GSSI report on existing aquifer conditions, (*Geohydrologic Assessment of the Fenner Gap Area*, which is presented as Appendix C of Vol. 4 Appendix H1 *Cadiz Groundwater Modeling and Impact Analysis*). The aquifer test data plots customary in reports which include aquifer analyses are provided as figures in the report. The aquifer analysis was conducted using data collected by CH2M Hill. The field data for the aquifer tests are provided in Cadiz Groundwater Conservation and Storage Project prepared by CH2M Hill, and also as Appendix A of the *Cadiz Groundwater Modeling and Impact Analysis* report. See also **Responses O_NPCA-CBD *et al.*-124** and **O_NPCA-CBD *et al.*-125**.

O_NPCA-CBD *et al.*-128

The commenter states that true static groundwater levels were not substantiated and references Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C Geohydrologic Assessment of the Fenner Gap Area, Section 2.4 Field Reconnaissance, p. 6. However, the referenced page 6 is only a photograph of the discharge from Well TW-2. The pump test, along with the pump test results, are discussed later in that same report on page 18.

O_NPCA-CBD *et al.*-129

The commenter requests information on the magnitude of barometric corrections for groundwater levels because the commenter does not believe they are explained for the pump test conducted on Well TW-1. The details of these corrections are provided in the Draft EIR Vol. 4, Appendix H1, Appendix A

Exploratory Drilling and Well Completion Report, Fenner Gap Area, August 2011.

O_NPCA-CBD *et al.*-130

The commenter states that there are insufficient data presented to discern if Well TW-2 has fully recovered from the pump test. Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C Geohydrologic Assessment of the Fenner Gap Area, Figure 24 clearly shows that the water levels in TW-2 fully recovered after the pumping test. The Field Investigation Report included as Sub-Appendix A to the CH2M Hill Cadiz Groundwater Conservation and Storage Project provides the field test data for the TW-2 test. The Field Investigation Report is available on the Santa Margarita Water District Website.

O_NPCA-CBD *et al.*-131

The commenter states that the existing conditions in the Fenner Gap are misrepresented since the commenter believes that the photograph shown in Section 3.1 of the GSSI report on existing aquifer conditions, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C Geohydrologic Assessment of the Fenner Gap Area, could either be showing water discharging from the pump test or from naturally flowing surface water. The subject photograph provides a striking visual example of the surface conditions in the Fenner Gap. The flow of water in the foreground is from the TW-2 well discharge on November 11, 2009 which is indicated in Section 2.4 of the report (presented on the next page). Surface water is very rarely present during heavy rain events. The photographs are in no way intended to imply that there is commonly surface water in the area. Both photographs, as well the photograph on page 7 were included with the text to provide visuals for the text narrative. The photograph referred to has no purpose beyond showing what some of the Fenner Gap area looks like, as indicated in the caption. There is no intention that this photograph be used for anything beyond a visual of the area.

O_NPCA-CBD *et al.*-132

The commenter states that the hydraulic conductivity of fanglomerate is not sufficiently substantiated and bases the comment on a photograph in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C Geohydrologic Assessment of the Fenner Gap Area, p. 12. The boring logs of Wells TW-1, TW-2, and TW-3 are presented in Appendices A, B, and C of the referenced report and provide an accurate description of the geologic materials.

Hydraulic conductivity of the fanglomerate will be primarily a function of the secondary porosity from joint and fracture systems developed as a result of the intense historical seismic conditions in the region and cannot be readily observed in a photograph of core with a small diameter. However, the well logs and core photographs do document the jointed fractured nature of the deposits. A single falling head permeameter test was conducted in the fanglomerate and indicated a low hydraulic conductivity.

O_NPCA-CBD *et al.*-133

The commenter states that the permeability of the granitic rock is not sufficiently described or explained. The referenced report (GSSI report on existing aquifer conditions, *Geohydrologic Assessment of the Fenner Gap Area*, which is presented as Appendix C of the Draft EIR Vol. 4, Appendix H1 *Cadiz Groundwater Modeling and Impact Analysis*), provides data from a pump test in fractured rock (TW-2). In addition, the report provides references for a range of hydraulic conductivities for fractured rock obtained from studies by others (Table 2).

O_NPCA-CBD *et al.*-134

The commenter expresses general concerns about the groundwater flow and solute transport model, groundwater cone of depression, evapotranspiration rates, the aquifer's ability to stabilize, third-party standards for sensitivity analyses, and estimated recharge. The comment is a lead-in paragraph to a number of subsequent comments on the Draft EIR Vol. 4, Appendix H1 *Cadiz Groundwater Modeling and Impact Analysis*, which are addressed in the responses to those specific comments below.

O_NPCA-CBD *et al.*-135

The commenter states that comparative data from similar groundwater projects was not provided. The Project was evaluated on its own merits using site-specific data. The conditions at other groundwater projects would not be more accurate than with the site-specific conditions presented and due to the extensive investigations of the Project site, would in fact be less accurate.

O_NPCA-CBD *et al.*-136

The commenter assumes that the cone of depression will continue to expand after 100 years and, based on that assumption, questions the effects on the cone of depression. The comment correctly identifies that the edges of the cone of depression continue to move outward as the aquifer recovers after pumping ceases in year 50. However, as shown in the

referenced figures, the amount of additional drawdown is small, generally between 0 and 10 feet as the basin equilibrates. As the groundwater basin recovers, this expanded effect diminishes as well. This comment is addressed in **Master Response 3.3** Groundwater Pumping Impacts.

The commenter requests hydrographs of water levels. Hydrographs for a number of locations are provided in Draft EIR Vol. 4, Appendix H1 *Cadiz Groundwater Modeling and Impact Analysis* as Figures 70 and 71. See also **Response O_NCPA-CBD et al.-121**.

O_NPCA-CBD et al.-137

The commenter states that there appears to be a delay in the aquifer's response to the proposed Project pumping. As an example, the commenter noted that on Figures 64 and 65 (Vol. 4 Appendix H1 *Cadiz Groundwater Modeling and Impact Analysis*), the northeastern-most extent of drawdown, denoted at the 0 drawdown contour, is more extensive in the 100-year scenario (after 50 years of recovery) than the 50-year scenario (at the end of Project pumping) and this is the case with all three scenarios. The comment correctly identifies that the edges of the cone of depression continue to move outward as the aquifer recovers after pumping ceases. However, as shown in the referenced figures, the amount of additional drawdown is small, generally between 0 and 10 feet, and occurs only as the basin equilibrates to the new condition of no pumping. As the groundwater basin recovers, this expanded effect diminishes as well. The commenter is also referred to **Response O_NCPA-CBD et al.-121**. Further, the observed changes in groundwater level contours between the 50-year and 100-year periods are following expected patterns of water-level recovery upon cessation of pumping. Initially, dewatered storage in the vicinity of the wellfield will be refilled from upgradient groundwater in storage. Over time, the hydraulic gradient decreases toward the wellfield area as groundwater levels recover to pre-pumping levels. Overall basin-wide groundwater levels will stabilize and revert back to the equilibrium groundwater levels and hydraulic gradients that existed prior to the Project.

O_NPCA-CBD et al.-138

The commenter questions the treatment of evaporation rates as a variable in the aquifer model as opposed to constant. This comment is addressed in **Master Response 3.2** Groundwater Modeling.

O_NPCA-CBD *et al.*-139

The comment states that the Draft EIR fails to explain why the aquifer has not recovered from agricultural pumping. The agriculture on Cadiz Inc. property is on-going, which accounts for the persistent cone of depression. The model-calculated drawdown over time at selected locations for each model scenario is provided on Figure 70 of Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis. As shown, the water level would reach equilibrium approximately 40 years after pumping ceases for Project Scenario (i.e., natural recharge of 32,000 AFY). Water level declines are temporary and will start to recover after the Project pumping is terminated. Vertical scale in the hydrograph will be reviewed and modified appropriately.

O_NPCA-CBD *et al.*-140

The commenter requests information to explain why the changes in storage for the three scenarios presented in the Draft EIR Vol. 4, Appendix H1 *Cadiz Groundwater Modeling and Impact Analysis* p. 12 and the table on p. 54 are different than a simple arithmetic calculation of inflow minus outflow. The commenter presents the example calculation for Scenario 2 where outflow (50,000 AFY times 50 years equals 2.5 MAF) minus inflow (5,000 AFY times 50 years equals 250,000 AF) equals a change in storage of 3.25 MAF, whereas the model predicts 2,160,000 AF. As explained in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 8.5, p. 53, the inflow term for the model includes natural recharge and release of water from storage within the interbeds, while the outflow terms consist of groundwater pumping, uptake of water into storage within the interbeds, and evapotranspiration. The difference between the total inflow and total outflow is the change in groundwater storage. The water budgets for Sensitivity Scenario 2 can be found in Table 4 of Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis.

O_NPCA-CBD *et al.*-141

The commenter states that sensitivity analysis does not conform to standard practice as described in ASTM, Anderson and Woessner (1992), and other references. The commenter further states that the sensitivity scenarios for recharge should be recharacterized as separate, recalibrated models or simulations.

The model was conducted in accordance with ASTM and industry standard methods. The groundwater model was developed and used by or under the direction of a certified hydrogeologist, who has over 30 years of experience, including

development and use of groundwater flow models, and who has been deemed an expert as such in California courts. The estimated recharge scenarios were used to provide a range of potential impacts. The Draft EIR impacts analysis includes a worst-case scenario (Sensitivity Scenario 2) which is beyond industry standards by changing the conceptual model including three distinct scenarios. This comment is addressed in **Master Response 3.2** Groundwater Modeling. Sensitivity analysis to the model parameters was provided in Section 6.4 in Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis. See **Response O_NPCA-CBD et al.-AttachmentA-28**.

O_NPCA-CBD et al.-142

The commenter states that the photograph of the fanglomerate suggests a lower hydraulic conductivity than used in the model. This comment is addressed in the **Response O_NPCA-CBD et al.-132**.

O_NPCA-CBD et al.-143

The comment states that the analysis fails to account for inconsistent hydraulic conductivity ranges. The commenter states that the EIR must explain why three distinct numerical groundwater flow models were developed instead of basing the model on a calibrated numerical representation of the groundwater system. As discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-46 to 4.9-47 and Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sections 5.0, 6.0, and 7.0, the Project Scenario is based on the existing groundwater system in that it uses the estimated recharge for the Watershed and the aquifer parameters acquired from the pumping tests. Hence, it is based on specific data from the Project area. Then, the groundwater model was also run for Sensitivity Scenarios 1 and 2 to model conservative worst-case scenarios, where recharge over the 50-year Project period is less than anticipated. This approach is far more conservative than doing simple sensitivity analysis, which forces the model out of calibration (i.e., groundwater levels will not match observed groundwater levels in many cases where the calibrated parameter values are deviated from the calibrated values), so the changes in projected groundwater levels may be due more to changes in the model parameter values than the due to the change in stresses (e.g., introduction of pumping).

- O_NPCA-CBD *et al.*-144 The commenter states \ the transparency and believes that the computer modeling platform is not disclosed in the analysis. The modeling software (MODFLOW-2000 and SEAWAT-2000 version 4) is publicly available and is described in Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 5.2, with additional detail in Section 4.1 of Appendix A of the same report.
- O_NPCA-CBD *et al.*-145 The commenter asked why the MODFLOW2000 and PEST modeling programs were not used for the sensitivity analysis. Both programs were used as described in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 5.2 for MODFLOW discussion, Section 8.1 for PEST discussion, and Section 4.2.3 of Appendix A of the same report.
- The commenter questions the recharge estimate and evaporation values used in the model. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. See also **Response O_NPCA-CBD *et al.*-97**.
- O_NPCA-CBD *et al.*-146 The commenter states that the outer limits of the cone of depression would likely still be expanding after 100 years and believes that the cone might extend to elevations approaching Bonanza Spring. The commenter also questions changes to the “subsurface underflow” (this comment is assumed to be referring to groundwater flow) beneath the Mojave National Preserve. The Mojave National Preserve will not be affected by the Project. See **Master Response 3.9** Biological Resources. Bonanza Spring is located in the upper elevations and is not hydraulically connected to the groundwater basin. Bonanza Spring is at an elevation of 2100 feet National Geodetic Vertical Datum (NGVD), substantially above the adjacent Fenner Valley floor at about 1,350 NGVD (Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-19). This comment is addressed in **Master Responses 3.3** Groundwater Pumping Impacts and **3.4** Springs.
- O_NPCA-CBD *et al.*-147 The commenter states that the impact analysis fails to consider the reduced rainfall expected as a result of climate change. Future weather patterns are uncertain and may indeed result in reduced recharge. The purpose of the modeling of Sensitivity Scenarios 1 and 2 was specifically to address the possibility of recharge being less than modeled. In any case, the proposed

Project would access water already in storage during the 50-year Project period. Furthermore, the impacts of groundwater extraction would remain less than significant with implementation of Mitigation Measures **HYDRO-2** and **HYDRO-3**, as also reflected in the Updated GMMMP. See **Response O_NPCA-CBD et al.-93**. This comment is addressed in **Responses A_NPS-52** and **O_NPCA-CBD et al.-66, 92, 93** and **104**.

O_NPCA-CBD et al.-148

The commenter asks why the text for the table in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 8.5, p. 54 states that the model was run for 100 years when the table itself presents storage recovery results that extend out as far as Year 440 for Sensitivity Scenario 2. As described on pp. 53-54 of the analysis, the Year 440 was projected based on the rate of recovery indicated in the model from years 51 to 100. See also **Master Response 3.3** Groundwater Pumping Impacts.

O_NPCA-CBD et al.-149

The comment states that the Draft EIR fails to assess potential impacts on springs because of missing data and confusing analyses. However, the comment does not identify what data they believe is missing. There is no missing data. The Draft EIR Vol. 4, Appendix H3 Assessment of Effects of the Cadiz Groundwater Conservation Recovery and Storage Project Operations on Springs also provides a hypothetical assessment of potential impacts to springs by assuming an hydraulic connection of the springs in the mountains to the aquifer in the valley floor that clearly is not possible and does not exist based on the data and modeling. Additional discussion of springs is provided in **Responses O_NPCA-CBD et al.-150** through **O_NPCA-CBD et al.-152**. See also **Master Response 3.4** Springs and **Responses O_NPCA-CBD et al.-11, -101** and **A_CDFG-1**.

O_NPCA-CBD et al.-150

The commenter states that Figures 1 through 15 are missing from Vol. 4 Appendix H3 Assessment of Effects of the Cadiz Groundwater Conservation Recovery and Storage Project Operations on Springs. Figures 1 through 14 (note Figure 15 was included in the Draft EIR) were inadvertently left out of the Draft EIR and are included in this Final EIR, revised Appendix H3.

O_NPCA-CBD et al.-151

The commenter asks which model was used to evaluate impacts to springs. The GSSI (2011) model results were used as an

indication of the potential magnitude of drawdown in the alluvial aquifer adjacent to the Bonanza Springs in the Clipper Mountains. This drawdown was used as a boundary condition in a separate two-dimensional groundwater flow model of the hypothetical regional groundwater table that is assumed to connect the alluvial aquifer groundwater with groundwater at the spring as described for Concept 2. The two-dimensional groundwater flow model of the bedrock unit shows that 1) any change in the groundwater levels in the alluvium would be a fraction of any changes (drawdown) in groundwater levels upgradient at the location of springs and only if the groundwater levels in the alluvium remain depressed for extensive periods of time, which is not likely, and 2) the fluctuations in precipitation recharge and resultant fluctuations in groundwater levels in the area of the springs are expected to dwarf any fluctuation due to groundwater levels that might result from changes in groundwater levels in the alluvial aquifer. Additional discussion regarding models is provided in **Master Response 3.2** Groundwater Modeling. The evaluation of impacts to springs is explained further in **Master Response 3.4** Springs.

O_NPCA-CBD *et al.*-152

The commenter states that the evaluation of the springs in the Watershed should have included a geochemical analysis. As explained in the **Master Response 3.4** Springs, there is no hydraulic connectivity between the springs and the aquifer where Project operations will occur and therefore there is no potential of any impacts to springs. Nonetheless, the Updated GMMMP includes monitoring of three springs in the Watershed and the monitoring will measure the conductivity, pH, and temperature of the spring water.

O_NPCA-CBD *et al.*-153

The commenter expresses a general concern regarding the hydrogeological analysis based on previous comments, all of which have been responded to in above responses.

O_NPCA-CBD *et al.*-154

The commenter states that the water quality of the groundwater in the Fenner Gap area is better than the water quality of the CRA or SWP water to be stored. This comment is addressed in the **Response O_NPCA-CBD *et al.*-13**.

O_NPCA-CBD *et al.*-155

The commenter states that the Draft EIR fails to assess impacts to designated wilderness areas. Draft EIR Vol. 1, Section 4.14 Recreation identifies all local wilderness areas. As stated in the Draft EIR, the Project site is in the vicinity of several Class C

wilderness areas managed by BLM. Figure 4.14-1 shows the locations of the 6 wilderness areas and BLM Multiple-Use Classes in the Project vicinity. The proposed Project has been designed to completely avoid all BLM lands, including Wilderness Areas (Figure 4.14-1). Construction of the proposed Project would not disrupt recreational opportunities and uses (p. 4.14-9). The public would continue to have access to all BLM lands in areas where public access is currently provided. See **Master Response 3.9 Biological Resources and Response A_29PalmsIndians-25**.

The commenter states that the Draft EIR fails to adequately assess impacts to sensitive dunes. Refer to **Response I_Ellis-4** for a discussion on impacts to the sand dunes.

The comment states that the Draft EIR does not address impacts to federal reserved water rights for the Mojave National Preserve. See **Master Response 3.7 Water Rights**. Water uses in the Mojave National Preserve will not be affected by Project operations. See **Master Response 3.3 Groundwater Pumping Impacts**.

The commenter states that the Draft EIR does not adequately engage with federal stakeholders. SMWD has complied with CEQA requirements for public agency coordination, including federal agencies. See **Master Response 3.11 CEQA Public Process**.

O_NPCA-CBD *et al.*-156

The commenter states that the use of the ARZC ROW through an easement with the railroad is not appropriate use of federal lands and requires NEPA review. See **Master Response 3.13 Right-of-Way and NEPA**. The dangers of trestle fires are real and providing fire suppression devices is a railroad purpose. In addition, the use of water for a steam engine locomotive contemplated for the ARZC ROW is a railroad purpose within the railroad's authority to authorize in its easement which is private property and therefore is not subject to NEPA. See also **Response O_NPCA-CBD *et al.*-2**.

O_NPCA-CBD *et al.*-157

The commenter states that although the USGS website for tracking active mining operations identified no active metals mining operations as of 2003, there is the possibility that metals mining operations may have been initiated since 2003. For the Draft EIR, the USGS website was accessed in April 2011. For this comment, the USGS website was re-accessed on April 8,

2012; the website has not been updated since 2003. The Division of Oil, Gas, and Geothermal Resources (DOGGR) website was accessed on May 18, 2012 for this comment. The DOGGR mapping does not extend to the Project area. No new information is available. Additionally, USGS was sent a Draft EIR NOA but did not submit a comment on the Draft EIR.

O_NPCA-CBD *et al.*-158

The comment states that Mitigation Measure **MIN-1** to avoid impacts to salt production operations is inadequate and its implementation is undefined. **MIN-1** has been revised pursuant to changes made to the Draft GMMMP (updated for the Final EIR in Vol. 7, Appendix B1 Updated GMMMP). Mitigation Measure **MIN-1** imposes measures to mitigate impacts to salt production operations that include monitoring, modifying Project operations, injection wells, and/or compensating for Project impacts, if any. Implementation of the mitigation would be the responsibility of FVMWC, reviewed by the TRP and enforceable by the County of San Bernardino. The details of the mitigation implementation including the details of enforcement and compensation to mining entities would depend on the observed impacts. The commenter is referred to **Master Response 3.8** GMMMP. Project Design Feature 6.5 (identical to Mitigation Measure **MIN-1**) requires the Project operator to maintain or restore the beneficial use of the groundwater/brine water by the salt mining operations. A change to brine chemistry or yields from existing brine production wells or brine supply trenches attributable to Project operations would be mitigated either through changes in Project operations or through compensated changes in the salt mining companies' operations such as increased pumping from Brine production wells and/or deepening of the wells.

O_NPCA-CBD *et al.*-159

The comment states that the Draft EIR fails to substantiate noise impact conclusions and the effectiveness of acoustical well covers. The nearest sensitive receptors are residences located approximately 3.3 miles north of the Project site near the corner of Cadiz Road and National Trails Highway. The predominant sources of noise include railroad noise, roadway traffic, and agricultural operations equipment. Military operations including explosions and low-flying aircraft also generate some noise in the valley. Average noise levels in these types of environments typically are in the range of 35-55 dBA.⁴⁹ The Draft EIR identifies potential operational noise sources and concludes that

⁴⁹ Cunniff, P.F., *Environmental Noise Pollution*, 1977, p. 131.

noise levels would attenuate to imperceptible noise levels at the nearest sensitive receptors. Each wellhead will be equipped with noise insulation to avoid excessive noises. Therefore, operational noise impacts created from the well pumps are appropriately assessed and considered less than significant. This comment is further addressed in **Responses Bongartz1-7, 14, and 15**.

O_NPCA-CBD *et al.*-160

The comment asserts that the analysis on recreational impacts is inadequate in that it fails to estimate the number of visitors to surrounding wilderness areas and to address recreational impacts created by construction of the Project. Draft EIR Vol. 1, Section 4.14 Recreation, p. 4.14-9 specifically states that the proposed Project has been designed to completely avoid all BLM lands, including Wilderness Areas. Given the Project's distance from Wilderness Areas, it would have no significant impacts on recreational areas. In addition, Project construction would not disrupt recreational opportunities and uses ensuring that the public continues to have access to BLM lands where public access is currently provided (Draft EIR Vol. 1, Section 4.14 Recreation) As described in the Draft EIR Vol. 1, Section 4.4 Biological Resources, the proposed Project is not anticipated to substantially degrade existing biological resources.

Implementation of mitigation measures are expected to reduce impacts to less than significant levels. In turn, as described in Section 4.1 Aesthetic Resources, no significantly adverse impacts to aesthetic resources are expected. In addition, the Cadiz Dunes Wilderness is 100 feet west of the ARZC ROW at its closest point for a small portion of the ROW; which is also the closest wilderness area to the Project site. Within this viewshed, the proposed Project would be located within the ROW and adjacent to the existing railroad. The viewshed already includes the existing railroad and the buried pipeline, and hydrant facilities would not significantly degrade the existing visual character of the area. As such, the proposed Project is not anticipated to adversely impact views from the Cadiz Dunes Wilderness. Moreover, impacts to views from wilderness areas located at a farther distance away would be less significant and would not deter the quality of visitation or deter visitors.

O_NPCA-CBD *et al.*-161

The commenter states that the EIR must justify the significance determinations in Appendix J (Draft EIR Vol. 4, Significant and Unavoidable Impacts Identified in General Plan EIRs for Counties and Cities within the Water Area of Use) for growth inducement potential and provide which specific land use, air,

and other environmental indicators were used. However, Appendix J provides a summary of the conclusions of all EIRs in jurisdictions for which the proposed Projects might serve. CEQA does not require that the Draft EIR for the Project reanalyze the significance determinations of other certified EIRs for five counties and eight cities.

O_NPCA-CBD *et al.*-162

The comment requests that alternatives including a “sustainable removal rate” and consideration of rejected alternatives of conservation and phased implementation must be evaluated. The Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives, pp. 7-39 through 7-44 evaluates a Phased Implementation Alternative and a Reduced Project Alternative. The Phased Implementation Alternative would begin pumping at lower volumes to test the reaction of the aquifer. However, the alternative would not avoid or reduce any of the significant impacts associated with the proposed Project. Construction impacts would be drawn out over a longer period of time, increasing noise impacts and impacts on biological resources due to the prolonged presence of workers in the valley. Impacts of lowering groundwater levels are not significant. Furthermore, reduced pumping is less effective in reversing the groundwater flow direction and less effective at reducing rates of evaporation. See **Master Response 3.14** Alternatives.

The comment suggests that the Project objective of operating the Project in a manner that minimizes environmental effects is not possible. The Draft EIR evaluates potential environmental impacts and identifies mitigation measures to minimize effects. As noted in Table 7-3, the Project would be implemented in a manner that minimizes environmental effects, meeting the Project objectives.

O_NPCA-CBD *et al.*-163

The comment states that a water conservation alternative would effectively eliminate the need for the Project. The Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives, p. 7-6 evaluates and rejects from further consideration an Increased Conservation Alternative. The analysis summarizes demand control measures throughout the urbanized areas of use. Demand control measures are an integral part of each Project Participant’s Urban Water Management Plans and they are included as key elements of water supply and demand with or without the Project. The Project would provide alternative water supplies to Participating Entities to diversify water supply options that complement on-

going conservation efforts rather than replace them. The analysis concludes that conservation only would not reduce the need for the Project. Further, this Alternative would not meet any of the Project Objectives. CEQA only requires analysis of alternatives which meet most of the basic Project Objectives and are potentially feasible. See also **Response I_Hatlestad-2**.

O_NPCA-CBD *et al.*-164

The comment states that the Phased Implementation Alternative could be superior to the proposed Project. The Draft EIR evaluates a Phased Implementation Alternative and a Reduced Project Alternative in the Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives, pp. 7-39 to 7-44. The Phased Implementation Alternative would begin pumping at lower volumes to test the reaction of the aquifer. However, the alternative would not avoid or reduce any of the significant impacts associated with the proposed Project. Construction impacts would be drawn out over a longer period of time, increasing noise impacts and impacts on biological resources due to the prolonged presence of workers in the valley. Impacts of lowering groundwater levels are not significant. Furthermore, reduced pumping is less effective in reversing the groundwater flow direction and less effective at reducing rates of evaporation. Given this, the EIR appropriately concluded that the Phased Implementation was not the environmentally superior alternative.

O_NPCA-CBD *et al.*-165

The comment states that the Reduced Project Alternative is not sustainable because the EIR's recharge assumptions are inaccurate. The Draft EIR identifies promoting sustainable operations as a key Project objective. The proposed Project would utilize groundwater extraction rates to reverse hydraulic flow direction and reduce evaporation from the Dry Lakes. Reducing groundwater flows to the saline sink of the valley and ultimately reducing evaporation provides a new water supply that is sustainable because it captures the annual recharge in the valley that would otherwise evaporate. The Project would further provide a reliable supply of water over 50-years of pumping with no significant environmental impacts on the aquifer. Please also see **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.3** Groundwater Pumping Impacts.

O_NPCA-CBD *et al.*-166

The comment objects to the conclusion that groundwater extractions are not irreversible impacts. The Project duration is 50 years. Once the pumping stops, the groundwater levels will begin to recover. The Draft EIR Vol. 1, Section 4.9 Hydrology

and Water Quality, Table 4.9-11 summarizes the estimated duration for this recovery. The capture of groundwater flow, much like diverting from a river, is sustainable and the effects to groundwater levels are not irreversible. Based on the Project recharge estimate, groundwater levels would be fully restored after about the same period as pumping, i.e. 67 years v. 50 years (Draft EIR Table 4.9-10). Once restored, fresh groundwater would continue to be lost to the saline sink and evaporation. Under the two sensitivity scenarios, the full restoration of groundwater levels would take longer (103 years under Sensitivity Scenario 1 and 390 years under Sensitivity Scenario 2) (Draft EIR Table 4.9-10). However, during this period there would be no significant environmental effects and eventually the basin would be renewed to its current state through natural processes. See also **Master Response 3.3** Groundwater Pumping Impacts.

O_NPCA-CBD *et al.*-167

The comment states that the Draft EIR does not adequately assess impacts of reduced recharge due to climate change. Future weather patterns are uncertain and may result in reduced recharge, but may also result in increased recharge. This has been modeled for under the two sensitivity scenarios that consider recharge rates of 16,000 AFY and 5,000 AFY. In any case, the proposed Project would access water already in storage in the aquifer system during the 50-year Project period and prevent it from evaporating at the Dry Lakes. There is enough groundwater in storage to allow for pumping at a very low recharge rate without significant environmental effects. The impacts of groundwater extraction would remain less than significant with implementation of the recommended Mitigation Measures, as also reflected in the provisions of the Updated GMMMP. See **Response O_NPCA-CBD *et al.*-93**.

The comment asks whether there will be enough water in the Colorado River system to support Phase 2. The Draft EIR evaluates Phase 2 at a programmatic level. Phase 2 would be contingent on the availability of Colorado River water or other water sources and the need for storage capacity. Since the source of the water for Phase 2 is speculative at this time, availability of Colorado River water also is not assured and may be speculative as suggested in the comment, but would be based on whether existing Colorado River water users utilize their full allocation or store some water for future use. For all of these reasons, project-level analysis of Phase 2 is not possible at this time, and a

definitive response to this comment is not possible at this time. Subsequent environmental analysis would be required to implement Phase 2 regardless of the source of water to be stored. See **Master Response 3.12** Project vs. Program Level Analysis.

The comment asks where the seepage from the hard rock formations originates and whether that water flow would itself be affected by climate change. The flow path of water starting as precipitation throughout the Watershed, including on the hard rock formations in the mountains, and migrating downward into the aquifer system is described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-22 and 4.9-28 to 4.9-31. As discussed above, climate change could alter the volume of precipitation, which would in turn alter the amount of water entering and flowing through bedrock fractures.

The comment suggests that a more realistic recharge rate is 16,000 AFY. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation and in **Responses OA_NPS-1** and **O_NPCA-CBD *et al.*-Attachment-A 4 to 7**.

The comment suggests modeling the effects of only 2,400 AFY recharge. Groundwater modeling was conducted for a reasonable range of recharge estimates consistent with current agricultural operation in the Project area. Not every possible recharge variation needs to be modeled. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

The comment notes that the California Department of Water Resources (DWR) recommends that water agencies find more efficient use and management of existing water supplies. All Project Participants are already following these recommendations and are pursuing the Project because it is consistent with the recommendations. The proposed Project would provide a reliable water supply option that is not dependent on traditional imported sources. The water supply would be largely shielded from climate change impacts since the groundwater to be captured prior to its evaporation is already in storage. To the extent supplies from the CRA or SWP are impacted by climate change or other reason that lessens the supply, the Project will provide a supplemental source of local water. See also **Response O_NPCA-CBD *et al.*-92** and **O_NPCA-CBD *et al.*-93**.

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| O_NPCA-CBD <i>et al.</i> -168 | The comment summarizes the previous 167 comments. Responses to these comments have been provided above. |
| O_NPCA-CBD <i>et al.</i> -169 | The comment requests that the environmental process be started over. The environmental analysis is well supported by technical studies and impact analysis. See responses to previous comments of this letter for detailed responses. |
| O_NPCA-CBD <i>et al.</i> -170 | This comment expresses an opinion regarding the merits of the Project and does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration. |
| O_NPCA-CBD <i>et al.</i> -171 | The comment states that a new lead agency should be established and a new EIR prepared. See responses to previous comments of this letter for detailed responses. The commenter is referred to Master Response 3.10 CEQA Lead Agency. |
| O_NPCA-CBD <i>et al.</i> -AttachmentA-1 | This general comment is an overall introductory expression of opinions, which are expanded upon in subsequent more specific comments. |
| O_NPCA-CBD <i>et al.</i> -AttachmentA-2 | This comment expresses general non-specific concerns regarding potentials impacts to springs, salt production operations, surrounding landowners, and several federally-designated wilderness areas present in the area, citing the Mojave National Preserve. Additional information regarding these potential impacts is provided in Master Responses 3.3 Groundwater Pumping Impacts, 3.4 Springs, and 3.8 GMMMP. |
| O_NPCA-CBD <i>et al.</i> -AttachmentA-3 | The comment states that a picture provided on p. 5 of the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C Geohydrologic Assessment of the Fenner Gap Area is misleading since it shows water flowing in a streambed within the Fenner Watershed. The figure is not meant to imply that surface water flows routinely in the Watershed. In fact the analysis in Section 4.9 of the Draft EIR describes the area as extremely dry with no flowing surface water except immediately following storm events. |

- O_NPCA-CBD *et al.*-AttachmentA-4 The commenter states that previous recharge estimates should be considered. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. The commenter asks if aquifer test results conducted since 2009 are consistent with previous test results in the area. Pumping tests conducted for the 1999 Geoscience Support Services, Inc. Report (GEOSCIENCE Support Services, Inc., Cadiz Groundwater Storage and Dry-Year Supply Program, Environmental Planning Technical Report, Groundwater Resources, Volume 1 and 2, Report No. 1163, November 1999, Table 14) are consistent with the 2011 Geoscience Support Services, Inc. Report prepared for the Draft EIR (Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C Geohydrologic Assessment of the Fenner Gap Area, Table 1). The commenter asked why wells previously installed at Cadiz were excluded from the analysis. The commenter did not identify which wells were excluded. The commenter is incorrect; all available information from all wells was considered in the analyses. The commenter asked if the conceptual model for the Fenner Gap area changed significantly or has the current investigation simply confirmed previous information. As described in the Draft EIR Vol. 1, Section 4.6 Geology and Soils, Section 4.9 Hydrology and Water Quality, and Draft EIR Vol. 4 Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, a large amount of new additional information has been generated including detailed site-specific geologic field mapping, several aquifer pump tests, and updated modeling. The conceptual model has been significantly updated and is far more detailed than the previous modeling efforts.
- O_NPCA-CBD *et al.*-AttachmentA-5 The commenter asks about the purpose of the pump test of Well TW-2 shown in a photograph in Section 2.4 of Vol. 4 Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Appendix C Geohydrologic Assessment of the Fenner Gap Area. The pump test provides information on the potential yield of the well. The results of the pump tests are provided later in Section 4.4 of that same report.

- O_NPCA-CBD *et al.*-AttachmentA-6 The commenter states that the hydraulic conductivity of fanglomerate is not sufficiently substantiated and bases the comment on a photograph in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C Geohydrologic Assessment of the Fenner Gap Area, p. 12. The boring logs of Wells TW-1, TW-2, and TW-3 are presented in Appendices A, B, and C of the referenced report and provide a far more accurate description of the geologic materials. Hydraulic conductivity of the fanglomerate will be primarily a function of the secondary porosity from joint and fracture systems developed as a result of the intense historical seismic conditions in the region and cannot be readily observed in a photograph of core with a small diameter. However, the well logs and core photographs do document the jointed fractured nature of the deposits. A single falling head permeameter test was conducted in the fanglomerate and indicated a low hydraulic conductivity.
- O_NPCA-CBD *et al.*-AttachmentA-7 The commenter states that the permeability of the granitic rock is not sufficiently described or explained. As explained in the referenced report in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C Geohydrologic Assessment of the Fenner Gap Area, the purpose of the pump tests were to evaluate aquifer parameters of the units screened by the well installed for that purpose, which were focused on the geologic units above the alluvial and carbonate geologic units (p. 5). Although not a focus of the pump testing, in the process of conducting the pump tests, the results revealed that the fractured upper portions of the underlying granitic units also contribute recoverable water (p. 25).
- O_NPCA-CBD *et al.*-AttachmentA-8 The commenter requested additional details regarding the pumping test data. The pumping test plots provided in Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C Geohydrologic Assessment of the Fenner Gap Area indicate the distances of observation wells from pumping wells since this an essential parameter in calculating drawdown.

The percolation testing of the recharge basins conducted for the earlier 2001 EIR/EIS⁵⁰ took on the order of two weeks for recharge in spreading basins to affect groundwater levels in monitoring wells. Therefore, it is highly unlikely that Well MW-6 groundwater levels were affected by percolation of discharge water, where the aquifer test was conducted for only 3 days.

Additional data regarding the aquifer testing procedures and results are included the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix A Field Investigation Report by CH2M Hill (Exploratory Drilling and Well Completion Report for TW-1, TW-2, TW-2B, and TW-3 in the Fenner Gap Area, March 2010). The Field Investigation Report is included on the Santa Margarita Water District Website.

The driller (Layne Christensen Co. Drilling) obtained permits for drilling of the test holes and wells. No other permits were required.

- O_NPCA-CBD *et al.*-AttachmentA-9 The commenter requests additional details regarding the pumping test data. The Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C Geohydrologic Assessment of the Fenner Gap Area, Figure 24 clearly shows that the water levels in TW-2 fully recovered after the pumping test. The Field Investigation Report titled Exploratory Drilling and Well Completion Report for TW-1, TW-2, TW-2B, and TW-3 in the Fenner Gap Area, March 2010 test is included as Sub-Appendix A to the CH2M Hill Cadiz Groundwater Conservation and Storage Project and is available on the Santa Margarita Water District website.
- O_NPCA-CBD *et al.*-AttachmentA-10 The commenter notes that recharge can be difficult to estimate and offers up a discharge analysis from Death Valley that would not apply to this location. This comment, as well as the results on the recent discharge investigation conducted on Bristol and Cadiz Dry Lakes,

⁵⁰ Geoscience Support Services, Inc., *Cadiz Groundwater Storage and Dry-Year Supply Program Environmental Planning Technical Report Groundwater Resources, Volume I – Report*, Figures 94 through 98, November 1999.

is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

- O_NPCA-CBD *et al.*-AttachmentA-11 The commenter incorrectly concludes that discharge from springs in the mountains and evapotranspiration would reduce the volume of recoverable groundwater. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.
- O_NPCA-CBD *et al.*-AttachmentA-12 The commenter requests additional information about the recharge model. This comment is addressed in **Master Response 3.2** Groundwater Modeling.
- O_NPCA-CBD *et al.*-AttachmentA-13 The commenter states that the conditions at Bonanza Springs were not included in the estimate of recharge. This comment is addressed in **Master Response 3.4** Springs.
- O_NPCA-CBD *et al.*-AttachmentA-14 This commenter suggests that a sensitivity analysis of the INFIL3.0 model be performed. A sensitivity test was not conducted for the INFIL3.0 model. This comment is addressed in **Master Response 3.2** Groundwater Modeling.
- O_NPCA-CBD *et al.*-AttachmentA-15 The commenter provides storage volume estimates from two other areas not relevant to this location, as explained in **Master Response 3.1** Groundwater Recharge and Evaporation.
- O_NPCA-CBD *et al.*-AttachmentA-16 This comment is addresses in **Master Response 3.1** Groundwater Recharge and Evaporation.
- O_NPCA-CBD *et al.*-AttachmentA-17 The commenter requests discussion comparing the current recharge estimate efforts with the previous efforts conducted during the 2001 EIR/EIS. As described in **Master Response 3.1** Groundwater Recharge and Evaporation, the current effort uses more data and the most current modeling software (INFIL3.0), and is verified by the recent discharge investigation conducted at Bristol and Cadiz Dry Lakes.
- O_NPCA-CBD *et al.*-AttachmentA-18 The commenter asks why the carbonate rocks in the Edwards aquifer in Texas were used for comparison rather than the carbonate units in Death Valley. The referenced 2010 CH2M Hill report, which is included in

the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix A, p. 4-17 notes that geologic conditions determined for carbonates in the study area have been confirmed by extensive studies in Texas of similar carbonate units. Extensive geohydrologic studies of the scope undertaken for this study (or in Texas) have not been conducted for Death Valley area and carbonate rock aquifers are not common in California. The purpose of the reference to the Edwards Aquifer in Texas was 1) the Edwards Aquifer has been extensively studied and modeled, and 2) the Edwards Aquifer demonstrates the nature of high conductivity that that develops in karstic carbonate aquifers. Other references could have been used, but the Edwards Aquifer references provide a very comprehensive overview, discussion and history of the hydrogeology and modeling of karstic aquifers.

- O_NPCA-CBD *et al.*-AttachmentA-19 The commenter states that the Cadiz Groundwater Model has problems with either the estimated recharge value or the aquifer parameters (either in values or spatial representation) that results in the need for unrealistically high evapotranspiration rates to be required to calibrate the model. This comment is addressed in **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.2** Groundwater Modeling.
- O_NPCA-CBD *et al.*-AttachmentA-20 The commenter states that the “sensitivity” analysis (Sensitivity Scenarios 1 and 2) does not represent the form of a sensitivity analysis that is standard practice for modeling exercises such as this and as described in ASTM, Anderson and Woessner (1992) and other references. This comment is addressed in **Master Response 3.2** Groundwater Modeling.
- O_NPCA-CBD *et al.*-AttachmentA-21 The commenter requests well hydrographs for the development of the cones of depression. These are provided in Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, as Figures 70 and 71. As discussed in **Master Response 3.3** Groundwater Pumping Impacts, as shown in Figure 70 of the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, in the Project wellfield area, water

levels would recover quickly in the first 10 to 20 years after pumping stops (i.e., 60 to 70 years since Projected started). This is because the Project wellfield cone of depression would be first to be refilled by the natural recharge and up-gradient groundwater in storage. Away from the Project wellfield, such as in the areas of the Bristol and Cadiz Dry Lakes, water-level recovery would be slower because these areas are located further away and down-gradient from the Project wellfield and therefore there is a lag time for water-level recovery there. Full recovery for the Project Scenario is expected to occur 67 years after pumping stops, which is 17 years beyond the 100 year modeling period (Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, p. 4.9-71).

- O_NPCA-CBD *et al.*-AttachmentA-22 The commenter misinterprets Figure 64 through 69 as meaning that the groundwater levels are slow to recover. See Figures 70 and 71 of Appendix H1 Cadiz Groundwater Modeling and Impact Analysis. Additional discussion of the recovery of the water table is provided in **Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP.
- O_NPCA-CBD *et al.*-AttachmentA-23 The commenter states that a simple calculation of the changes in storage for Sensitivity Scenarios 1 and 2 using just the pumping rate of 50,000 AFY for 50 years and the recharge rates of 16,000 and 5,000 AFY do not result in the same changes in storage cited in the Groundwater in Storage summary in the Executive Summary of Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis. Additional discussion and detail is provided in Section 8.5 of the same report, which notes that inflow also includes the release of water from storage within the interbeds⁵¹ and that outflow also includes uptake of water into storage within the interbeds, and evapotranspiration close to the Dry Lakes.
- O_NPCA-CBD *et al.*-AttachmentA-24 The commenter asks for a discussion of any other groundwater “conservation” or “exportation” projects in which a project has been approved that had planned storage losses of this magnitude for comparison. The

⁵¹ Interbeds represent a poorly permeable bed within a relatively permeable aquifer and consist of highly compressible clay and silt deposits.

operational parameters of other groundwater extraction operations are not relevant to the proposed Project. The Fenner Watershed represents a unique opportunity to capture water that would otherwise flow through the Fenner Gap to evaporate at the Dry Lakes.

- O_NPCA-CBD *et al.*-AttachmentA-25 The commenter asks if the models used are commercially available. This comment is addressed in **Master Response 3.2** Groundwater Modeling.
- O_NPCA-CBD *et al.*-AttachmentA-26 The commenter again asks about the photograph of the fanglomerate. This comment is addressed in **Response O_NPCA-CBD *et al.*-AttachmentA-6** above.
- O_NPCA-CBD *et al.*-AttachmentA-27 The commenter states that the evapotranspiration rates should not change between the recharge scenarios and that the ET rates used are unreasonably high. This comment is addressed in **Master Response 3.2** Groundwater Modeling.
- O_NPCA-CBD *et al.*-AttachmentA-28 The comment refers to a comment in the Draft EIR Vol. 4, Appendix H5, Section 1 of the 14-Nov-11 Technical Memorandum. The purpose was to explain the recharge mechanism in the semi-confined aquifers of the Cadiz agricultural wellfield. Recharge to the Cadiz agricultural wellfield comes from both vertical leakage through the confining layers as well as lateral recharge. As such, there is a time lag between the start of pumping and stabilization of the water levels which is related to the expanding cone of depression and the amount of vertical leakage. Between the mid 1980's and current conditions, the annual Cadiz agricultural wellfield pumping varied. As the result, water levels had not yet equilibrated as the recharge (vertical leakage and lateral expansion of the cones of depressions) was still developing.
- O_NPCA-CBD *et al.*-AttachmentA-29 This comment is addressed in **Master Response 3.2** Groundwater Modeling.
- O_NPCA-CBD *et al.*-AttachmentA-30 This comment is addressed in **Master Response 3.2** Groundwater Modeling.
- O_NPCA-CBD *et al.*-AttachmentA-31 The commenter states that the cone of depression would continue to expand after 100 years. This comment is

addressed in **Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP.

- O_NPCA-CBD *et al.*-AttachmentA-32 This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.
- O_NPCA-CBD *et al.*-AttachmentA-33 The commenter states that if the precipitation pattern changes to less snow and more rain, then the recharge rate should also decline. This assertion is incorrect and unsupported. Winter precipitation that falls as rain instead of snow will still fall within a closed watershed. As such, the runoff will still flow over the same bedrock fractures and permeable alluvial cover that the melted snow would have flown over once it had melted when temperatures warmed up in the spring and summer. However, during the winter, the relatively cooler temperatures would also result in lower evaporation rates, which in turn would result in greater infiltration of surface water runoff into the aquifer system to depths below the extinction depth (the depth below which evaporation is negligible).
- O_NPCA-CBD *et al.*-AttachmentA-34 The commenter states that the cone of depression would continue to expand after 100 years. This comment is addressed in **Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP.
- O_NPCA-CBD *et al.*-AttachmentA-35 This comment is addressed in **Master Response 3.2** Groundwater Modeling.
- O_NPCA-CBD *et al.*-AttachmentA-36 This comment is addressed in **Master Response 3.4** Springs.
- O_NPCA-CBD *et al.*-AttachmentA-37 The commenter states that Figures 1 through 15 are missing from the Draft EIR Vol. 4, Appendix H3 Assessment of Effects of the Cadiz Groundwater Conservation Recovery and Storage Project Operations on Springs. Figures 1 through 14 were inadvertently left out of the Draft EIR and are included in this Final EIR, as Appendix H3. (But note that Figure 15 was included in the Draft EIR.)
- O_NPCA-CBD *et al.*-AttachmentA-38 This comment is addressed in **Master Response 3.2** Groundwater Modeling.

- O_NPCA-CBD *et al.*-AttachmentA-39 The commenter states that the evaluation of the springs should have included a geochemical analysis. As explained in the **Master Response 3.4** Springs, there is no hydraulic connectivity and therefore no possibility of any impacts. Nonetheless, the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP) includes monitoring of three springs in the Watershed that includes measuring the conductivity, pH, and temperature of the spring water.
- O_NPCA-CBD *et al.*-AttachmentA-40 This comment is addressed in **Master Response 3.8** GMMMP.
- O_NPCA-CBD *et al.*-AttachmentA-41 This comment is addressed in **Master Response 3.8** GMMMP.
- O_NPCA-CBD *et al.*-AttachmentA-42 This comment is addressed in **Master Response 3.4** Springs and **Master Response 3.8** GMMMP.
- O_NPCA-CBD *et al.*-AttachmentA-43 This comment is addressed in **Master Response 3.8** GMMMP.
- O_NPCA-CBD *et al.*-AttachmentA-44 The comment is a summary of earlier comments and opinions, all of which have been addressed in **Responses O_NPCA-CBD et al.-AttachmentA-1** through **43**.
- O_NPCA-CBD *et al.*-AttachmentB-1 This general comment is an overall introductory description of the commenter's understanding of groundwater in the Basin and Range geomorphic province. This comment does not state a concern about the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- O_NPCA-CBD *et al.*-AttachmentB-2 This general comment is an overall introductory description of the commenters' understanding of groundwater pumping and changes in storage. This comment does not state a concern about the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- O_NPCA-CBD *et al.*-AttachmentB-3 This general comment is an overall introductory description of the commenters' understanding of water budgets, the need to evaluate recharge and discharge, the need to extrapolate the estimates when large areas are considered, and the preference to estimating both

recharge and discharge to verify the estimates. The commenters also notes the use of models to make these estimates. This comment does not state a concern about the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

- O_NPCA-CBD *et al.*-AttachmentB-4 This general comment summarizes the commenters' understanding of the Project. This comment does not state a concern about the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- O_NPCA-CBD *et al.*-AttachmentB-5 This comment summarizes previous recharge estimates prepared by others and notes that the Project uses the USGS INFIL3.0 soil moisture model to estimate recharge. As discussed in **Master Response 3.1** Groundwater Recharge and Evaporation, all of the previous estimates of recharge relied on minimal sets of data, assumptions to account for the lack of extensive site-specific data, methods inappropriate for this location, or methods inappropriately applied. The commenters noted the need to compare recharge with discharge estimates and reconcile any differences. As discussed in **Master Response 3.1** Groundwater Recharge and Evaporation, this comparison has been made and the discharge measurements are consistent with 32,000 AFY for the estimate of recharge.
- O_NPCA-CBD *et al.*-AttachmentB-6 The commenter compares the estimates of hydraulic conductivity of the carbonate unit in the Fenner Gap of 600 feet per day from the model and 1,150 feet per day from the pump test with hydraulic conductivity values for the carbonate rock province in eastern Nevada and western Utah that range. The commenter notes that the Fenner Gap hydraulic conductivity measurements are relatively high but possible, falling within the approximately upper 10 percent of the Nevada/Utah estimates. This comment does not state a concern about the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

- O_NPCA-CBD *et al.*-AttachmentB-7 The commenter states that the average evaporation rate of 19 inches per year for those model cells where evaporation is occurring used by Geoscience in the impact analysis Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis is too high, noting evaporation rates of 0.1 to 0.7 inches per year for open playa areas in Death Valley. The commenter considers the 16,000 or 5,000 AFY recharge rates more likely. This comment is addressed in **Master Response 3.2** Groundwater Modeling.
- O_NPCA-CBD *et al.*-AttachmentB-8 This comment summarizes the commenters' understanding of changes in storage under the Project and Sensitivity Scenarios over the 100 year time period. The commenter repeats the previous assertion in **Response O_NPCA-CBD *et al.*-Attachment B-7** that the 16,000 or 5,000 AFY recharge scenarios are more likely; the reader is referred to the response to that comment. The commenter notes that the impact to storage will be present for long after the pumping stops. The Draft EIR provides the estimated time for complete recovery of groundwater in storage to pre-Project levels for all three recharge scenarios Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-71 to 4.9-72.
- O_NPCA-CBD *et al.*-AttachmentB-9 This comment is a summary that repeats the previous assertion in **Response O_NPCA-CBD *et al.*-Attachment B-7** that the 16,000 or 5,000 AFY recharge scenarios are more likely; the reader is referred to the response to that comment.

Native American Land Conservancy

Please see all **Responses A/T_29PalmsIndians**; letters are identical.

National Chloride Company of America (2 submissions)

- O_NatlChloride1-1 The commenter states that the Project would violate the mining claims of the salt production company and their right to produce valuable minerals from Bristol Dry Lake. The commenter noted that rights are guaranteed under the United States Laws of 1872 and that they have been producing mineral brines on Bristol Dry Lake for the past 61 years. The commenter requests that the Project eliminate the damages and trouble to their mining claims.

As described in the Draft EIR Vol. 1, Section 4.11.3 Mineral Resources, pp. 4.11-7 to 4.11-10 and in **Master Response 3.3** Groundwater Pumping Impacts, the Project anticipates that there will be some lowering of groundwater levels beneath the salt production operations on the Dry Lakes which may affect the current salt production practices. The Draft EIR provides an assessment of potential impacts to mineral resources and salt production operations in Section 4.11. Page 4.11-9 acknowledges that although the Project would not limit access to mineral resources, it would change current conditions by possibly eliminating the initial production step of simple trench excavation to initially access saline water and therefore could potentially make mining more challenging and require that the initial trench filling be accomplished by pumping saline water from wells, thus adding an additional operating cost. In addition, the saline well pumps might have to be lowered or deeper wells constructed, adding additional operating costs. The EIR and the Updated GMMMP include mitigation specific to these potential impacts of the Project (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Sections 6.2 and 6.5). Mitigation Measure **MIN-1** includes compensation for salt production operations for additional expenses incurred as a result of the lowered groundwater table as well as other corrective measures. The Draft EIR concludes that with implementation of recommended Mitigation Measures, as also reflected in the Updated GMMMP, salt production would remain viable, and impacts to salt production interests and activities would be mitigated.

O_NatIChloride2-1 This comment letter restates comments provided in the comment **O_NatIChloride1-1** and requests that the Project be directed elsewhere. The Draft EIR evaluates an alternative wellfield location in Vol. 1, Chapter 7 Alternatives Analysis, p. 7-34. The wellfield alternative location would reduce impacts to salt production operations on the Dry Lakes, but would not maximize conservation of water flowing through the Fenner Gap. Furthermore, the alternative would have greater impacts to biological resources, cultural resources, geology, and hydrology. See **Response O_NatIChloride1-1**.

Needles Chamber of Commerce

O_NeedlesChamber-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Northwest Pipe Company

O_NWPipe1-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Office Supplies Plus

O_OfficeSupplies-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Orange County Coastkeeper

O_OCC1-1 The commenter states that desert flora and fauna will be impacted by the removal of groundwater. The groundwater to be extracted for the Project is currently at hundreds of feet below ground surface and is inaccessible to biological resources at the surface. The vegetation and wildlife in the region does not rely on groundwater in the alluvial groundwater basin in any way for survival. Lowering of the depth to groundwater under the wellfield would not affect the desert ecosystem in any way. Where groundwater is nearer the surface (on lower portions of the Dry Lakes), no vegetation occurs due to the salinity of the soils on the Dry Lake surfaces. In these locations, groundwater is highly saline and supports no wildlife. Although four-wing saltbush are found at the Dry Lakes edge, the depth to groundwater at this location is over 65 feet. The roots of the four-wing saltbrush do not descend deep enough to reach or depend upon groundwater at this location. For further information, the commenter is referred to **Master Responses 3.3** Groundwater Pumping Impacts, **3.4** Springs, **3.6** Vegetation, and **3.9** Biological Resources.

The commenter states that the removal of water would adversely impact the soils where evaporation may be occurring. This comment is addressed in **Master Response 3.5** Dry Lakes and Dust.

O_OCC1-2 The commenter states that lowering the water table would adversely impact plants that use groundwater. This comment is addressed in **Master Responses 3.3** Groundwater Pumping Impacts, **3.5** Dry Lakes and Dust, **3.6** Vegetation, and **3.9** Biological Resources.

O_OCC1-3 The comment states that Orange County Coastkeeper disagrees that mitigation measures which would relocate at-risk animals from their favored habitat to other areas do not have a significant environmental

impact. As shown in the Draft EIR Vol. 1, Section 4.4 Biological Resources, Table 4.4-2, the Project would permanently affect less than 250 acres of desert that supports marginal quality desert tortoise habitat. Any relocation efforts of sensitive species would be conducted pursuant to CDFG and USGWS approved protocols. No federal or State listed species would be relocated. Mitigation Measure **BIO-7** commits SMWD to a habitat compensation plan to preserve habitat of equal or better quality in perpetuity. The Draft EIR concludes that with mitigation, impacts to wildlife would be less than significant. This comment is addressed **Master Response 3.9** Biological Resources.

O_OCC1-4

The commenter states that the salinity could be increased in third-party wells, specifically agricultural well users. As described in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-24 to 4.9-28, the Cadiz Inc. agricultural operations are the closest to the wellfields and only agricultural entity in the area where groundwater levels would be expected to decrease. The monitoring measures and corrective actions described in Mitigation Measures **HYDRO-3** and **MIN-1** and in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Chapters 5 and 6) are specifically designed to provide Cadiz Inc. with early warning if the saline-freshwater interface is likely to migrate further then 6,000 feet within 10 years. See **Master Response 3.3** Groundwater Pumping Impacts; see also Final EIR Vol. 7, Appendix B1, Updated GMMMP, Section 6.2.

O_OCC1-5

The commenter states that water quality in the aquifer could be affected by the Imported Water Storage Component of the Project if imported water had a lower water quality or contained other contaminants. The potential impacts of importing CRA or SWP water for storage in the aquifer was discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-76 to 4.9-77. The Draft EIR concludes that although imported water would likely have higher TDS concentrations and potentially low levels of other contaminants, the imported water would comply with drinking water standards and would be substantially diluted by the existing groundwater in storage. Since the Draft EIR assesses the Imported Water Storage Component primarily at a program level of analysis, subsequent water quality analysis would be required prior to implementing the Component. See **Response O_NPCA-CBD et al-10** and **Master Response 3.12** Project vs. Program Level Analysis.

O_OCC1-6

The commenter states that insufficient consideration is given to the effects of subsidence on lands not owned by Cadiz Inc. The action criteria for land subsidence described in Mitigation Measure **GEO-1** as well as in the Updated GMMMP (Final EIR Vol. 7, Appendix B1

Updated GMMMP, Section 6.3) apply to any land subsidence caused by Project operations. There are no limitations regarding who owns the impacted property. As reflected in **GEO-1** and the Updated GMMMP, subsidence monitoring devices (extensometers) would be installed to measure subsidence. Action triggers and implementation of corrective measures for subsidence would ensure that significant subsidence is avoided before it occurs. See **Master Response 3.3** Groundwater Pumping Impacts and Draft EIR Vol. 1, Section 4.6 Geology and Soils, p. 4.6-19.

O_OCC1-7

The commenter states that impact scenarios evaluated relative to climate change do not include a scenario where the natural recharge is zero. As discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-10 to 4.9-15, none of the climate change investigators proposed that precipitation levels in the Mojave Desert would decrease to zero. Consequently, a zero recharge scenario was not modeled. The Project did, however, include two scenarios where recharge in the Watershed is 16,000 or 5,000 AFY (pp. 4.9-46 to 4.9-47). As discussed in Draft EIR Vol. 1, Section 4.7 Greenhouse Gas Emissions, pp. 4.7-7 to 4.7-8, the Bureau of Reclamation's report, *Reclamation Climate Change and Water*, included an evaluation of climate change in the Colorado River Basin and found that temperatures will continue to rise, but precipitation will not decline overall and might increase with more rain runoff and less snow.

O_OCC1-8

The commenter states that the Project will eliminate surface and groundwater flow to the Dry Lakes and that the elimination of this water could result in the generation of additional dust, such as occurred at Owens Lake. The Project would not affect surface water runoff, and the surface water runoff would continue to temporarily pool on the surfaces of the Dry Lakes following significant precipitation events regardless of changes in groundwater levels. As discussed in the Draft EIR Vol. 1, Section 4.3 Air Quality, p. 4.3-15, the soils on the Dry Lake surfaces do not rely on groundwater to maintain a crust, which protects the soils from becoming windblown dust. The lowering of groundwater would have no effect on the Dry Lake surface soils. This comment is further addressed in **Master Response 3.5** Dry Lakes and Dust.

O_OCC1-9

The commenter states that the reduction of groundwater reaching the Dry Lakes could impact the salt production operations. The Draft EIR acknowledges that lowering of the groundwater beneath the Dry Lakes could affect current mining practices. Implementation of Mitigation Measure **MIN-1**, as also reflected in the Updated GMMMP, would

ensure that these impacts are mitigated. See **Master Response 3.3** Groundwater Pumping Impacts.

O_OCC1-10

The commenter states that the Other Supply Sources Alternative and the No Project Alternative would avoid significant impacts of the Project including each topic addressed in previous **Responses O_OCC1-1** through **O_OCC1-9**. As required in the CEQA Guidelines section 15126.6, the Draft EIR includes an assessment of potential alternatives to the Project that could avoid or substantially lessen significant impacts of the Project. The Draft EIR Vol. 1, Chapter 7 Alternatives Analysis, Section 7.3 identifies significant impacts of the Project. The two Alternatives noted in the comment would eliminate the Proposed Project, thereby avoiding all impacts. The Other Supply Sources Alternative evaluated in Section 7.4.5 is rejected since it does not meet the Project objectives of enhancing water supply opportunities for SMWD. Table 7-1 lists SMWD's efforts to diversify its water supply options. The Project encompasses only one of these options. Similarly, the No Project Alternative would not meet any of the Project objectives. Please also refer to **Master Response 3.14** Alternatives.

O_OCC1-11

The comment states that the Other Supply Sources Alternative evaluated in the Draft EIR is rejected because its only benefit is a reduction in greenhouse gas emissions. The two significant impacts of the proposed Project as noted in the Draft EIR Vol. 1, Chapter 7 Alternatives Analysis, Section 7.3 are NOx emissions associated with construction and secondary effects of growth. Greenhouse gas emissions are not identified as a significant impact of the Project. The comment further states that the Other Water Supply Sources Alternative would meet the Project objective to "Locate, design, and operate the Project in a manner that minimizes effects and provides for long-term sustainable operations." The commenter is correct in noting that this alternative would eliminate impacts of the proposed Project as they are evaluated in the Draft EIR, similar to a No Project Alternative, and would therefore meet the Project objective of minimizing environmental effects. However, no other Project objective would be met.

The commenter also states that the EIR incorrectly concludes that pursuit of other water supplies would occur with or without the proposed Project. The Draft EIR notes in Section 7.4.5 that SMWD is already actively pursuing other water sources as an integrated water supply development approach. The Project is only one project under consideration. Further, the Other Supply Sources Alternative does not eliminate the need for the Project. SMWD will still pursue other water supplies concurrently with the Project. As Southern California

experiences restrictions on imported water supplies, alternative water supplies and increased water use efficiency are important components in maintaining water supply reliability. The Draft EIR discusses these on-going efforts in Section 7.4.4 and 7.4.5. The Project is one component of the water supply reliability efforts being pursued by SMWD to ensure future water supplies area available to meet demands.

O_OCC1-12

The comment states that the No Project Alternative should be the preferred alternative since it avoids environmental impacts. The Draft EIR Vol. 1, Chapter 7 Alternatives Analysis, evaluates two No Project Alternatives on pages 7-19 through 7-25. One of the No Project Alternatives assumes an expansion of agriculture operations currently to approved levels. These approved agricultural activities are reasonably foreseeable pursuant to CEQA Guidelines section 15126.6(3)(C). This Alternative would result in greater impacts than the proposed Project as summarized in Table 7-4. Further, the Project would result in a low level of development on the Cadiz Inc. properties compared to the potential for expanded agriculture or other land uses. The second No Project Alternative, without expanded agriculture, would not meet any of the Project objectives. Conservation of water that would otherwise be lost to evaporation is a key component of the Project. This resource would not be available for beneficial uses under the No Project Alternative. The commenter also states that the wildlife conservation Project objective could be furthered by the No Project alternatives. Wildlife conservation is compatible with the proposed Project, since the Project would alter the landscape only minimally. Furthermore, as opposed to the No Project alternative, Mitigation Measure **BIO-7** would result in the conservation of property in perpetuity to compensate for permanently impacted open space. See **Response O_OCC1-10** and **Master Response 3.14** Alternatives.

O_OCC1-13

This comment states that the EIR is inadequate since it fails to identify impacts of the Project. The comment lists impacts not addressed as harm to desert ecosystems, lowering of the groundwater table, contamination of drinking water supplies, economic harm to businesses and ground subsidence. The commenter is referred to **Responses O_OCC1-1** through **O_OCC1-12** above. The Draft EIR evaluates the Project's potential to affect desert ecosystem in Vol. 1, Section 4.4 Biological Resources. The Draft EIR evaluates the Project's potential to affect groundwater table in Vol. 1, Section 4.9 Hydrology and Water Quality. The Draft EIR evaluates the Project's potential to affect drinking water quality also in Section 4.9. The Draft EIR evaluates the Project's potential to affect subsidence in Vol. 1, Section 4.6 Geology and Soils.

Economic effects that may occur due to impacts to agricultural land uses are described in Vol. 1, Section 4.2 Agriculture and Forestry Resources.

O_OCC1-14 The comment states that the EIR is insufficient because it does not adequately evaluate Project alternatives. The Draft EIR Vol. 1, Chapter 7 Alternatives Analysis provides a substantial alternatives analysis that clearly outlines a reasonable range of alternatives for Project facilities, locations and Project operations. Alternatives considered but rejected from further consideration are clearly described in Section 7.4. Each Alternative is described and an explanation is provided for why the Alternative is rejected from further consideration or was not identified as the preferred alternative. The analysis adequately complies with the analysis requirements of a reasonable range of alternatives required in CEQA Guidelines section 15126.6. See also, **Responses O_OCC1-1** through **O_OCC1-13**. See also **Master Response 3.14** Alternatives.

O_OCC1-15 The comment summarizes above comments about the environmental impacts analyzed in the Draft EIR and states that the environmental effects are greater than as described in the Draft EIR. See **Responses O_OCC1-1** through **O_OCC1-14**.

Pacific Institute

O_PacificInstitute-1 The commenter summarizes comments made below; please refer to **Responses O_PacificInstitute-2** through **O_PacificInstitute-9**.

O_PacificInstitute-2 The commenter questions the estimates of natural recharge and evaporation. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

O_PacificInstitute-3 The commenter states that the Project is not sustainable because the pumping rate of 50,000 AFY exceeds the estimated recharge rate of 32,000 AFY. This comment is addressed in **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.3** Groundwater Pumping Impacts.

The commenter states that groundwater storage could be permanently lost due to soil compaction. As described in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 8.6, the estimated maximum land subsidence under the three scenarios ranges from 0.9 to 2.7 feet. Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-72 states that although subsidence could result in some permanent loss of aquifer storage, the relatively small amounts of potential land subsidence (tenths to single feet, if any) relative to the overall aquifer thickness (on the order of hundreds to

thousands of feet) would ensure that compaction of water bearing formations would not significantly reduce storage capacity of the groundwater basin.

The commenter expresses general concern regarding saline water intrusion. The potential for the migration of the saline water/freshwater interface are discussed in detail in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-49 to 4.9-53, and in Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 8.4. The Draft concludes that some migration of saline water toward the wellfield could occur. Implementation of Mitigation Measure **HYDRO-3**, as also reflected in the Updated GMMMP, would include monitoring measures and corrective actions to address the potential impacts from the migration of the interface would ensure that this migration of saline water would not significantly impact overlying land uses and groundwater beneficial uses (see Final EIR Vol. 7, Appendix B1 Updated GMMMP, Sections 5 and 6).

O_PacificInstitute-4 The commenter states that if the actual recharge is only 5,000 AFY, then there would be no cumulative net water savings. This comment refers to the table summarizing net water savings in Section 3.3 of Draft EIR Vol. 4, Appendix H2 Supplemental Assessment of Pumping Required. To clarify, as discussed in the referenced section and table, under the worst case scenario of only 5,000 AFY recharge there would still be a reduction of evaporative losses (470,000 AF), but there would be a larger depletion in storage of 1.87 MAF. The Draft EIR recognizes that a cumulative reduction in stored water would occur if recharge is actually only 5,000 AFY. However, the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality concludes that even under this scenario, no adverse impacts would result from the extractions, and ultimately groundwater levels would recover over time (390 years for the 5,000 AFY scenario as noted in Table 4.9-10). With a recharge of 32,000 AFY, however, the aquifer would be depleted no more than three to six percent over the 50-year term of the Project.

The commenter states that most of the reported water savings under the Project Scenario happens at the end of the Project when pumping stops. As shown in Figures 4.9-11a and 4.9-11b, evaporation would be substantially reduced only after groundwater levels beneath the Dry Lakes are lowered, which would occur later in the Project, as the cone of depression from the wellfield expands.

The commenter states that the Draft EIR should evaluate the consequences of the recharge rate being much lower than estimated. As

described on pages 4.9-46 to 4.9-47, Sensitivity Scenarios 1 and 2 specifically address two scenarios under which the recharge rate is much lower than has been estimated from precipitation records. See **Master Response 3.2** Groundwater Modeling.

The commenter states that under Sensitivity Scenario 1 (16,000 AFY recharge), that the Project would have no net water savings due to overdrafting of storage. The comment provided no explanation or support for that conclusion. In contrast, as shown in Table 4.9-11 and as discussed in on pages 4.9-71 to 4.9-73, the model-predicted results indicate a net water savings of 674,000 AF. This comment is further addressed in **Master Responses 3.2** Groundwater Modeling and **3.3** Groundwater Pumping Impacts. The commenter is also referred to the Draft EIR Vol. 4, Appendix H2 Supplemental Assessment of Pumping Required.

The commenter states that under Sensitivity Scenario 2 (5,000 AFY recharge), that the Project would have no net water savings, resulting in (1) unrecoverable depletion of storage, (2) saline water intrusion, and (3) land subsidence. Net water savings and storage are discussed above. Saline water intrusion and land subsidence are addressed in the **Response O_PacificInstitute-3**.

- O_PacificInstitute-5 The commenter states that the Draft EIR did not evaluate the impacts of pumping at 75,000 AFY during the early years of the Project under Sensitivity Scenario 2 where recharge is 5,000 AFY. The purpose of the model runs with pumping at higher rate (i.e., 75,000 AFY) during the early years is to evaluate the potential benefits of capturing more of the groundwater that is in transit to the Dry Lakes.
- O_PacificInstitute-6 The commenter states that the lack of any evidence of a hydraulic connection to the springs is not the same as evidence for no connection. Springs in the Watershed do not rely on groundwater from the alluvial and carbonate aquifers and are not affected by changes in the water table. The springs are fed by mountain precipitation and are located in the fractured bedrock in the higher elevation mountains, rather than in the alluvial and carbonate aquifers. The flow to a spring represents an isolated flow path that is independent of flow patterns occurring at lower elevations below the spring, and it is only water that does not achieve an outlet at the spring that percolates down into the groundwater system and ultimately to the alluvial aquifer below. The Project would pump groundwater from the alluvial aquifer about 1,000 feet below the elevation of the closest spring (Bonanza Spring), and therefore could not impact the Watershed springs. This comment is addressed in **Master**

Response 3.4 Springs and in the Draft EIR Vol. 4, Appendix H3 Assessment of Effects of the Cadiz Groundwater Conservation Recovery and Storage Project Operations on Springs, pp. 18-19.

O_PacificInstitute-7 The commenter addresses the hypothetical assumption that there is some hydraulic connection between the springs and the alluvial aquifer and the conceptual model created by CH2M Hill. The comment is concerned that groundwater pumping would impact the springs. The conceptual model results showed that even if the springs were hydraulically connected to the alluvial aquifer (they are not), the impact to the springs would be insignificant. Specifically, there would not more than a six – seven foot decline in the water table beneath a spring similar to Bonanza Spring, only after more than 500 years. After 50 years, the water table decline would be approximately three feet and after 10 years the decline would be a fraction of one foot.

Concept 2 assumes a connection of the regional water table in the alluvium with the springs. Even though it is unlikely that this connection exists, Concept 2 was provided as a way to demonstrate that even if there was a regional groundwater table connecting the alluvial aquifer and the spring, which we don't believe is the case, then 1) any change in the groundwater levels in the alluvium would be a fraction of any changes (drawdown) in groundwater levels upgradient at the location of springs and only if the groundwater levels in the alluvium remain depressed for extensive periods of time, which are not likely, and 2) the fluctuations in precipitation recharge and resultant fluctuations in groundwater levels in the area of the springs are expected to dwarf any fluctuation due to groundwater levels that might result from changes in groundwater levels in the alluvial aquifer. This comment is further addressed in **Master Response 3.4** Springs, and Draft EIR Vol. 4, Appendix H3 Assessment of Effects of the Cadiz Groundwater Conservation Recovery and Storage Project Operation on Springs, pp. 18-19.

O_PacificInstitute-8 The comment states that the GMMMP would not be effective since impacts may not be detectable until after the Project is completed and may persist for years to come. In the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-63 to 4.9-64, Figures 4.9-11a and 4.9-11b illustrate how groundwater levels will lower during the operational period of the Project and then recover over time. Figures 65, 67, 69, 72, 73, and 74 of the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis provide groundwater levels and the saline-freshwater interface 50 years after the Project is completed. Mitigation Measures **HYDRO-2** and **HYDRO-3**, as also reflected in the Updated GMMMP, would implement a network of

monitoring wells that would provide groundwater level data. The future effects of drawdown are predicted in the groundwater modeling. Groundwater monitoring will ensure that the Project does not differ significantly from model results. See **Master Response 3.3** Groundwater Pumping Impacts and Final EIR Vol. 7, Appendix B1 Updated GMMMP.

O_PacificInstitute-9 The commenter states that that the Draft EIR should include site-specific analyses for the potential impacts of climate change on the basin. Sensitivity Scenarios 1 and 2 in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-46 to 4.9-47 specifically evaluate two scenarios that presume lower recharge rates. Climate change may reduce future recharge at an unknown rate. However, the groundwater to be extracted and saved from evaporation in the groundwater basins is already in storage. If recharge rates change significantly in the future due to climate change, the groundwater basin will respond by lowering groundwater levels from existing condition. Climate change is discussed in detail on pages 4.9-10 through 4.9-15. See **Response O_OCC1-7**.

O_PacificInstitute-10 The comment restates recharge, evaporation, and sustainability concerns articulated in the previous comments. Please refer to **Responses O_PacificInstitute-3** and **O_PacificInstitute-4** for a discussion of groundwater recharge and evaporation.

The comment also expresses opinion about the sustainability of the proposed Project. The comment also identifies uncertainty regarding CRA capacity. The proposed Project relies on the availability of conveyance capacity in the CRA. Metropolitan will have approval authority over construction of the CRA tie-in facilities and the CRA operational modifications required to accommodate the new pump-in facilities. See **Response A_MWD-5**.

River Archaeological Heritage Association of the Lower Colorado River (4 submissions)

O_RiverAHA1-1 The comment requests an extension of an additional 60 days for the comment review. CEQA Guidelines §15105 provides that public review should not be less than 45 days nor should it normally be longer than 60 days. The original public comment period for review of the Draft EIR was for a period of 70 days, from December 5, 2011, through February 13, 2012, and in response to requests for an extension, the comment period was extended another 30 days through March 14, 2012, for a total of 100 days. For further detail on the length of the public comment period, the commenter is referred to **Master Response 3.11** CEQA Public Process.

- O_RiverAHA1-2 The commenter states that the Draft EIR was not submitted to San Bernardino County Planning Commission for review and expresses an opinion regarding the necessity of that agency's involvement and oversight regarding the Project. The Draft EIR was sent to the San Bernardino County Land Use Services Department and the San Bernardino County Planning Commission, District 1 through 5 for their review. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency and **3.11** CEQA Public Process.
- O_RiverAHA1-3 The commenter questions the length of the comment period. The commenter is referred to **Response O_River AHA1-1**, above. Additionally, the commenter is referred to **Master Response 3.11** CEQA Public Process, concerning the request for extension of time.
- O_RiverAHA1-4 The commenter questions the nature of the public review process, including the location of hearings and the accessibility of the hearings, including under the American Disability Act. The commenter is referred to **Response O_River AHA1-1**, above. Additionally, the commenter is referred to **Master Response 3.11** CEQA Public Process, concerning notice of the Draft EIR.
- O_RiverAHA1-5 The commenter states that farmers may lose their jobs as a result of the Project, and that this is in violation of the American Disability Act. The comment is unclear as it is not explained or substantiated. Although the Project would entail the conversion of a small portion of active agricultural lands, operated by Cadiz Inc., to non-production uses, this conversion is consistent with the agricultural land designation and would not conflict with the San Bernardino County General Plan and Development Code, as conversion of the small portion of active agricultural lands to non-productive uses is for the purpose of a water utility (Draft EIR Vol. 1, Section 4.10 Land Use Planning, p. 4.10-20). The commenter's statement that purported job loss is in violation of the American Disability Act is unrelated to the construction or operation of the proposed Project under CEQA.
- Construction and operation of the Project would not preclude continued surface agricultural operations or prevent expansion of agricultural operations west of the Project site on adjacent agricultural-zoned lands. Moreover, the commenter is referred to page 4.10-7 of the Draft EIR. There are no current full-time long-term employment opportunities within the proposed Project area, except for the farm manager and short-term seasonal employment opportunities associated with Cadiz Inc. agricultural operations.

- O_RiverAHA1-6 The commenter states that the title of the Project does not reflect the nature of the Project. The Project name adequately describes the intent of both phases of the Project, to extract groundwater that would otherwise become highly saline and evaporate, and if Phase 2 is implemented, to store imported water in the aquifer. Please also see **Master Response 3.15 Terminology**. The comment was made in the context of a request for extension of the comment period for review of the Draft EIR. An extension was provided on February 13, 2012 which extended the review period until March 14, 2012.
- O_RiverAHA1-7 The commenter states that certain studies and information were withheld but does not specify what studies and information the commenter believes is missing. The Draft EIR provides multiple appendices with technical information supporting the conclusions.
- O_RiverAHA1-8 The commenter states that SMWD should not be the lead agency, that the County has abrogated its duties, and that there is a conflict of interest for SMWD to be assessing impacts of the Project. The commenter is referred to **Master Response 3.10 CEQA Lead Agency**.
- O_RiverAHA1-9 The commenter states that commenters on the 1999 EIR for the Cadiz Groundwater Storage and Dry-Water Supply Program should have been notified of the release of the Draft EIR. The commenter is referred to **Master Response 3.11 CEQA Public Process**, concerning notice of the Draft EIR.
- O_RiverAHA1-10 The commenter summarizes previous comments in the letter. See **Responses O_RiverAHA1-1 through O_RiverAHA1-9**. The commenter is also referred to **Master Response 3.11 CEQA Public Process**, concerning the request for extension of time.
- O_RiverAHA2-1 The commenter requests documents and requests an extension of the public comment period. See **Response O_RiverAHA1-1**. The Appendices requested are confidential archaeological records that are available to qualified professionals at the San Bernardino Archaeology Information Center (SBAIC). Access to these documents is kept confidential as standard practice to protect resources. Qualified archaeologists have access to the records. The commenter was sent email correspondence on May 1, 2012 with the address and contact information of the SBAIC.
- O_RiverAHA2-2 The commenter requests documents. See **Response O_AHA2-1**.
- O_RiverAHA3-1 The commenter requests documents. See **Response O_AHA2-1**.

- O_RiverAHA3-2 The commenter requests documents. See **Response O_AHA2-1**.
- O_RiverAHA4-1 The commenter provides a personal perspective on the relationship between the River Archaeological Heritage Association's service vicinity and the springs in the area. The commenter notes that during reconnaissance and monitoring activities, the River Archaeological Heritage Association relies on certain wells and springs. See **Master Response 3.4 Springs**.
- O_RiverAHA4-2 The commenter expresses confusion as to what the Draft EIR is analyzing. The Draft EIR provides background on the Project, discusses the Project Participants, and provides a description of the Project in Vol. 1, Chapters 1 Introduction, 2 Project Background, and 3 Project Description. An extensive analysis of potential environmental impacts, along with mitigation measures, is laid out in Chapter 4 Environmental Setting, Impacts, and Mitigation Measures. Chapter 5 discusses potential cumulative impacts, Chapter 6 looks at potential growth inducement, and Chapter 7 analyzes potential Project alternatives. Supporting documentation including reports on facilities, air quality, biological resources, cultural and paleontological resources, hydrology, geology, and economic impacts is contained in Volume 2, Appendices C and D; Volume 3, Appendices E, F, and G; and Volume 4, Appendices H and I. In addition, the Draft EIR presents a draft groundwater management plan (Groundwater Management, Monitoring, and Mitigation Plan or Draft GMMMP) and the Final EIR Vol. 7, Appendix B1 presents a Updated (Updated GMMMP) for review. Operation of the Project is contingent upon implementation of the GMMMP.
- The commenter expresses opposition to the Project and supports the No Project Alternative. The Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives, pp. 7-19 to 7-25 evaluates the No Project Alternative as required by CEQA. The comment is opposed to each of the alternatives to extract water from the Project area. The comment is noted. The comment does not raise an issue regarding the adequacy of the Draft EIR.
- O_RiverAHA4-3 The commenter concurs with the findings of the Johnson and Wright report, which it cited in the comment letter submitted by the National Parks Conservation Association. The comments regarding this report are addressed in the responses to comment letter **O_NPCA-CBD *et al*- AttachmentA-1** through **A-44**.
- O_RiverAHA4-4 The commenter expresses general concerns that there are no protections to the public from potential impacts of the Project. The commenter is opposed to the volume of water proposed to be extracted, states that

monitoring well data is insufficient, and asserts that mechanisms to protect property owners and the environment are insufficient. Although the commenter does not provide specific reasons for the concerns, the comments are generally addressed in **Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP.

- O_RiverAHA4-5 The commenter states that groundwater flow in the basin is connected to closed basins to the south and to groundwater basins to the east that connect with the Colorado River. However, it is a closed basin, which means that it does not hydraulically connect with other basins or the Colorado River (see **Response A_NPS-17** and Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality). The commenter also states that the Project will affect water supplies in Needles. The groundwater basin systems for the Project and for Needles are not connected. Needles is approximately 50 miles away from the Project area and its water is supplied by local groundwater and diversions from the Colorado River. However, the Updated GMMMP includes monitoring features in Danby and in Piute Valley to monitor whether the drawdown affects are experienced outside the Fenner, Bristol, and Cadiz Watersheds. See also **Master Response 3.8** GMMMP.
- O_RiverAHA4-6 The commenter opposes SMWD as the lead agency. The commenter is referred to **Responses O_RiverAHA1-8** and **O_NPCA-CBD et. al.-19 and 122** and **Master Response 3.10** CEQA Lead Agency.
- O_RiverAHA4-7 The commenter opposes SMWD as the lead agency. The commenter is referred to **Responses O_RiverAHA1-8** and **O_MDLT-1** and **Master Response 3.10** CEQA Lead Agency.
- O_RiverAHA4-8 The commenter states that the Draft EIR misleads the public by not disclosing San Bernardino County authority. San Bernardino County authority is discussed in the Final EIR Vol. 7, Appendix B1, Updated GMMMP. The San Bernardino County Groundwater Management Ordinance is described in detail in the Draft EIR Vol. 1, Chapter 2 Project Background, p. 2-3. The Draft EIR Project Description identifies the need for San Bernardino County approval pursuant to the Groundwater Management Ordinance exclusion provision. The Ordinance is also discussed in the Updated GMMMP. See **Master Response 3.8** GMMMP and **3.10** CEQA Lead Agency.
- O_RiverAHA4-9 The commenter objects that the San Bernardino County Planning Commission has no authority over the Project. The Project would not require approval by the San Bernardino County Planning Department. The Draft EIR was circulated to the San Bernardino County Land Use Services Department and the San Bernardino County Planning

Commission, Districts 1 through 5. The commenter is referred to **Response O_RiverAHA1-2** and **Master Response 3.10** CEQA Lead Agency.

O_RiverAHA4-10 The commenter states that the review period for the Draft EIR is insufficient. The commenter is referred to **Response O_AHA1-1** and **Master Response 3.11** CEQA Public Process, concerning the request for an extension of time.

O_RiverAHA4-11 The commenter states that data has been withheld including groundwater modeling data, groundwater monitoring data, and memoranda of agreement with the BLM and the County. The Draft EIR includes substantial documentation containing technical information supporting the impact analysis and conclusions. The information provided in the Draft EIR and appendices provide sufficient data to make impact conclusions. No information needed to support the Draft EIR is withheld. The commenter is also referred to **Response O_NPCA-6**.

O_RiverAHA4-12 The commenter refers to the Cultural Resources Report included in Appendix G of the Draft EIR as omitting certain maps. The referenced documents are confidential archaeological records that are available to qualified professionals at the San Bernardino Archaeology Information Center. Access to these documents is kept confidential as standard practice to protect resources. Qualified archaeologists are permitted access to the records. See **Response O_RiverAHA2-1**.

O_RiverAHA4-13 The commenter states that the Project could affect cultural resources located on federal land. No Project facilities would be sited on federal land. The Draft EIR includes a detailed assessment of cultural resources identified within the ARZC alignment. The Draft EIR summarizes this report and concludes that impacts to cultural resources can be avoided or minimized. See Draft EIR Vol. 1, Section 4.5 Cultural Resources, pp. 4.5-40 to 4.5-52.

The comment states that the ARZC right of way is not privately held land but rather federal lands granted for use by railroads. See **Master Response 3.13** Right-of-Way and NEPA.

O_RiverAHA4-14 The commenter states that the Parker Cutoff Railroad District should be considered a significant historic district. All recorded cultural resources were evaluated for their eligibility to the California Register both individually and as contributors to a potential as-yet-undefined ATSF Parker Cutoff historic district, if applicable. Thirty-one of the identified archaeological resources were recommended not eligible for listing in the CRHR or not otherwise significant under CEQA based on their limited

potential to yield information important to history and their lack of clear association with historically significant people and events. Because of their lack of clear association with the historic ATSF Parker Cutoff, these 31 sites were not considered contributing elements to a potential historic district.

The commenter states that the Draft EIR fails to address the National Historic Preservation Act (NHPA) and its applicability to resources located within the railroad ROW. The NHPA is identified on page 4.5-34 of the Draft EIR Vol. 1, Section 4.5 Cultural Resources. The NHPA applies to actions conducted by federal agencies. No federal approvals are required for the Project. Therefore, the NHPA is not directly applicable to action of SMWD. Nonetheless, the Draft EIR evaluates the potential for resources within the Project area to be eligible for listing under the National Register of Historic Places. The Draft EIR evaluates the potential eligibility of sites within the Project area beginning on page 4.5-40. Mitigation Measures **CUL-1** through **CUL-6** would ensure that impacts would remain less than significant.

O_RiverAHA4-15

The commenter states that the impact area for the Project is located on federal lands within the railroad ROW, not just on private lands and thus federal review under NHPA is required. The NHPA is applicable to actions conducted by federal agencies. No federal actions would be necessary to implement the Project. Cultural resources within the railroad ROW are identified in the Draft EIR and Mitigation Measures are identified to protect the resources. See **Master Response 3.13** Right-of-Way and NEPA.

O_RiverAHA4-16

The commenter states that the Project fails to identify a Treatment Plan. The Draft EIR presents an assessment of the potential cultural resources in the APE including historic and archaeological resources. The Draft EIR identifies Mitigation Measures to ensure that impacts are minimized. Mitigation Measure **CUL-4** requires that a Treatment Plan be prepared if impacts to potentially significant resources are unavoidable. However, Mitigation Measure **CUL-2** requires that the construction zone be narrowed where feasible to avoid impacts.

The commenter states that the Draft EIR does not require that a Treatment Plan is approved by a regulatory agency. There are no requirements for the State Historic Preservation Officer (SHPO) to approve the Project mitigation or treatment plans. Consultation with SHPO is not required unless the project is subject to Section 106, NEPA, or is located on federally or state-owned property. The Mitigation

Measures would ensure that historic and pre-historic resources are protected with the oversight of qualified archaeological professionals.

The commenter states that cultural resources were not adequately analyzed. As stated in the Draft EIR Vol. 3, Appendix G1 Cultural Resources Report, p. 29 and the Draft EIR Vol. 1, Section 4.5 Cultural Resources, p. 4.5-23, two of the resources that were previously recorded within the proposed pipeline portion of the Project area (CA-SBR-5606/H and -5819H) could not be located and are presumed to have been destroyed within the Project area. Therefore, because the portions of these two resources that are within the Project area are believed to have been destroyed, a total of 41 resources are currently known to exist within the proposed pipeline portion of the Project area.

O_RiverAHA4-17 The commenter expresses an opinion regarding the quality of Figure 3 of the Cultural Resources report and states that the map does not indicate who owns the surveyed areas. Figure 3 is included in the Draft EIR Vol. 1, Appendix G1 Phase 1 Cultural Resources Assessment. The survey area depicted in Figure 3 is entirely within Cadiz Inc.-owned property.

O_RiverAHA4-18 The commenter states that some cultural sites were omitted from the cultural resources assessment, specifically that the Salt Song Trail and traditional salt collection sites were not identified. As described in the Draft EIR Vol. 1, Section 4.5 Cultural Resources, p. 4.5-22, Native American contacts were pursued to identify sacred lands near the Project area. The Salt Song Trail was not identified as a cultural resource through this contact program.

The Salt Songs are a series of songs telling a journey through the desert areas of the southwest to the Pacific that provide a “spiritual trail” for the dead. The Salt Songs are an integral part of the Southern Piute Culture. The broad cultural context of the Salt Song traditions referenced in the comment covers the eastern Mojave area generally, including the wilderness areas and dry lakes of the region, although specific locations in the vicinity of the Project area are identified in some versions of the Songs.

The Project would install a low density development of well pads in the wellfield area. Given the vastness of the landscape of the Fenner and Cadiz Valleys, construction and operation of the wellfield would have a minimal impact on the landscape. The water conveyance pipeline will be located subsurface and will be within 100 feet of the existing railroad. Once installed, the water conveyance pipeline will not be visible on the surface. Operation of the Project will result in minimal changes to existing conditions. The integrity of the surrounding desert, wilderness

areas, and dry lakes and the cultural context of the Mojave region will remain similar to existing conditions, and there would be no significant impact to the Salt Song Trail.

O_RiverAHA4-19

The commenter expresses a lack of confidence in the cultural resources analysis. The archaeologists who were involved in the pedestrian survey and preparation of the Cultural Resources Report are trained qualified archaeologists who have extensive experience throughout Southern California, including the Mojave Desert. The leaders of the field survey teams and the principal investigator for the Project all have Master's degrees in archaeology, are Registered Professional Archaeologists, and meet or exceed the Secretary of the Interior's Professional Qualifications Standards for Archaeology.

Regarding field survey methodology, archaeologists followed standard survey procedures by walking in straight parallel transects not exceeding 15 meters in width, with each archaeologist scanning the ground within his/her transect for cultural resources. The survey team generally consisted of four archaeologists each day. Detailed field notes regarding personnel, methodology, survey conditions, and documented resources, were taken daily by the survey team leaders, but were summarized in the Cultural Resources Report rather than included in full.

The commenter states that the wellfield area has not been surveyed for cultural resources. See **Response O_NPCA-CBD-83**.

O_RiverAHA4-20

The commenter asserts that the Cultural Resources Report did not address cumulative impacts to cultural resources. Cumulative impacts are addressed in the Draft EIR Vol. 1, Chapter 5 Cumulative Impacts, pp. 5-32 through 5-33. Please also see **Master Response 3.12** Project vs. Program Level Analysis.

O_RiverAHA4-21

The commenter states that the wellfield area has not been surveyed for cultural resources. See **Response O_RiverAHA4-19**.

The commenter's assertion that the Applied Earthworks, Inc. 1999 study was used as the primary basis for recommendations made with regard to the wellfield area and that any cultural resources in this area were "excluded from potential eligibility" is incorrect. Although the 1999 Applied Earthworks study was used to provide background information and, along with the records search, to identify resources that had been previously recorded in the wellfield area, the report acknowledges that because the study is 13 years old (11 at the time of the ESA 2010

survey), it no longer represents a current source of survey data. See **Response O_NPCA-CBD et al.-83**.

- O_RiverAHA4-22 The commenter objects to the characterization of cultural resources within the wellfield area. Please see the **Response O_RiverAHA4-21**. As indicated by the heading “Records Search Results,” the information presented in the Draft EIR Vol. 3, Appendix G1 Phase 1 Cultural Resources Assessment, p. 16 is only a summary of the results of the records search that was performed for the proposed Project prior to field survey and does not present the complete data collected in the field survey. Resources CA-SBR-3243 and CA-SBR-3281H, like all resources in the wellfield portion of the Project area, were not evaluated for significance as a part of the Cultural Resources Report. Any information regarding the descriptions and significance evaluation presented in the section “Records Search Results” is a summary of previously documented information on these cultural resources. See also **Response O_NPCA-CBD et al.-83**.
- O_RiverAHA4-23 The commenter objects to certain findings in the report. Site CA-SBR-9852 is described on p. 22 of the Cultural Resources Report, and the findings of Inoway et al. (1999e) are summarized. The findings are not presented in detail because site CA-SBR-9852 is not located within the Project area and would not be impacted by the proposed Project; therefore, the level of detail requested in the comment is not required under CEQA.
- O_RiverAHA4-24 The commenter objects that insufficient information about location of cultural resources is provided in the cultural report. Per California Government Code section 6254.10, neither the Draft EIR nor the Cultural Resources Report included as Appendix G to the Draft EIR include the specific location of cultural resources. This includes Department of Parks and Recreation (DPR) forms, which provide a detailed recording of each cultural resource. However, the Cultural Resources Report provides a description of each resource that was documented during the 2010 cultural resources survey, including those resources that were not recommended as significant. Confidential appendices to the Cultural Resources report are on file at the San Bernardino Archaeological Information Center at the San Bernardino County Museum and may be accessed there by qualified individuals. See also **Response O_NPCA-CBD et al.-83**.
- O_RiverAHA4-25 The commenter expresses a lack of confidence in the cultural analysis. Please see **Response O_RiverAHA4-19** regarding the qualifications of ESA archaeologists. The cultural resources survey of the pipeline portion

of the Project area was conducted by qualified professionals and using professionally accepted survey methodology. No re-survey is required. Please see **Response O_RiverAHA4-23** regarding site CA-SBR-9852.

- O_RiverAHA4-26 The commenter raises concerns about the formatting of the appendices to the Cultural Resources Report and does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA. However, the comment is acknowledged for the record.
- O_RiverAHA4-27 The commenter objects to the Native American consultation. Please see **Responses A_NAHC-1** and **A_NAHC-2** regarding Native American tribal organization contact. The Project Description provided in the Native American contact letters was intended to provide the contacts with a brief summary of the proposed Project in order to solicit any information that the contacts would like to share regarding concerns about traditional Native American cultural resources, not to provide detailed Project information. A potential Tribal Cultural Property had not been identified within the Project area at the time that the letters were sent.
- O_RiverAHA4-28 The commenter states that the Draft EIR mischaracterizes the proposed Project. The Draft EIR describes the proposed Project in the 54-page Project Description in Chapter 3. Please refer to **Response I_Robinson-02** regarding Draft EIR Project Objectives and **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.10** CEQA Lead Agency.
- O_RiverAHA4-29 The commenter states that San Bernardino General Plan was successfully sued by the California Attorney General regarding efforts to mitigate climate change. The comment does not address the adequacy of the Draft EIR.
- O_RiverAHA4-30 The commenter summarizes concerns in previous comments. The commenter is referred to **Responses O_RiverAHA4-1** through **O_RiverAHA4-29**.

Roscoe Moss Company

- O_RoscoeMoss1-1 This commenter supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Salt Products Company

O_SaltProducts-1 The commenter states that groundwater levels may decrease beneath Danby Dry Lake. As discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-1 to 4.9-5 and 4.9-28 to 4.9-31 and Figures 4.9-1 and 4.9-6, Danby Dry Lake is outside of the Watershed to be pumped and will therefore not be impacted. A monitoring well would be located at Danby as described in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP).

The commenter states that the Salt Products Company is the only entity that maintains the road between Cadiz and Hwy 62 off mile marker 102 and that the added impact of the construction traffic on that stretch of road would impact them economically. The Project would utilize the road and would maintain the road to serve the Project. This will provide a benefit to all users of the road since maintenance would be provided by the Project operators.

Society for the Protection and Care of Wildlife

O_SPCW-1 The commenter questions regarding the verification of the data used in the INFIL3.0 model. The data used for the INFIL3.0 model is described in Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sections 5 and 6 and Sub-Appendix A. See **Master Response 3.2** Groundwater Modeling.

The commenter states that that recharge estimates are inaccurate and that previous recharge estimates were not considered. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

O_SPCW-2 The commenter questions potential impacts to springs and seeps utilized by area residents and migratory wildlife on federal land. This comment is addressed in **Master Response 3.4** Springs. No federal approvals are required to implement the Project.

O_SPCW-3 The commenter questions the adequacy of the Draft EIR. The comment does not point to specific instances of inadequacy in the Draft EIR that can be remedied. For this reason a response pursuant to CEQA is not provided. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

The commenter states that the design and analysis of the Project is incomplete and difficult to assess. The commenter is referred to the Draft

EIR discussion of facilities for operation and construction of the Project, Chapter 3 Project Description, Sections 3.6 and 3.7, pp. 3-22 to 3-52.

O_SPCW-4

The commenter requests information about the volume of water used by the railroad and asks what railroad uses would benefit. Table 3-1 summarizes the volume of water needed for railroad uses: 10 to 100 AF per year. As described in the Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-20 and 3-40, ARZC has reserved rights for and identified the use of water from the Project for fire suppression and vehicle maintenance. In addition, ARZC has reserved rights for use of water from the Project for washing railcars, controlling vegetation, serving its offices, and other improvements and future operations such as a steam-powered excursion locomotive, potential new warehouses, bulk transfer facilities, and other railroad-related facilities on the line. Each of these uses would be subject to additional environmental review as they are developed. ARZC would be granted use of Project access roads and to the Project power facilities. See **Master Response 3.13** Right-of-Way and NEPA.

O_SPCW-5

The commenter asks how the Project can export water given the County Groundwater Management Ordinance. The Draft EIR Vol. 1, Chapter 2 Project Background, Section 2.3.1 describes the San Bernardino County Groundwater Management Ordinance. The ordinance does not apply to entities that have prepared a County-approved groundwater management plan. As described in Draft EIR Vol. 1, Chapter 3 Project Description, Section 3.4.3, the proposed Project includes a groundwater management plan (the Groundwater Management, Monitoring, and Mitigation Plan, Final EIR Vol. 7, Appendix B1 Updated GMMMP) that is consistent with and would fulfill the Ordinance requirements. In May 2012, the County, SMWD, FVMWC, and Cadiz Inc. entered into a memorandum of understanding (MOU) that established a framework for finalizing the Updated GMMMP. See **Master Responses 3.8** GMMMP and **3.10** CEQA Lead Agency.

O_SPCW-6

The commenter states that the Project may about the generate dust. This comment is addressed in **Master Response 3.5** Dry Lakes and Dust.

O_SPCW-7

The commenter expresses general concern that the extraction of up to 105,000 AF in some years would not allow for recovery of the basin in any timeframe. For Phase 1, the maximum annual withdrawal amount is limited to 75,000 AFY. The recovery timeframes for all three recharge scenarios are discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-71 to 4.9-73, which list the model-predicted timeframes for recovery.

- O_SPCW-8 The commenter expresses general concerns regarding lost revenue and jobs but does not provide any basis for the concerns. The comment is otherwise unclear. As described in the Draft EIR Vol. 1, Section 4.10 Land Use and Planning and Chapter 3 Project Description the construction of the Project would create jobs and revenue for construction workers and the sale of the water would provide revenue for the water companies. See the Economic Impact Report of the Proposed Cadiz Valley Groundwater Conservation Recovery and Imported Water Storage Project Final Report, Draft EIR Vol. 4, Appendix I.
- O_SPCW-9 The commenter questions whether this is a “water conservation measure.” As described in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-71 to 4.9-73, Table 4.9-9 summarizes the volumes of water that would be conserved. See the Supplemental Assessment of Pumping Required, Draft EIR Vol. 4, Appendix H2 Supplemental assessment of Pumping Required. See **Master Response 3.15 Terminology**.
- O_SPCW-10 The commenter states that facilities to be used if needed in Phase 2 such as above ground reservoirs are not discussed. The commenter also states that the water quality effect of importing water into the basin during Phase 2 is not adequately evaluated. The potential need for above grade reservoirs is described in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-36, and the need for spreading basins, which would also be built above ground, is discussed on p. 3-45. The Imported Water Storage Component is described on pp. 3-14 to 3-15 and the facilities for this Component are described in Section 3.6.2 from 3-41 to 3-46. The potential for the Imported Water Storage Component to affect water quality in the groundwater basins is discussed on Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, p. 4.9-76.
- O_SPCW-11 The commenter states that the EIR fails to meet the standards of CEQA. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Tetra Technologies, Inc. via Rutan & Tucker, LLP (6 submissions)

- O_Tetra1-1 The commenter states that the Project would divert all groundwater from the Dry Lakes for 50 years and adversely impact Tetra’s salt production operations at the Dry Lakes. As described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-22, the recovery of groundwater is only from the Fenner Gap area and groundwater flowing

to the Dry Lakes from the areas west, south, and east of the Dry Lakes will continue to flow to the Dry Lakes. The Project would not affect surface water. The Draft EIR acknowledges in Section 4.11.3 Mineral Resources, pp. 4.11-6 to 4.11-13 that lowering of groundwater would affect salt production operation on the Dry Lakes if Project drawdown results in water levels too deep to initiate the salt concentration process by simple excavation requiring salt production operations to initially fill the trenches with pumped saline water, thus incurring additional costs. Accordingly, the Draft EIR discloses that, while the Project would not result in loss of availability of the salt resources, it could make it more difficult or costly to produce salt and require a change in production operations and/or well facilities. Mitigation Measure **MIN-1** would require the modification of Project operations to avoid such a potential impact or compensate the salt production operations for the additional cost of pumping in order to ensure salt production operations continue to be viable. See **Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP.

O_Tetra1-2

The commenter expresses general concerns regarding the adequacy of the evaluation of Project impacts and enforceable, effective mitigation measures, with specific comments provided later in the comment letter. The commenter is referred to **Responses O_Tetra1-3** through **O_Tetra1-28** below.

The commenter provides a summary of comments raised below regarding the adequacy of the Draft EIR, and impacts to hydrology, mineral resources, air quality, biology and other resource areas. The commenter is referred to **Responses O_Tetra1-3** through **O_Tetra1-28** below.

O_Tetra1-3

The commenter states that the groundwater to be extracted is not currently wasted but is used to help produce agricultural, mining (salt production), and commercial products, and is essential to the salt production operations. See **Master Response 3.1** Groundwater Recharge and Evaporation and **3.3** Groundwater Pumping Impacts.

O_Tetra1-4

The commenter states that the natural recharge is overestimated. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

The commenter states that if the recharge is less than estimated, then the evaluations would not be representative of what would actually occur. As discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-46 to 4.9-47 and Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sections 5.0, 6.0, and 7.0,

the aquifer model was also run for Sensitivity Scenarios 1 (16,000 AFY) and 2 (5,000 AFY) to model conservative scenarios where the recharge over the 50-year Project period is less than anticipated.

The commenter states that the extracted groundwater would not be recovered. As described in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-71 to 4.9-73, under the Project Scenario and Sensitivity Scenario 1, the groundwater level would begin to recover under all three recharge scenarios by natural recharge once the pumping stops after 50 years. The water levels under the Project Scenario are anticipated to return to pre-Project levels about 67 years after the pumping portion of the Project is stopped.

O_Tetra1-5

The commenter asks if the import of water for the Imported Water Storage Component of the Project would counterbalance the groundwater drawdown under the Conservation and Recovery Component of the Project. The purpose of the Imported Water Storage Component is not to replace water that has previously been extracted, but rather to store water temporarily and then extract it at a later date. The hydraulic control achieved by Phase 1 would assist in maintaining recharged water within the wellfield.

O_Tetra1-6

The commenter states that the Draft EIR does not define SMWD's authority to allow groundwater withdrawals from the Fenner basin or to withdraw the amount of groundwater proposed. See **Master Response 3.7** Water Rights. Further, the commenter states that monitoring is controlled by the Project Proponents. However, San Bernardino County would have full enforcement authority pursuant to the MOU and Updated GMMMP. The comment states that the monitoring should be controlled by land agencies such as NPS and BLM that could be impacted. The Project would not impact federal lands including the Mojave National Preserve or any of the BLM lands surrounding the Cadiz Inc. properties. No federal approvals are needed to implement the Project. Please see **Master Response 3.13** Right-of-Way and NEPA. Project monitoring and mitigation related to the GMMMP will be conducted by the County of San Bernardino. See **Master Response 3.8** GMMMP and Final EIR Vol. 7, Appendix B1 Updated GMMMP.

O_Tetra1-7

The commenter states that the Draft EIR improperly defers environmental evaluation of groundwater pumping impacts and only proposes monitoring once the Project is operational. The Project does not defer the impacts of groundwater pumping. Please see **Master Response 3.3** Groundwater Pumping Impacts, as well as Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality and Section 4.11 Mineral Resources

for information on potential impacts. Potential impacts to groundwater resources are discussed in detail in the Draft EIR and mitigation (avoidance, compensation, and/or Project modifications) is proposed for addressing any potential impacts as described in detail in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP). For instance, if water level declines adversely affect salt production operations, clearly defined corrective measures would either alter Project operations to reverse or avoid the impact, or the FVMWC would compensate for the effect including modifying or replacing wells, or compensating for increased costs of operation. The monitoring program will provide information to help identify any potential impacts and ensure the implementation of clearly defined corrective measures.

The commenter states that the recharge rate is unknown. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. See **Master Response 3.8** GMMMP.

O_Tetra1-8

The commenter expresses general concern regarding the adequacy of the Draft GMMMP to evaluate impacts, with specific comments that are addressed below.

The commenter states that the monitoring required in the EIR and Draft GMMMP is inadequate and incorrectly believes the monitoring will rely on a single well far from their salt production operations. Monitoring Features 2 and 9 described the Final EIR Vol. 7, Appendix B1 Updated GMMMP (Sections 5.3 and 5.10, and Figures 5-1 and 5-2), identify the cluster wells located between the wellfield and margins of the Dry Lakes to monitor groundwater levels at the salt mining operations. The measure is triggered where the Project causes a change in the groundwater or brine water levels of greater than 50 percent of either (a) the water column above the intake of any of salt mining operators' wells or (b) the average depth of brine water level within the brine supply trenches operated by the salt mining operators **or** if a salt mining operator submits a written complaint regarding decreased groundwater production yield or increased pumping costs. This action criteria is an "early warning" trigger because brine pumping and trench evaporation would continue at these levels. Furthermore, the complaint trigger provides a fail safe for the salt mining operators to trigger investigation and corrective actions.

For example, if the amount of drawdown of groundwater levels could result in the water level dropping to below the pump intake of a particular saline water well used to refill the salt production mitigation measure **MIN-1** would require that the FVMWC evaluate the circumstances to determine whether the drop in water levels was

attributable to the Project and not some other cause, such as overpumping by the salt production company. If the cause is attributed to the Project, then the FVMWC would be required to bear the cost of either lowering the pump in the well, if additional well depth is available, or installing a new deeper well at a new location, both at no cost to the salt production company.

The commenter states that a water table drop of one foot would be detrimental to the salt production operations. The Draft EIR acknowledges that groundwater levels may decline beneath the salt production operations. As described above, the FVMWC would be required under the stipulations of the GMMMP to implement corrective measures for detrimental impacts.

The commenter states that the monitoring and decision making will be made by Project proponents. See **Master Response 3.8** GMMMP and **Response O_Tetra1-6**.

The commenter states that the area might become another Owens or Mono Lake. The concern regarding Owens Lake is addressed in **Master Response 3.5** Dry Lakes and Dust. The concern regarding Mono Lake is also not relevant since the proposed Project is not diverting surface water from an established water body. The conditions at Mono Lake and Owens Lake are fundamentally different than the conditions at Bristol and Cadiz Dry Lakes, which have been dry for thousands of years. In addition, the chemical makeup of the Owens and Mono Lake exposed lake beds is very different from the surface crust of the Dry Lakes. The salts occurring in Owens Lake and Mono Lake are high in carbonate, bicarbonate, and sulfate while those occurring in the Bristol and Cadiz Dry Lakes crusts are dominated by calcium, sodium, and chloride. The chemistry of Owens Lake and Mono Lake creates fine particulates that release dust. The chemistry at the Bristol and Cadiz Dry Lakes creates a crust that does not release fugitive dust.

The commenter states that the monitoring criteria and authority of the TRP be established before the Project is constructed. See **Master Response 3.8** GMMMP.

O_Tetra1-9

The commenter expresses concern that the 17 to 34 MAF of groundwater in storage has been overestimated because the previous 2000-2001 EIR/EIS estimated 3.65 to 6.69 MAF. As summarized in the Draft EIR (Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix A, Section 3.0), the 3.65 to 6.69 MAF volume cited in the 2000-2001 EIR/EIS actually refers only to the volume of groundwater in the area of influence of the Project operations proposed

at that time. The volume of groundwater in storage in the Fenner Valley estimated in the 2000-2001 EIR/EIS was 12.8 to 23.4 MAF. Since the 2000-2001 EIR/EIS, considerable additional information has been acquired through detailed and site-specific geologic mapping of the area, installation of additional borings and wells, pump tests conducted on wells specifically constructed to test aquifer properties, and updated and recent software (created by USGS in 2008) to model the aquifer system. Using the new information and methods, the Draft EIR updated the estimated volume of groundwater in storage in the Fenner Valley plus the Orange Blossom wash and the northern portion of the Bristol Valley to 17 to 34 MAF.

O_Tetra1-10

The commenter questions whether 50,000 AF could be safely extracted. This comment is addressed in **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.3** Groundwater Pumping Impacts.

The commenter questions the adequacy of the impact evaluation of and mitigation measures for subsidence and saline water intrusion under the wellfield. The land subsidence modeling results are presented in the Draft EIR Vol. 1, Section 4.6 Geology and Soils, p. 4.6-29 and in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 4.1.2.7). The land subsidence monitoring measures are described in Mitigation Measure **GEO-1** and also reflected in the Updated GMMMP, Sections 5.6 and 5.7. The land subsidence corrective measures to be implemented that subsidence exceeds action criteria are presented in **GEO-1** and in the Updated GMMMP, Section 6.3. The saline water/freshwater interface migration modeling results are presented in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-49 to 4.9-53. The saline-freshwater interface migration monitoring measures are described in **HYDRO-2** and the Updated GMMMP, Sections 5.3, 5.4, 5.5, 5.9, and 5.10. The saline-freshwater interface migration corrective measures to be implemented in the event that the saline-freshwater interface migration response exceeds action criteria are presented in **HYDRO-2** and the Updated GMMMP, Sections 6.2 and 6.4. See **Master Response 3.8** GMMMP.

O_Tetra1-11

The commenter expresses concern that the recharge rate is overestimated. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

O_Tetra1-12

The commenter states that different models were used for the 16,000 and 5,000 AFY recharge scenarios, specifically with different hydraulic conductivities. As discussed in the Draft EIR (Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 6.4), the

same model was run for all three scenarios, but with changes in input data, specifically hydraulic conductivities and evapotranspiration rates. These changes are necessary in order to calibrate the model to actual data collected from existing wells. Additional details about this calibration process are provided in **Master Response 3.2** Groundwater Modeling.

O_Tetra1-13

The commenter states that the Draft EIR only evaluates impacts through a 100-year period. As described in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-63 to 4.9-72, impacts are modeled to the full recovery of groundwater in storage for all three scenarios, including the worst-case Sensitivity Scenario 2 for 390 years after the cessation of pumping. See **Master Response 3.3** Groundwater Pumping Impacts.

O_Tetra1-14

The commenter states that the depth to groundwater below the Dry Lakes is variously described as 8 to 10 feet, less than 15 feet, and 18 feet below ground surface in different sections. The commenters citation of 8 to 10 feet likely refers to the 8 to 12 feet cited at a typical depth to water in trenches dug in the Dry Lake to access saline water (Draft EIR Vol. 3, Appendix E2 Fugitive Dust and Effects from Changing Water Table at Bristol and Cadiz Playas). The commenter's citation of less than 15 feet is in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-16, which is a condensed description that precedes the previous more detailed 8 to 12 feet citation. The description of the depths to groundwater beneath the Dry Lakes as 8 to 12 feet and less than 15 feet are consistent with observed depths. The Dry Lake surface is not absolutely flat. The lowest part of each Dry Lake occurs essentially where the salt production operations are currently located and where the depth to groundwater is shallowest. The outer edges of the Dry Lakes can be significantly higher in elevation, with corresponding increases in depth to groundwater.

O_Tetra1-15

The commenter states that the salt production operations would be unable to produce their product if the water table drops even one foot and that they would not be able to wait until "full recharge" to resume its operations. While a drop in the water table could impact the open trenches, operations could continue by filling the trenches using brine wells. If the brine production wells were impacted, the wells would be deepened or replaced at new locations pursuant to Mitigation Measure **MIN-1** and the Updated GMMMP. This comment is further addressed in the **Response O_Tetra-1**.

The commenter questions some elements of Mitigation Measure **HYDRO-3**. Specifically, the commenter states that an interim water

supply well or a blended water supply would not contain the concentration of minerals necessary to produce the salts. The mitigation measure's reference to a blended water supply is for owners of freshwater wells whose wells may go saline. To compensate for salt producers, groundwater would be recovered from depth at the appropriate locations to ensure concentrations of salts are commensurate with existing sources.

The commenter states at 400 feet below ground surface wells would reach less permeable zones where brine could not be extracted. As shown in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Figures 64, 66, and 68, the amount of groundwater drawdown under all three recharge scenarios are all less than 100 feet and at the salt production operations, less than 40 feet. Therefore, there is sufficient saline water saturated sediments within which to screen a replacement well.

The commenter states that if the Project takes water that would otherwise flow to the Dry Lakes, that might impact the mineral concentration of the saline water. As described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-5 to 4.9-6, the Project would pump water from the Fenner Gap area, not from the Dry Lakes. The reduction of freshwater flowing to the Dry Lakes for a 50-year period would result in a negligible change in saline concentrations and a negligible resultant impact to salt production. The salt concentration currently in the groundwater beneath the Dry Lakes is the result of tens of thousands of years of subsurface flows.

O_Tetra1-16

The commenter states that the deepening of existing wells and the construction of replacement wells would result in construction impacts that have not been identified, evaluated, or mitigated. The Draft EIR Vol. 1 states in Chapter 3 Project Description, p. 3-48 that monitoring features would be installed as part of the Project. Impacts of installing replacement wells would be similar to construction efforts used for monitoring wells. Mitigation measures included in the Draft EIR anticipate that these features would be installed and require that surveys and avoidance measures be implemented to minimize effects. The scale of these features would be minimal and the Draft EIR finds that they would not present significant impacts. Construction efforts to implement mitigation would be subject to all the same EIR mitigation measures. Mitigation Measure **HYDRO-4** (Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality) specifically addresses the construction of wells. The replacement wells would be located on private property or within mining claims. If replacement wells or other mitigation features

require discretionary approvals, additional environmental review would be required to comply with CEQA. Any replacement wells would comply with state and local well drilling requirements. If improvements are needed that require additional approvals from the lead agency or responsible agencies including the County of San Bernardino or Metropolitan, subsequent environmental review under CEQA may be required.

O_Tetra1-17

The commenter states regarding the adequacy of Mitigation Measure **HYDRO-2** relative to the salt production operations because many of the elements of **HYDRO-2** are focused on owners of freshwater wells. The commenter is correct; **HYDRO-2** addresses impacts to freshwater wells. **HYDRO-3** and **MIN-1** address impacts to saline wells used by the salt production operations.

Commenter asks where replacement water would come from. Replacement water (freshwater) would be provided from the Project's groundwater supplies.

The commenter states that deeper wells could only be possible to 400 feet below ground surface before reaching less permeable zones. This comment is addressed in **Response O_Tetra-15**.

The commenter states that there would be no recharge to the Dry Lakes. This comment is addressed in **Response O_Tetra-1**.

The commenter states that the impacts from the construction of wells are not discussed. This comment is addressed in **Response O_Tetra-16**.

The commenter states that the permitting of these wells is not discussed. As discussed in the Draft EIR Vol. 1, Section 4.9.2 Hydrology and Water Quality, p. 4.9-45, the San Bernardino County Desert Groundwater Management Ordinance includes permitting requirements and procedures, and processes for exclusions from the ordinance. See **Master Response 3.8 GMMMP** and **Response O_Tetra-16**.

The commenter states that payment for the replacement wells is not discussed. Pursuant to the GMMMP, replacement wells would be constructed by FVMWC, compensation provided to mining operators for the additional costs of pumping or FVMWC would enter into a mitigation agreement with the affected mining operator.

The commenter states that the FVMWC contractual obligations to deliver water would take precedence over stopping Project operations, specifically the cessation of pumping to mitigate impacts the salt

production operations saline wells. SMWD, through its adoption of the Mitigation Monitoring and Reporting Plan and conditions of Project approval, as well as the San Bernardino County's enforcement of operational conditions would ensure that mitigation and monitoring commitments are enforced. The Updated GMMMP includes a groundwater drawdown "floor" and freshwater-saline interface limit designed to require modification of Project operations to maintain the "floor" and limit. See **Master Response 3.8** GMMMP.

O_Tetra1-18

The commenter questions the Mitigation Measure **MIN-1** as stated in the Draft EIR Vol. 1, Section 4.11.3 Mineral Resources, pp. 4.11-8 to 4.11-11, that states that the mitigation would be implemented in the event of groundwater level changes that are greater than 50 percent of the water column above the intake of any of the salt production companies' wells or within the brine supply trenches in comparison to preoperational static levels. The commenter asks which groundwater simulation was used in the baseline. To be effective, Mitigation Measure **MIN-1** refers to future measurements in static water levels measured at cluster wells correlated to water levels within the salt mining operators' wells and brine trenches. The maximum drawdown after 50 years at the Bristol Dry Lake salt production operations would not exceed 40 feet (Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, Figures 4.9-12, 4.9-13, 4.9-14). The stipulation in Mitigation Measure **MIN-1** regarding 50 percent of the water column is a conservative assessment to protect salt production interests with shallow wells that may be screened in the upper 100 feet. Any wells with screens in the shallowest portion of the aquifer could be affected, whereas wells screened at depths over 50 feet will not be affected. Further, if salt mining wells are impacted by the Project corrective action can be triggered under **HYDRO-3** upon receipt of a written complaint from the salt company operators regarding decreased yield or increased pumping costs from one or more of their wells or decreased water levels within the brine supply trenches.

O_Tetra1-19

The commenter states that the drawdown of groundwater beneath the Dry Lakes will increase the generation of dust, similar to Owens Lake. The commenter is referred to **Master Response 3.5** Dry Lakes and Dust.

O_Tetra1-20

The commenter states that wilderness areas might be impacted by a decrease in the water table. This comment is addressed in **Master Responses 3.3** Groundwater Pumping Impacts, **3.4** Springs, **3.6** Vegetation, and **3.9** Biological Resources. See also **Response O_MDLT-2**.

O_Tetra1-21

The comment states that while SMWD may be exempt during construction of Project facilities to produce, store and transmit water, FVMWC would not be exempt and thus operational impacts to the County's local important species need to be analyzed. The State of California Government Code establishes an exemption for "the location or construction of facilities for the production, generation, storage, treatment, or transmission of water..." from county or city building and zoning ordinances. (Gov. Code §§ 53091(d), (e)) The implementation of the Project by SMWD would be covered under this exemption for the construction and operation of facilities that are used to produce, store and transmit water. Because the Project is exempt from the County's zoning ordinances, no CUP for these facilities is required from San Bernardino County. However, the impacts of constructing and operating the Project facilities are fully covered in the Draft EIR. Further, SMWD intends to form a Joint Powers Authority (JPA) with FVMWC. Government Code section 6525 (part of the Joint Power Exercises Act) provides that mutual water companies may "enter into a joint powers agreement with any public agency for the purpose of jointly exercising any power common to the contracting parties." Once a JPA is formed, Government Code section 6508 provides that "the agency shall possess the common power specified in the [joint powers] agreement and may exercise it in the manner or according to the method provided in the agreement." Government Code section 6509 provides "such power is subject to restrictions upon the manner of exercising the power of one of the contracting parties, which party shall be designated by the agreement." In other words, the JPA must comply with the procedural restrictions that apply to the JPA member who is designated in the Agreement. With a JPA which "designates" SMWD pursuant to Government Code section 6509, the JPA will have the powers of SMWD, including its immunities.⁵² See also **Master Response 3.8** GMMMP.

O_Tetra1-22

The commenter states that aquifer pumping could affect springs used by bighorn sheep. The Draft EIR addresses potential impacts to bighorn sheep in Vol. 1, Section 4.4 Biological Resources, p. 4.4-43. This comment is addressed in **Master Response 3.4** Springs.

The commenter states that the creation of the freshwater spreading basins in Phase 2 of the Project could attract ravens and other predators that would prey on desert tortoises. Impacts to desert tortoise are discussed on page 4.4-40 of the Draft EIR, including the potential for increased predation due to ravens. Also note that the Project's potential impacts to desert tortoise will be less than significant with mitigation and are described on pages 4.4-17 to 4.4-19 and 4.4.-40 to 4.4-42 of the Draft

⁵² *Zack v. Marin Emergency Radio Authority* (2004) 118 Cal.App.4th 617.

EIR. Mitigation Measure **BIO-3** requires measures to minimize attraction of ravens. This comment is further addressed in **Response A/T_29PalmsIndians-2and 31**.

- O_Tetra1-23 The commenter states that plants would be removed due to the lowering of groundwater. Groundwater is too deep for existing vegetation to access. The vegetation in the Watershed does not rely on groundwater for survival. Although four-wing saltbush are found at the Dry Lake edges, the depth to groundwater at this location is over 65 feet. The roots of four-wing saltbush, which extend 13 to 25 feet bgs, do not descend deep enough to reach or depend upon groundwater at this location. Refer to **Master Responses 3.3** Groundwater Pumping Impacts, **3.6** Vegetation, and **3.9** Biological Resources.
- O_Tetra1-24 The commenter expresses the opinion that Mitigation Measure **GEO-1** is insufficient to mitigate for subsidence predicted under the existing salt production operations. The commenter also states that the salt production reclamation plan could be affected. As described in the Draft EIR (Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Section 8.6 Land Subsidence), the maximum land subsidence under the three scenarios ranges from 0.9 to 2.7 feet spread out over a very large area, approximately 12 miles. Mitigation Measure **GEO-1** is triggered when extensometers show an elevation decrease of 0.5 feet. This action criteria precedes significance thresholds and is designed to identify potential impacts before they take effect, and before they are irreversible.
- O_Tetra1-25 The commenter states that the Draft EIR does not account for the loss of jobs at the salt mining operations. Impacts affecting salt production operations resulting from a lowering of the water table by up to 40 feet would be compensated through implementation of Mitigation Measure **MIN-1** and the GMMMP, and thus the Project would not result in impacts to salt production operations that could lead to a loss of jobs. Further, even if the proposed Project were to result in an economic impact due to loss of jobs or other impacts related to salt production operations, this would not result in a significant indirect physical impact to the environment. (CEQA Guideline § 15131.)
- O_Tetra1-26 The commenter states that the Draft EIR should discuss inconsistencies with regional plans and specific policies. The Draft EIR includes a regulatory section for each resource area that identifies applicable planning documents. See Draft EIR Vol. 1, Section 4.10 Land Use and Planning, p. 4.10-11. Goals and policies are noted when they are relevant to the proposed Project and when they have authority over the Project.

The Draft EIR evaluates consistency with local and regional plans for each resource area as applicable.

O_Tetra1-27

The commenter states that a reduced pumping alternative should be included in the Draft EIR. The Draft EIR Vol. 1, Chapter 7 Alternatives Analysis, evaluates a Reduced Project Alternative that would reduce the duration of the Project to 25 years and the total volume of water extracted over the term of the Project would be reduced by 25 percent. While NO_x emissions and secondary growth impacts would be reduced to some extent, the Reduced Project Alternative would not avoid or significantly reduce any of the significant unavoidable impacts associated with the proposed Project (i.e., construction air emissions and secondary effects of growth). In addition, the EIR analyzes a pumping scenario of 30,000 AFY under the Existing Natural Gas Pipeline Route Alternative. Similarly, this would not avoid or significantly reduce significant and unavoidable impacts of the Project. Impacts of lowering groundwater levels are not significant. Please also refer to **Master Response 3.14** Alternatives.

O_Tetra1-28

The commenter expresses general concern with the Draft EIR as articulated in issues raised above; please refer to **Responses O_Tetra1-3** through **O_Tetra1-27**.

O_Tetra1-Attachment-1

The commenter summarizes issues raised later in the letter in more detail. See **Responses O_Tetra1-Attachment-2** through **O_Tetra-Attachment-22**.

O_Tetra1-Attachment-2

The commenter states that hydrologic evaluation did not include the entire Project-impact area, specifically the Bristol and Cadiz Dry Lakes relative to the potential impacts of saline intrusion, land subsidence, and water depletion. The Draft EIR provides substantial technical data supporting groundwater impact conclusions. See **Master Response 3.3** Groundwater Pumping Impacts.

O_Tetra1-Attachment-3

The commenter expresses a general concern that the Draft GMMMP is based on unconfirmed relationships and unreliable modeling. The Draft EIR includes substantial technical data supporting the analysis in the Draft GMMMP and as updated. See **Master Response 3.1** Groundwater Recharge and Evaporation. Modeling is discussed further in **Master Responses 3.2** Groundwater Modeling and **3.3** Groundwater Pumping Impacts.

The commenter states that long-term lowering of the water table in the aquifers could lead to irreversible land subsidence that could alter the surface water runoff patterns. The Draft EIR evaluates the potential for subsidence. Mitigation Measure **GEO-1** would ensure that subsidence is monitored and corrective measures implemented prior to significant impacts. This comment is further addressed in **Master Response 3.3** Groundwater Pumping Impacts.

The commenter states that the Draft GMMMP is inconsistent with the San Bernardino County Desert Groundwater, Ordinance (San Bernardino Co. Article 5 § 33.06552(b)(I)) and related Guidelines. The Project will seek approval from the County of a GMMMP, prepared in compliance with the San Bernardino County Groundwater Management Ordinance and Guidelines. See **Master Response 3.8** GMMMP. The Draft GMMMP has been updated and is included in the Final EIR, Vol. 7 Appendix B1 Updated GMMMP.

O_Tetra1-Attachment-4

The commenter states that the Project area is not adequately investigated and listed the following items:

The commenter states that Tetra's long-time geologic consultant GSi/Water, Inc. was not contacted to identify relevant data applicable to the Cadiz and Bristol Playas. Tetra was contacted on numerous occasions requesting data for the analysis. Meetings between Cadiz Inc. and Tetra representatives were held on October 4, 2011, and on April 16, 2012.

The commenter states that information from Tetra Technologies, such as a static water level depth of less than 25 feet was not considered. As described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-28 to 4.9-31, the depths to water were observed to be about 8 to 12 feet below the ground surface.

The commenter noted that a 1972 GSi report could have provided refined information for a dozen or more cells of the groundwater model for model Layer 1. It should be noted that this report would pre-date the current investigations by 40 years and would not necessarily provide useable data, even if it had been made available as a result of the meetings with Tetra. According to the commenter, the GSi report describes multiple geophysical methods used to identify lithologic and brine conditions over traverses that were approximately six cell

models in length. The GSi report reportedly contains information that could have been used to assign values of hydraulic conductivity (K) to model Layer 1, and assign salinity values for use in the special model applied to predict the migration of salinity at the playas due to the Project. The assigned values were based on the model calibrated to 1964 groundwater levels provided by Schafer ⁵³, which is the oldest data set representative of the entire Project area. In addition, the model used more recent groundwater level data collected between 1986 and 2009 from sources such as the Cadiz Inc. agricultural operations and Southern California Edison. Then, as discussed in **Master Response 3.2** Groundwater Modeling, the model was calibrated by adjusting input parameters to ensure that the model simulations are consistent with observed groundwater levels. As noted above, various attempts were made to interact with Tetra, but Tetra did not identify or provide this information at that time. The commenter lists information that is relevant to groundwater levels on the northern portion of Cadiz Dry Lake. The data provided by the commenter shows depth to groundwater around 10 feet at the northern salt production operations on Cadiz Dry Lake. This is consistent with the 8 to 12 feet estimated depths identified in the Draft EIR.

The commenter states that a plate titled “Location of Various Exploration Boreholes, Coreholes, Wells, and Production Pits at Bristol Dry Lake, California” was not used. This plate was used to identify the locations of the wells measured for depth to water discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-17. The water levels and other onsite observations were used in evaluating water levels at the edge of the Bristol Playa.

The commenter states that the thickness of clay at the northern edge of Cadiz Playa should be approximately 150 feet within the upper 220 feet of Model Layer No. 1 (Well Completion reports e0144739 and e0144738, both reportedly dated January 2012), not the assumption of only three feet cited in the Draft EIR (Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Figures 20 and 24). Figure 24 does not identify clay thickness. The well completion reports mentioned above were not available at the time when modeling analysis was conducted. Thicker clay layers at the northern edge of Cadiz Dry

⁵³ Shafer, R.A., *Report on Investigations on Conditions which Determine the Potentials for Development in the Desert Valleys of Eastern San Bernardino County, CA*, Southern California Edison Company, June 1964

Lake could result in greater land subsidence. However, the land subsidence for the area with 150 feet thick clay layers would be approximately the same predicted land subsidence at the center of Bristol Dry Lake (see Figures 77, 78 and 79 in Appendix H1) where the clay layer was modeled at 150 feet and shown to have a less than significant effect.

O_Tetra1-Attachment-5

The commenter states that certain parameters used in the groundwater model may have relied on insufficient data, as follows. To assist the reader, a brief glossary of relevant hydrological terms is provided in **Master Response 3.15 Terminology**.

- **Effective Porosity and Storativity:** Modelers estimated storativity initially based on character of the aquifer materials and adjusted it during calibration. No aquifer specific values are presented and compared to the model results. Estimated storativity values based on pumping tests conducted in the Fenner Gap area were provided in Table 2 of Appendix A of Appendix A in Vol. 4 Appendix H1 Cadiz Groundwater Modeling and Impact Analysis and Table 1 of Appendix C in Vol. 4 Appendix H1 Cadiz Groundwater Modeling and Impact Analysis. As discussed in Section 6.4 in Vol. 4 Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, the model is not sensitive to changes in effective porosity or storativity.
- **Vertical Leakance between Model Layers:** Leakance rates between layers were based on model calibration. There are no measured values. As discussed in Section 6.4 in Vol. 4 Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, the model is not sensitive to changes in vertical leakance.
- **Groundwater Elevations:** Groundwater elevations used in the model were calibrated against water levels measured in 1964 (Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Page7). Elevations were adjusted through steady state model calibration under the three model recharge rates; then applied to the three transient models. As stated in Appendix H1, p. 7, for the steady state, the model was calibrated against the water levels measured in 1964. That means the model parameters were adjusted so

that the model-calculated water levels match the observed water levels.

- **Dispersivity:** Modelers assumed dispersivity values for each of the models. There is no field dispersivity data available. The groundwater model uses the high end of the typical dispersivity values. This is considered to be conservative because higher dispersivity values result in greater migration of saline-freshwater interface. The GMMMP will monitor and identify any conditions that deviate from the model predictions.
- **Evapotranspiration:** The evapotranspiration surface was based on surface elevations taken from a topographic map, and the maximum evapotranspiration extinction depth was conservatively assumed to be 15 feet below ground surface. Extinction depths of 10 to 15 feet are the typical values used for ET package. An extinction depth of 15 feet was used by Danskin et al.⁵⁴ An extinction depth of 10 feet was used by Leighton and Phillips.⁵⁵ To account for maximum evaporation potential, the model uses 15 feet to ensure that the depth interval within which significant evaporation could be occurring is accounted for in the model. The actual depth could be less. The Cadiz groundwater model then uses the Evapotranspiration Package⁵⁶ to simulate the evaporation from Bristol and Cadiz Dry Lakes. The model calculates the evaporation based on model-calculated groundwater levels. The maximum evaporation rate is used when the water level is at the land surface. No evaporation occurs when the water level is below the specified extinction depth. In between these two extremes, the evaporation rate is assumed to be linear. The model-calculated evaporation from the Dry Lakes depends on the specified maximum evapotranspiration rate, extinction depth, and model-calculated water levels over the entire area of each Dry Lake. The Evapotranspiration Package used in the Cadiz model is for the purpose of providing a “sink” boundary condition to remove water from the model, consistent with the amount of

⁵⁴ Danskin, W.R., McPherson, K.R. and Woolfenden, L.R., 2006. Hydrology, *Description of Computer Models, and Evaluation of Selected Water-Management Alternatives in the San Bernardino Area, California*, USGS Open-file Report 2005-1278.

⁵⁵ Leighton D.A. and Phillips S.P., 2003. *Simulation of Ground-Water Flow and Land Subsidence in the Antelope Valley Ground-Water Basin, California*. USGS Water-Resources Investigations Report 03-4016.

⁵⁶ Harbaugh, A.W., Banta, E.R., Hill, M.C., and McDonald, M.G., 2000, *MODFLOW-2000, the U.S. Geological Survey Modular Ground-Water Model -- User Guide to Modularization Concepts and the Ground-Water Flow Process*: U.S. Geological Survey Open-File Report 00-92, p. 121.

natural recharge used for the model. Since the only discharge is evaporation from Dry Lakes under predevelopment conditions, the model-calculated evaporation should be 32,000 AFY, 16,000 AFY, and 5,000 AFY for a natural recharge of 32,000 AFY, 16,000 AFY, and 5,000 AFY, respectively. This comment is addressed in **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.2** Groundwater Modeling.

O_Tetra1-Attachment-6

The commenter states that the highly-faulted conditions of the Fenner Valley and Fenner Gap aquifer system might create barriers to groundwater flow or high permeability conduits that should be included in the model. As described in the Draft EIR Vol. 1 Section 4.6.1 Geology and Soils, pp. 4.6-9 to 4.6-12, and Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix A Geologic Structural Evaluation of the Fenner Gap Region Located Between the Southern Marble Mountains and Ship Mountains, San Bernardino County, California), the geology and structure of the Fenner Gap area was evaluated by conducting geologic field mapping and incorporating previous geologic and geophysical studies. The results provided a detailed understanding of the subsurface structural conditions, including the numerous faults in this area. As described in the Draft EIR Vol. 4 Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Sub-Appendix C Geohydrologic Assessment of the Fenner Gap Area, pump testing conducted in wells screened in the bedrock units revealed significant volumes of water from solution cavities and fractures. Since the faults are parallel to groundwater flow in the Fenner Gap, the fractures appear to increase the volume of water and do not appear to be functioning as groundwater barriers.

The commenter states that a water budget was not presented for the calibrated (best fit to known site conditions) current condition model showing water inputs to and outputs from the model with comparisons to known values, and that this water budget should include recharge, evapotranspiration, current pumping rates, fluxes across model boundaries and across model layers. These modeled values should be compared to known or calculated values to evaluate the reasonableness of the model to represent the aquifer system and use as a predictive tool.⁵⁷ The recharge and discharge terms during the model calibration period

⁵⁷ Reilly, T.E., and Harbaugh, A.W., 2004, "Guidelines for evaluating ground-water flow models:" U.S. Geological Survey Scientific Investigations Report 2004-5038, pg. 30

were provided in Section 5.6 in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis. The natural recharge was based on the results from a watershed model conducted by CH2M Hill using INFIL3.0. Pumping and artificial recharge values were based on the measured data.

The commenter states that calculated groundwater velocities were not presented throughout the model domain, especially in the Cadiz Playa area where groundwater pumping test data are available. The commenter states that model-generated groundwater velocities should be compared against calculated values using measured hydraulic gradients, porosity, and hydraulic conductivities to further evaluate the accuracy of the model. Although the groundwater seepage velocities were not provided, seepage velocities are part of the simulation using the calibrated ground water model to evaluate the migration of the freshwater-saline interface. Seepage velocities can be calculated, using the water levels, hydraulic conductivity, and effective porosity data provided in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling Impact Analysis. In addition, Appendix L of this Final EIR provides the results of the evaporation data collection conducted at Bristol and Cadiz Dry Lakes that supports the estimated recharge of 32,000 AFY.

The commenter states that the accuracy of the calibrated (i.e. "best fit" to known site conditions) model under long term pumping conditions has not been verified and in order to verify the degree of confidence in the model and model predictions, the calibrated model should be used to simulate a different set of aquifer stresses for which field measurements have been made. Further, the commenter states long term aquifer pumping test data (measured groundwater drawdown in multiple observation wells and test well pumping rates) should be simulated to test the model accuracy in reproducing a known aquifer response (groundwater velocities, drawdown and impacts of boundaries) to pumping. As stated in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Analysis, p. 7, model calibration is performed to compare model-simulated levels to field-measured values. For the steady state calibration, the model was calibrated against water levels measured in 1964. The transient model calibration covers the period from 1986 to 2009. All the field water level measurements collected during the 24-year transient model calibration period were used for the model calibration.

O_Tetra1-Attachment-7

The commenter states that the aquifer salinity levels, described by total dissolved solids (TDS) concentrations, throughout the modeled area are based on extrapolations of available TDS data which are limited and generally located near the town of Cadiz, California and that the model results should be confirmed with field measurements. TDS results collected near Cadiz characterize freshwater quality. Variability may occur in the wellfield, but TDS is expected to remain low. Near the Dry Lakes salinity increases and reaches extremely high levels as reported by the mining companies. As described in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Chapters 5 and 6), the Project includes monitoring measures to analyze water samples from wells located in between the Dry Lakes and the wellfield to monitor whether the saline-freshwater interface migration is within model-predicted parameters and within the proscribed migration limit.

The commenter states that Layer 1 of the model casts the Bristol Dry Lake as a relatively homogenous area, when information available from GSi indicates the Playa environment is highly complex. For the Cadiz model, the Evapotranspiration Package was used for Bristol Dry Lake to simulate the evaporation from the Dry Lake. The purpose of this is to provide a “sink” boundary condition so that the groundwater flow system is in equilibrium (i.e., groundwater recharge equals groundwater discharge). The model simulation results will be the same using a simplified constant or variable parameter in the Bristol Dry Lake.

The commenter states that the determination of the extent of saline water impacts relied on TDS concentrations of 1,000 milligrams per liter (mg/L), the federal upper limit secondary Maximum Contaminant Level (MCL), instead of 500 mg/L. The 1,000 mg/L concentration is used to identify a linear interface, generally locating water quality along a wide area. Actual concentrations at wells in these areas may vary. The 1,000 mg/L TDS provides the upper limit of the drinking water standards and is measured at cluster wells that are located to trigger the mitigation before beneficial uses of groundwater are impacted. Although TDS in excess of 1,000 mg/L is still potable, the secondary standards provide limits for public drinking water sources. The Draft EIR uses this interface to show that water quality changes in this area and becomes extremely saline under

the Dry Lakes themselves. The use of 500 mg/L would not change the impact analysis.

The commenter states that a previous transport model of the migration of the saline water/freshwater interface migration provided different results. However, the previous effort referred to was performed in 2001 and as discussed in **Master Response 3.2** Groundwater Modeling, did not have the benefit of the extensive site-specific data and current modeling software. Therefore, the previous modeling effort would not be as accurate as the current effort performed in support of the Draft EIR.

O_Tetra1-Attachment-8

The commenter expresses general concern that the 4 to 10 million AF of freshwater downgradient of the Fenner Gap may not have been accurately estimated. This general comment is addressed in the responses to those previous comments (**Responses O_Tetra 1-Attachment-2** through **O_Tetra 1-Attachment-7**).

O_Tetra1-Attachment-9

The commenter states that the hydraulic conductivities used in the reduced recharge scenarios should not have been reduced to calibrate against observed water levels because hydraulic conductivity is a fundamental property of the aquifer and does not vary as a result of changes in recharge rates.^{58, 59, 60} The hydraulic conductivity values need to be reduced in the reduced recharge scenarios in order to maintain hydraulic gradient established from the observed water levels. Natural recharge of 5,000 AFY would result in a much flatter hydraulic gradient as compared to the observed hydraulic gradient using hydraulic conductivity values for 32,000 AFY conditions. See **Master Response 3.2** Groundwater Modeling.

The commenter states that proper modeling procedures would have been to calibrate the groundwater computer model for the best fit to known aquifer parameters such as groundwater recharge, groundwater discharge, measured hydraulic conductivities, and measured storage coefficients, and then test the model reliability under different hydrologic conditions (e.g., higher and lower recharge and discharge values and under stress (pumping) conditions). As explained in Section 6.1 in Vol. 4 Appendix H1 Cadiz Groundwater Modeling and Impact

⁵⁸ ASTM Standard D5981, 1996 (2008), *Standard Guide for Calibrating a Groundwater Flow Model Application*.

⁵⁹ ASTM International, West Conshohocken, PA, 2008, www.astm.org.

⁶⁰ Reilly, T.E., and Harbaugh, A.W., 2004, *Guidelines for Evaluating Ground-Water Flow Models*: U.S. Geological Survey Scientific Investigations Report 2004-5038.

Analysis, this was the approach used for the Cadiz groundwater modeling impact analysis. The model was calibrated using the natural recharge of 32,000 AFY estimated from the watershed model by adjusting the aquifer parameters within a reasonable range so that the difference between the model-calculated and observed water levels is minimized. Then sensitivity runs were made for natural recharge of 16,000 AFY and 5,000 AFY to evaluate the impacts under different hydrologic conditions. Natural recharge of 16,000 AFY is to account for a 50 percent variability in the estimate. A natural recharge of 5,000 AFY is to represent a worst case scenario.

O_Tetra1-Attachment-10

The commenter notes that the model-predicted responses are different for the Project Scenario, Sensitivity Scenario 1, and Sensitivity Scenario 2. As described in the Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 1.8, the monitoring measures, action criteria, and corrective measures in the GMMMP are focused on protecting the critical resources in or near the Watershed area and adjacent regions. Action criteria would be triggered based on potential impacts to a critical resource independent of actual future recharge.

The commenter requests that the model updates be an explicit requirement. This explicit requirement is included in the Monitoring and Reporting Requirements of the Updated GMMMP.

The commenter states that the FVMWC is provided too much flexibility in deciding when and if an impact is attributable to the Project. As explained in Chapter 8 of the Updated GMMMP, two levels of oversight are provided for this Project. The TRP members and responsibilities are described in Section 8.1 of the Updated GMMMP with joint oversight, management, and enforcement by the County described in Section 8.2 of the Updated GMMMP. See Final EIR Vol. 7, Appendix B1 Updated GMMMP and **Master Response 3.8** GMMMP.

O_Tetra1-Attachment-11

The commenter states that the monitoring of water levels in the Danby Well would not provide adequate monitoring for water-level drawdown at Cadiz Dry Lake. As shown on Figures 5-1 and 5-2 in the Updated GMMMP, wells are located between the wellfield and Cadiz Dry Lake and are included in the monitoring program to monitor for potential impacts before the impacts

would affect Cadiz Dry Lake. The Danby Well is included to assess potential impacts south of Cadiz Dry Lake.

O_Tetra1-Attachment-12

The commenter states that the locations of the cluster wells to be used to monitor the migration of the saline/freshwater interface should be based on an iterative program of drilling wells. The proposed locations of the cluster wells are based on the results of the modeling and are used as “early warning” triggers to avoid potential adverse impacts to beneficial use of the groundwater.

O_Tetra1-Attachment-13

The commenter questions the slow response of aquifers to perturbations and the challenge of crafting early warning monitoring and control measures. The monitoring program is based on the current groundwater model that is based on substantial and comprehensive technical data. This comment is further addressed in **Master Responses 3.1** Groundwater Recharge and Evaporation, **3.3** Groundwater Pumping Impacts, and **3.8** GMMMP.

O_Tetra1-Attachment-14

The commenter states that the Project will significantly impact air quality through increased combustion emissions. Short-term and long-term air quality impacts were analyzed in the Draft EIR Vol. 1, Section 4.3 Air Quality. Short-term impacts are described as construction emissions which are temporary activities and occur on a short-term basis. Long-term impacts are described as operational emissions which include activities post construction and that occur on a long-term basis.

Regional impacts were also identified in the Draft EIR. MDAQMD has established regional significance thresholds. As the Project is located in the MDAQMD, regional thresholds were used for the analysis of ROG, NO_x, CO, PM₁₀, PM_{2.5}, and CO₂. However, localized emissions were not calculated as MDAQMD does not have established localized significance thresholds. Furthermore, no residences occur within 1,000 feet of the construction zones.

NO_x emissions are emitted from combustion processes through construction and motor vehicles. As described in the Draft EIR Vol. 1, Section 4.3 Air Quality, Table 4.3-5 (a revised Table 4.3-5 is included in Chapter 5 Draft EIR Text Changes of this Final EIR), construction emissions of NO_x from the Groundwater Conservation and Recovery Component would have unmitigated totals of 507 pounds per day of NO_x emissions and 433 pounds per day of NO_x emissions with mitigation. MDAQMD

Thresholds of Significance limit NO_x emissions to 137 pounds per day, thus NO_x emissions during construction would be significant and unavoidable even with mitigation.

URBEMIS 2007 is an emissions estimation/evaluation model developed by CARB based on SCAQMD CEQA Air Quality Handbook guidelines and methodologies. The URBEMIS 2007 Model is used to estimate construction, area source, and operational air pollutant emissions from land use projects. In conjunction with URBEMIS, the analysis utilized EMFAC 2007 to determine emissions associated with worker and employee trips during construction and operation (p. 4.3-10). In addition, operational GHG emissions were calculated based on the power demands needed for Project operations (see Draft EIR Vol. 1, Appendix E1 URBEMIS 2007 Output Sheets).

The CalEEMod is a new tool developed in collaboration with air districts to estimate emissions. It is currently being adopted by air districts to replace the prior URBEMIS and EMFAC models, although MDAQMD has not yet formally adopted the model. The decision to continue using the URBEMIS Model, as supplemented, opposed to CalEEMod is within the discretion of the lead agency. URBEMIS has similar emission factors and equation methodologies used in CalEEMod so the emissions calculated in URBEMIS are valid. However, when calculating the GHG emission impacts for the purposes of a CEQA analysis, the URBEMIS analysis was supplemented, as noted above, to include the additional GHG emissions from the power demands of the operations as well as with EMFAC 2007 to capture worker and employee trip emissions. Because URBEMIS, as supplemented, accurately calculates the Project's potential GHG emissions and the use of CalEEMod is within the agencies discretion, it was not necessary to replace the analysis with the CalEEMod program.

Refer to **Response O-CBD *et al.*-48** for a discussion of air quality impacts to adjacent sensitive populations. See also **Response A_MWD-6**.

O_Tetra1-Attachment-15

The commenter states that the Project could affect air quality in the nearby National Parks. The Draft EIR provides an extensive evaluation of construction and operational emissions. The predominate source of air emissions in the region is from the highways and railroads traversing the desert. The Project would

contribute pollutants to the regional air basins, only reaching a level of significant and unavoidable impact during construction, but would be consistent with local Air Quality Plans prepared to improve air quality. The consistency with regional plans is discussed in the Draft EIR Vol. 1, Section 4.3 Air Quality, p. 4.3-10. Refer to response to comment **O-CBD *et al.*-48** for a discussion of air quality impacts to adjacent sensitive populations. In addition, particulate matter from dry lake dust would not occur due to the chemistry of the soils on the Dry Lakes. See **Master Response 3.5** Dry Lakes and Dust.

O_Tetra1-Attachment-16

The commenter states that the Draft EIR should have identified the *Federal, 8-hour Ozone Attainment Plan* (Western Mojave Desert Non-attainment Area) adopted in 2008. As shown on Figure 1 of the referenced Plan, the construction area where Project emissions would occur is not within the Plan's geographic area. Only the western portions of the Bristol Dry Lake are within the Western Mojave Desert Non-Attainment area boundary and no construction will take place there. Nonetheless, the Project is consistent with MDAQMD ozone attainment policies as outlined in the 2004 *Federal, 8-hour Ozone Attainment Plan*, which covers the Project area.

The commenter states that the Project should be subject to lowest achievable emissions rates (LAER) as defined under the New Source Review permitting requirements. Mobile emissions associated with the construction and operation of the Project are not subject to New Source Review requirements. Operational emissions from the pumps are summarized in Table 4.3-6 of the Draft EIR Vol. 1, Section 4.3 Air Quality. (Revised Table 4.3-6 is provided in the Final EIR Vol. 6, Chapter 5 Draft EIR Text Revisions). As shown in the Table, operational emissions are substantially below the MDAQMD significance thresholds for operational emissions. The proposed Project would be subject to all MDAQMD Rules including stationary source permitting requirements as noted in the Draft EIR Vol. 1, Section 4.3 Air Quality, p. 4.3-13 and in Chapter 3 Project Description, Section 3.8.

O_Tetra1-Attachment-17

The commenter states that the Project would have a significant impact on air quality due to its contribution to growth in the Project Participant service areas. The Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth acknowledges on page 6-63 that secondary effects of

growth would contribute to air quality degradation, although the Project would have limited growth inducement potential. The Draft EIR finds that the secondary effects of growth have been identified in General Plans within the Project's area of use. Air quality is mitigated through adoption of Air Quality Management Plans, emissions controls enforced by permit, and implementation of Rules. Nonetheless, the Draft EIR acknowledges that secondary effects of growth are sometimes significant and unavoidable.

The commenter requests that the contribution of air emissions associated with growth that flow into the Mojave Desert Air Basin be calculated. It is not possible to meaningfully calculate air emissions associated with very small areas of growth in relationship to large scale cumulative air quality and weather patterns. The MDAQMD attributes part of the degraded air quality to pollutants blown in from urbanized areas on the coast. The 2004 *Federal, 8-hour Ozone Attainment Plan* anticipates that air quality improvements achieved in the South Coast Air Basin will assist with improving air quality in the Mojave Desert Air Basin, although the MDAQMD recognizes that this reduction of imported pollution will not be sufficient alone to achieve ozone attainment. Nonetheless, even with the small scale growth that could be supported by the proposed Project, importation of pollutants from the South Coast Air Basin is anticipated to decrease. Growth in the Participating Entities' service areas will not result in degraded air quality from existing conditions in the Mojave Desert due to the implementation of air quality Rules and policies under the authority of the two Air Quality Management Districts.

O_Tetra1-Attachment-18

The commenter states that the California Natural Diversity Database (CNDDDB) search should have included additional USGS quads. The CNDDDB list referred to in the comment is referenced from the Draft EIR Vol. 3, Appendix F Biological Resources Report. The list of USGS quads accessed listed on p. 6 was created to support the field surveys conducted for the Project. The CNDDDB provides data for the nine-quad region that includes the eight quads surrounding these listed quads. This geographic area covers the entire Project area including each of the quads listed in the comment. In addition to this expansive geographic area covered from the CNDDDB, Table 4.4-1 of the Draft EIR Vol. 1, Section 4.4 Biological Resources, includes data accessed from other sources including the USFWS 2010

List of Federal Endangered or Threatened Species for San Bernardino County and the California Native Plant Society Inventory of Rare and Endangered Plants. The Draft EIR adequately identifies the sensitive species potentially occurring within the Project area. Furthermore, the comment suggests that the lists of sensitive species should include the area overlying the groundwater basin. As discussed in **Master Responses 3.6 Vegetation and 3.9 Biological Resources**, the lowering of groundwater would not affect wildlife or vegetation on the surface since groundwater is inaccessible to surface vegetation and the vegetation does not depend upon groundwater for its survival.

The commenter also suggests that impacts to the Cadiz Dunes were not appropriately analyzed. The Project would not affect the Cadiz Dunes. The Cadiz Dunes are identified in the Draft EIR Vol. 1, Section 4.4 Biological Resources, Figure 4.4-2. Section 4.10 Land Use and Planning, identifies the Cadiz Dunes as wilderness areas designated in the NECO Plan. As shown in the Draft EIR Vol. 1, Section 4.1 Aesthetics, p. 4.1-3 the closest the pipeline alignment will be to the edge of the Cadiz Dunes is approximately 100 feet and so would not disturb dune areas. The Cadiz Dunes Wilderness Areas would not be accessed or otherwise affected in any way by construction or maintenance of the pipeline. Further, vegetation within the Dunes does not rely on groundwater to survive. Lowering the groundwater in this area would not reduce water supplies available to vegetation in the Project area.

O_Tetra1-Attachment-19

The commenter suggests that the cumulative impact analysis is insufficient with regard to San Bernardino County but provides no reasons for this suggestion. The comment does not state a specific concern regarding the adequacy of the Draft EIR. The Draft EIR provides a cumulative impact analysis in Chapter 5.

O_Tetra1-Attachment-20

The commenter states that growth inducing impacts to South Orange County should be analyzed. The commenter is referred to the Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, where potential growth impacts to this area are summarized.

O_Tetra1-Attachment-21

The commenter states that the Project is not local to the area of use. The objectives of the Project are to maximize water supplies that are local to Southern California. San Bernardino County is

part of Southern California and therefore distinct from imported water locations further afield such as the Colorado River Watershed and the Sacramento-San Joaquin Delta, currently a major source of water for Southern California and requiring the energy-intensive import of water from Northern California and over the Tehachapi Mountains. Transporting water through a 43-mile pipeline and into the Colorado River Aqueduct, which currently serves Southern California, is more energy efficient, and more reliable given the unpredictable nature of water deliveries from Northern California.

The commenter states that the cumulative water demands are not adequately evaluated. The Draft EIR provides cumulative project lists that include the solar projects planned or in construction. Many of the projects listed are speculative. As noted in the Draft EIR Vol. 1, Chapter 5 Cumulative Impacts, p. 5-35, the only planned projects that would access water from the same groundwater basin are the James W. Wilson RV Park and potential renewable projects in the Iron Mountain CREZ. These projects would not draw substantial water from the groundwater basin. The larger solar projects would draw water from other groundwater basins not hydraulically connected to the Project watersheds. The Draft EIR Vol. 1, Chapter 5 Cumulative Impacts, concludes on p. 5-36 that the proposed Project would be the largest groundwater extraction project in the region and would neither limit access by other planned uses, nor be adversely affected by additional extractions.

O_Tetra1-Attachment-22

The commenter states that the Project could support growth within SMWD service area. The Draft EIR Vol. 1, Chapter 6 Growth Inducement Potential and Secondary Effects of Growth, acknowledges on pp. 6-62 to 6-63 that the Project could support a limited amount of growth that could result in significant secondary effects. However, one of the proposed Project's objectives as outlined in the Draft EIR Vol. 1, Chapter 3 Project Description, Section 3.2 is to support water supply reliability for existing demands. The two results—reliability and support of limited growth—are not contradictory.

O_Tetra2-1

The commenter requests information used in the analysis. This is not a comment regarding the adequacy of the environmental review for the Project and so no response is required. SMWD has responded to this comment under the California Public Records Act.

- O_Tetra3-1 The commenter requests information used in the analysis. This is not a comment regarding the adequacy of the environmental review for the Project and so no response is required. SMWD has responded to this comment under the California Public Records Act.
- O_Tetra4-1 The commenter requests information used in the analysis. This is not a comment regarding the adequacy of the environmental review for the Project and so no response is required. SMWD has responded to this comment under the California Public Records Act.
- O_Tetra5-1 The commenter requests hard copies of the following documents that are included in the Draft EIR Appendix H: CH2M Hill, *Cadiz Groundwater Conservation and Storage Project*, July 2010 (Appendix H1); CH2M Hill, *Groundwater Management, Monitoring, and Mitigation Plan*, November 2011 (Appendix B1); GEOSCIENCE Support Services, Inc., *Cadiz Groundwater Conservation and Storage Project Phase 1 – Conservation Scenarios*, August, 2011 (Appendix H); GEOSCIENCE Support Services, Inc., *Cadiz Groundwater Modeling and Impact Analysis*, September 2011 (Appendix H1); GEOSCIENCE Support Services, Inc., *Addendum to September 1, 2011 Cadiz Groundwater Modeling and Impact Analysis*, November 2011 (Appendix H5). The request was granted on February 27, 2012, and hard copies of the above documents were mailed to the commenter. The request was fulfilled on February 27, 2012.
- O_Tetra6-1 The commenter requests information used in the analysis. This is not a comment regarding the adequacy of the environmental review for the Project and so no response is required. SMWD has responded to this comment under the California Public Records Act.

Twentynine Palms Chamber of Commerce

- O_29PalmsChamber-1 This commenter supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

The Wildlands Conservancy

- O_Wildlands-1 The commenter questions the amounts of water to be pumped, whether the Project is sustainable, and that despite the efforts to mitigate the possible impacts, that irreversible damage could be done to the natural desert environment and local human communities. Given the one way nature of water use proposed by the Project, sufficient recharge of the aquifer would be impossible if the impacts of overdrafting became

apparent. As discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-71 to 4.9-72, and Table 4.9-10, the nature of the water use is not one way. The water levels under the Project Scenario are anticipated to return to pre-Project levels about 67 years after the pumping portion of the Project is stopped, because recharge continues during the Project life of 50 years and afterwards, indicating that the Project is sustainable and no irreversible damage is anticipated. See **Responses O_NPCA-CBD et al, O_PacificInstitute-3, O_PacificInstitute-4, and O_MDLT-3 and Master Response 3.1** Groundwater Recharge and Evaporation and **3.15** Terminology.

The commenter also noted their support of the comments provided by the Center for Biological Diversity (CBD). The comment is noted.

Willits & Newcomb, Inc.

O_WillitsNewcomb-1 This commenter supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Zepeda Labor Contracting, Inc.

O_Zepeda-1 This commenter supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

4.4 Individuals

| Commenter | Date of Comment |
|---|-------------------------------|
| Leigh Adams (additional submissions in Section 2.6) | 02/14/2012 |
| Kristie and James Bise | 03/12/2012 |
| Myron L. Black (2 submissions) | 03/06/2012 and 03/13/2012 |
| Rob and Kate Blair | undated |
| Helena Bongartz (3 submissions) (additional submission in Section 2.6) | 02/02/2012, 02/10/2012 (2) |
| Craig Brainard | 02/10/2012 |
| Chris Brown (2 submissions) (additional submission in Section 2.6) | 03/13/2012 (2) |
| John C. Brown | 03/13/2012 |
| Charles T. Collett (additional submissions in Section 2.6) | 03/12/2012 |

| Commenter | Date of Comment |
|--|---|
| Debbie Cook (additional submissions in Section 2.6) | 3/14/12 |
| Linda DeLuca-Snively | 02/21/2012 |
| Kyle Detwiler | 02/11/2012 |
| Robert R. Dunn (additional submissions in Section 2.6) | 01/30/2012 |
| Bob Ellis | 02/07/2012 |
| Mary Ann and Darrell Finstad | 03/13/2012 |
| Valerie Finstad (2 submissions) | 02/06/2012 and 02/13/2012 |
| William J. and Susan L. Garvin (additional submission in Section 2.6) | 01/17/2012 |
| Andrea and James Gutman | 02/11/2012 |
| Janis Hatlestad | 02/29/2012 |
| Norma J.F. Harrison | 02/10/2012 |
| Steve Iverson (3 submissions) | 02/10/2012 (3) |
| Paula Jeane | 03/14/2012 |
| Paul Limon | undated |
| Christopher Lish | 02/12/2012 |
| Richard MacPherson (3 submissions) | undated, 02/26/2012 and 03/12/2012 |
| Norman Meek | 12/30/2011 |
| Shell McIntosh | undated |
| Jean McLaughlin (additional submission in Section 2.6) | 03/11/2012 |
| Ramon Alviso Mendoza (additional submission in Section 2.6) | undated |
| Ted & Karen Meyers | 03/14/2012 |
| Chris and Bob Mills | 02/11/2012 |
| Ruth Musser-Lopez (5 submissions) (additional submissions in Section 2.6) | undated 02/06/2012 02/08/2012 02/19/2012 and 03/13/2012 |
| Sterling Perkes | 02/11/2012 |
| Drew Reese | 02/11/2012 |
| C. David Renquest | 03/10/2012 |
| Catherine Robinson | undated |
| Joe Ross | 02/10/2012 |
| David Sabol | 01/09/2012 |
| Dianna Sahhar | 02/14/2012 |
| Karen Scheuermann | 02/12/2012 |
| Sidney Silliman | 02/13/2012 |

| Commenter | Date of Comment |
|--|------------------------------|
| Julian V. Simeon | 02/10/2012 |
| Calvin Sisco | 03/08/2012 |
| Fred Stearn (2 submissions) | 02/22/2012 and 02/23/2012 |
| Gary Thompson | 02/01/2012 |
| S. Tott | 03/14/2012 |
| Karen Tracy (2 submissions) (additional submission in Section 2.62) | 02/03/2012 and 02/21/2012 |
| Victoria Williams | 03/13/2012 |
| Judy Wisboro | 02/11/2012 |

Leigh Adams

- I_Adams1-1 The commenter asks if the proposed Project is proposing to use federal lands to transport water and asks why an EIS has not been prepared. Please see **Master Response 3.13** Right-of-Way and NEPA; see also **Response A-NPS-25**.
- I_Adams1-2 The commenter expresses general opposition to the Project and asks what gives “Cadiz Ranch” the right to take water from the aquifer other than for its own use. See **Master Response 3.7** Water Rights.
- I_Adams1-3 The commenter expressed critical opinions of the Project proponent. This comment expressing opinion does not address the content or adequacy of the Draft EIR; no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.

Kristie and James Bise

- I_Bise-1 The commenters express concern over groundwater pumping impacts and requests information regarding the studies completed in support of the Draft EIR. In preparation of the Draft EIR, numerous studies were conducted to determine the amount of water in storage in the aquifer, the hydrology and geology of the aquifer, and the potential impacts of the Project on the aquifer, wildlife, and entire desert ecosystem. These studies and reports are discussed throughout Volume 1 of the Draft EIR in text, tables, and figures and are attached as supporting documentation in the Appendices A through J in Volumes 2-4. With respect to the potential impacts the Project could have on local water supplies, the Draft EIR found those impacts to be less than significant. The commenter is referred to **Master Response 3.3** Groundwater Pumping Impacts, and the Final EIR Vol. 7, Appendix B1 Updated GMMMP,

Section 6.2. Also note that the modeled drawdown would not extend to the New York Mountains.

The comment asks what studies have been done regarding the environmental impact of the Project. The Draft EIR constitutes a good faith effort, utilizing scientific reports included in the Appendix to the Draft EIR to establish valid conclusions. Reports and studies included in the analysis are found in Volume I of the Draft EIR, p. vi.

I_Bise-2

The commenter requests studies prepared for the environmental impact analysis and states that there is a conflict of interest with a “Board” member who has worked for the US EPA. Reports and studies included in the analysis are found in Volume I of the Draft EIR, p. vi. The Cadiz Inc. Board member is a former EPA employee. No conflict of interest exists. This comments does not address the content or adequacy of the Draft EIR and no response is required.

I_Bise-3

The commenters object to the Project and states that it is not a local responsibility to export water. This comment expressing an opinion does not address the content or adequacy of the Draft EIR and no response is required. Regardless, see **Master Response 3.3** Groundwater Pumping Impacts, and the Draft EIR Vol. 1, Chapter 2 Project Background, pp. 2-6 to 2-10 on the need for water supplies and reliability in Southern California.

I_Bise-4

The commenters ask if the drilling will affect any of the many faults in the area. The Draft EIR discusses active faults in the vicinity of the proposed Project in Section 4.6.3 Geology and Soils, p. 4.6-33 through 4.6-34. The nearest mapped active fault is located approximately 45 miles west of the Project site, according to a review of the Alquist-Priolo maps provided by CGS. The Draft EIR concludes that the Project site is not located along the trace either of an active or potentially active fault. Due to the fact that no active faults underlie the Project site, no impacts to faults will occur as a result of facility installation or drilling.

I_Bise-5

The commenter requests a prompt reply from someone about the letter and states they will notify all neighbors and the local newspaper and anyone else that will listen. The commenters have been added to notification lists for future CEQA actions, as discussed in **Master Response 3.11** CEQA Public Process.

This comment expressing opinion regarding the merits of the Project does not address the content or adequacy of the Draft EIR. No response is necessary.

Myron L. Black (2 submissions)

- I_Black1-1 The commenter states that he is a homeowner in the Landfair Valley area and is against the Project. The Lanfair Valley is located north of the Fenner Valley. As shown in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, Figures 64 through 69 the extent of groundwater drawdown does not extend to beneath Lanfair Valley.
- I_Black2-1 The commenter states that he is a local landowner and is writing to oppose the approval of the Project. The commenter states the groundwater plan does not comply with state and local law and could result in harm. The Draft EIR has been prepared pursuant to CEQA requirements. See **Master Responses 3.3** Groundwater Pumping Impacts, **3.6** Vegetation and **3.9** Biological Resources.
- I_Black2-2 The commenter states the wrong agency was chosen to circulate and lead passage of the Project. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency and **Response 3.11** CEQA Public Process.
- I_Black2-3 The commenter states that the Project does not abide by the safe yield concepts, does not adequately monitor the groundwater table, and that the Draft EIR does not sufficiently analyze Phase 2. The Project, as described in Chapter 3 of the Draft EIR is designed to reverse the groundwater flow below the wellfield to reduce evaporation on the Dry Lakes and capture that water for use as a municipal water supply throughout Southern California. To accomplish this, annual extraction would exceed estimated natural recharge in the contributing watersheds. The Project includes implementation of the GMMMP (the Updated GMMMP to be approved by the County of San Bernardino). The Draft EIR assesses impacts of the groundwater extraction and identifies mitigation measures in the Updated GMMMP, including monitoring of groundwater levels. See **Master Responses 3.3** Groundwater Pumping Impacts and **3.15** Terminology for discussion of safe yield and Final EIR Vol. 7, Appendix B1 Updated GMMMP.
- Phase 2 of the Project, which would include importing water to the Project area for storage, was analyzed at the programmatic level because the details of the Project, as well as participating parties, are yet to be determined. Once these details are known, project-level CEQA analysis will be completed prior to approval and implementation. See **Master Responses 3.3** Groundwater Pumping Impacts and **3.12** Project vs. Program Level Analysis.

I_Black2-4

The commenter states the Project will extract over two MAF of groundwater located in San Bernardino County and sell it to suburban Los Angeles and Orange Counties, and that the residents of San Bernardino County should be provided the opportunity to comment on the Project. Many residents, including individuals, organizations, tribes, and businesses from San Bernardino County, have commented on the Project, as shown in the Final EIR. The commenter is also referred to **Master Response 3.11** CEQA Public Process. As part of the MOU approved in May 2012 by the San Bernardino County Board of Supervisors, the Project also establishes a process for the County and Cadiz Inc.'s consideration of approving a reserve of up to 20 percent of the Project's annual yield for the benefit of water providers in San Bernardino County for future use under terms and conditions similar to those of other Project Participants. See **Master Response 3.8** GMMMP and Final EIR Vol. 7, Appendix N.

This remainder of this comment objects to the Project but does not state a specific concern regarding the adequacy of the Draft EIR, and therefore no response is necessary.

Rob and Kate Blair

I_Blair-1

The commenters express concern that the groundwater drawdown may affect their wells, reportedly located north of the Clipper Mountains. As shown on Figures 64 through 69 in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, the extent of groundwater drawdown does not extend north of the Clipper Mountains.

The commenters express concern that the groundwater drawdown might affect springs. This comment is addressed in **Master Response 3.4** Springs.

The commenter states that the drawdown of groundwater should be monitored and unacceptable drawdown mitigated if it occurs. Monitoring measures, action criteria, and corrective measures are described in the Final EIR Vol. 7, Appendix B1 Updated GMMMP. See also **Master Response 3.8** GMMMP.

Helena Bongartz (3 submissions)

I_Bongartz1-1

The commenter provides an opinion that observation of the area as reported in the Draft EIR are incorrect. In preparation of the Draft EIR, numerous studies were conducted to determine the amount of water in storage in the aquifer, the hydrology and geology of the aquifer, and the potential impacts of the Project on the aquifer, wildlife and other

resources. These studies and reports are discussed throughout the Draft EIR in text, tables, and figures and are attached as supporting documentation in the Appendices. This comment provides a personal perspective on desert resources and does not address the content or adequacy of the Draft EIR.

The comment states that there is life on Bristol Dry Lake, that there is traffic on the local highways, and that the Project will be visually affronting. As noted in the Draft EIR Vol. 3, Appendix F4 Vegetation, Groundwater Levels and Potential Impacts from Groundwater Pumping near Bristol and Cadiz Playas, sparse vegetation exists along the edges of the Dry Lakes. These plants do not depend on groundwater for their survival. The commenter is referred to **Master Responses 3.6** Vegetation and **3.5** Dry Lakes and Dust. Due to the high salinity of the brine resources at the Dry Lakes, no plant life lives on the Dry Lakes other than patches that are watered by leaking water conveyance systems installed by the mining entities and plants along the perimeter of the Dry Lakes that do not use groundwater for survival. As discussed on page 4.1-16 of the Draft EIR Vol. 1, Section 4.1 Aesthetics, there are no above-ground facilities visible from any scenic highways within the Project area. Construction activities may be visible from Route 66, however, the views would be from a long range (approximately three miles). Moreover, permanent above-ground facilities would become part of an expansive desert landscape within the Fenner Valley, which would not significantly alter the character of the surrounding area. Well pads would be typically less than 10,000 square feet spread out 1,500 feet or more from each other. **Figure 3-9a** provided in this Final EIR in Chapter 5 shows a typical well pad. The low density development will be difficult to see from the surrounding roadways and recreation areas and, based on this, the EIR concludes that the Project will have a less than significant aesthetic impact. See also **Response O_NPCA-CBD et al.-43**.

I_Bongartz1-2

The commenter states there has not been a vigorous effort to inform those concerned, nor has the request for an extension of the comment period been addressed. The commenter is referred to **Master Response 3.11** CEQA Public Process.

I_Bongartz1-3

The commenter expresses a non-specific concern regarding the data used for the groundwater model. In addition to the information provided in the Draft EIR, additional information is provided in **Master Response 3.2** Groundwater Modeling.

I_Bongartz1-4

The commenter objects to use of the word “conservation.” As stated in the Draft EIR Vol. 1, Chapter 3 Project Description, Section 3.2, Project

Objectives, “The fundamental purpose of the Project is to save substantial quantities of groundwater that are presently lost to evaporation by natural processes.” Without implementation of the Project, water currently stored in the closed aquifer system will continue to migrate towards Cadiz and Bristol Dry Lakes, and evaporate. The proposed Project intends to conserve the dissipating resource by recovering the water and supplying it to water providers, thereby putting the water to beneficial use and increasing water supply reliability in drought-ridden southern California. See also **Master Response 3.15 Terminology**.

I_Bongartz1-5

The commenter provides several opinions concerning the visual impacts of the proposed Project. As discussed in the Draft EIR Vol. 1, Section 4.1 Aesthetics, p. 4.1-16, there are no above ground facilities visible from any scenic highways within the Project area. Construction activities may be visible from Route 66, however, the views would be from a long range (approximately three miles). Moreover, permanent above-ground facilities would be relatively limited in terms of the scale of the surrounding desert valleys (total Project footprint consists of less than 250 acres, or 1 percent of the Cadiz Inc.-owned property in the Project wellfield area). These facilities would become part of an expansive desert landscape within the Fenner Valley, and so would not significantly alter the character of the surrounding area.

Additionally, the commenter is referred to **Responses O_NPCA-CBD et al.-43** and **O_NPCA-CBD et al.-44**.

I_Bongartz1-6

The commenter provides a statement concerning Air Quality impacts of the Project. The commenter is referred to **Master Response 3.5 Dry Lakes and Dust**.

I_Bongartz1-7

The commenter states there will be noise impacts on the residents on the route of travel for construction vehicles and requests that construction travel be limited to the highway, and even then, only during “business hours.” The commenter is referred to the Draft EIR Vol. 1, Section 4.12 Noise, pp. 4.12-4 through 4.12-5. See also pp. 4.12-8 to 4.12-17 where all potential noise impacts were found to be less than significant with no mitigation needed. It states that the nearest sensitive receptors are residences located approximately 3.3 miles north of the Project site near the corner of Cadiz Road and National Trails Highway. The predominant sources of existing noise include railroad noise, roadway traffic, and equipment noise from existing agricultural operations. Military operations including explosions and low-flying aircraft also generate noise in the valley. Average noise levels in these types of environments

typically are in the range of 35-55 dBA.⁶¹ During construction, noise levels are not expected to exceed current levels, as explained below.

The loudest portion of typical construction would be during excavation of the pipeline trenches and when blasting or drilling through rock. Excavation noise levels are 89 dBA at 50 feet and blasting can generate noise levels of 115 dBA at 50 feet. Assuming an attenuation rate of 7.5 dBA per doubling of distance, a receptor at 3.3 miles would experience noise levels of approximately 25 dBA Leq during excavation. If drilling were to be used at this distance during construction, then the sensitive receptor would be exposed to noise levels of approximately 34 dBA Leq. If blasting is needed, then the sensitive receptor would be exposed to noise levels of approximately 52 dBA. As such, construction activities would be within the range of 25-52 dBA, which is the average existing noise level for this area.

The noise levels associated with construction vehicle trips to and from the Project site would be limited to the hours between 7:00 am and 7:00 pm, except Sundays and federal holidays. In addition, construction vehicle trips may generate temporary noise; however, once construction is complete the ambient noise levels would return to existing conditions.

I_Bongartz1-8

The commenter states the Project would disrupt wildlife movement by unsettling existing water and plant life. Wildlife movement corridors are discussed in Draft EIR Vol. 1, Section 4.4 Biological Resources, p. 4.4-27. Impacts to Wildlife movement corridors are discussed on p. 4.4-52. Refer to **Master Response 3.4** Springs for a discussion of impacts to springs and proposed mitigation measures to reduce any potential impacts. See **Master Response 3.8** GMMMP for a discussion of the monitoring and mitigation plan to identify potential impacts before they occur. Also see **Master Response 3.6** Vegetation.

I_Bongartz1-9

The commenter states that the wellfield area has not been surveyed for cultural resources. See **Response O_NPCA-CBD et al.-83**.

I_Bongartz1-10

The commenter states that the Project area landowners' ability to fight wildfires will be impaired if there is less water in private wells due to the Project's operations. Implementation of the Project would not change the current conditions related to fire hazards within the Mojave National Preserve. The Project would not reduce local access to groundwater needed to suppress fires.

⁶¹ Cunniff, P.F., *Environmental Noise Pollution*, 1977, p. 131.

I_Bongartz1-11

The commenter questions Mitigation Measure **HYDRO-2**, and states that blending water with another source seems impractical as the commenter believes that all water sources would be impacted equally. As discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-49 to 4.9-53, the model-predicted migration of the saline water/freshwater interface is not expected to reach the wellfield and there are no current wells in use in that area other than the saline water wells purposely pumped for the extraction of minerals and commercial production of salts. The mitigation measure would stop the pumping of groundwater before the brine reached the Cadiz Inc. agricultural wells and long before it reached any more distant wells. This comment is further addressed in **Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP. With respect to water blending referenced in the comment, water quality can improve when higher quality water is blended with lower quality water. The Project would be subject to Metropolitan-imposed pump-in water quality requirements that would ensure the CRA water quality is not impacted.

I_Bongartz1-12

The commenter questions the drawdown of groundwater and the monitoring of wells in the New York Mountains and Mojave National Preserve. The commenter requests a definition of what constitutes a “nearby” well. The monitoring network is described in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Sections 5.3 through 5.5) and includes wells both within and adjacent to the model-predicted area of groundwater drawdown, as well as wells outside the drawdown area. As described in the Updated GMMMP, monitoring would be implemented by the FVMWC, an entity comprised of the Project’s participating public water systems, in consultation with the Technical Review Panel (TRP). The County of San Bernardino, a Responsible Party, would review monitoring reports and both ensure vigilance and determine whether mitigation has been triggered and what preventative actions or remedies should be implemented. Any wells affected by the drawdown would be covered in the Updated GMMMP whether they were “nearby” or miles from the wellfield. As described in the GMMMP, the monitoring would be conducted by the FVMWC. The benchmark of current water levels is shown in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, Figure 4.9-6. The mitigation would apply to both existing and newly-installed wells in the area. This comment is further addressed in **Master Response 3.8** GMMMP. See also Final EIR Vol. 7, Appendix B1 Updated GMMMP.

I_Bongartz1-13

The commenter questions the potential impacts of groundwater drawdown to the Dale Basin south of the Sheephole Pass. This area in the vicinity of the southwestern-most edge of the Project study area,

approximately 20 miles east of the city of Twentynine Palms, not located within the Project watershed or the area that would be affected by drawdown, and would therefore not be affected by the Project.

- I_Bongartz1-14 The commenter states that it is quiet in the desert and additional noise detracts from the rare quality of quiet. The commenter is referred to **Response I_Bongartz 1-7**, above, which discusses existing noise levels, potential Project noise as it relates to sensitive receptors, noise impacts from Project implementation, and proposed mitigation measures. During operations, noise would be generated by well pump motors and maintenance vehicles, however, due to the remoteness of the wellfield, pump noises would attenuate to imperceptible levels and vehicle traffic would be infrequent and would not substantially alter existing conditions. See the Draft EIR Vol. 1, Section 4.12.3 Noise, p. 4.12-10.
- I_Bongartz1-15 The commenter states there would be considerable objectionable noise from the traffic associated with the Project. The commenter is referred to **Response I_Bongartz 1-7**. During operations, noise generated by maintenance vehicles would be infrequent and would not substantially alter existing conditions. See the Draft EIR Vol. 1, Section 4.12.3 Noise, p. 4-12.10.
- I_Bongartz1-16 The commenter requests general information regarding threshold levels that would constitute an adverse impact. This comment is addressed in the Final EIR Vol. 7, Appendix B1 Updated GMMMP, Chapter 6 and **Master Response 3.8** GMMMP.
- I_Bongartz1-17 The commenter states that impacts on the desert ecosystem would persist beyond the date when pumping was suspended. Project operations are designed to avoid significant impacts to the desert ecosystem. The modeled outcomes of pumping in excess of the recharge rate are discussed in **Master Response 3.1** Groundwater Recharge and Evaporation and **Response A/T_29PalmsIndians-2**. This impact on the desert ecosystem would persist beyond the date when pumping was suspended. This comment is also addressed in **Master Response 3.3** Groundwater Pumping Impacts.
- I_Bongartz1-18 The commenter asks if the construction of an underground water pipeline to the Colorado River Aqueduct under an existing railroad right-of-way is consistent with the granting of the right-of-way across BLM property. See **Master Response 3.13** Right-of-Way and NEPA.
- I_Bongartz1-19 The commenter asks if permits are required for any new wells and is the Project viable without them. State and federal permits for construction and operation of the Project would be required such as well completion

reports required by the State of California and required to be filed with the Department of Water Resources. The Project will seek an exclusion from permitting requirements of the San Bernardino County Groundwater Management Ordinance. If granted, the Project would be constructed and managed through implementation of the County-approved GMMMP, including providing well-monitoring information to the County (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 9.2). See **Master Response 3.8** GMMMP. See the Final EIR Vol. 1, Chapter 3 Project Description, p. 3-53, as updated in the Final EIR Vol. 6, Chapter 5 Draft EIR Text Changes, for a complete list of permits required.

- I_Bongartz1-20 The commenter asks what entity would oversee the extraction of groundwater. SMWD through a Joint Powers Authority will oversee management and oversight of the Project. FVMWC would be delegated operational authority over the Project including compliance with the GMMMP, which will be enforced by the County. As described in the GMMMP, monitoring would be implemented by the FVMWC, an entity comprised of the Project's participating public water systems, in consultation with the Technical Review Panel (TRP). The County of San Bernardino, a Responsible Agency, would review monitoring reports and both ensure vigilance and determine whether mitigation has been triggered and what preventative actions or remedies should be implemented. See Section 8 of the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP) and **Master Response 3.8** GMMMP.
- I_Bongartz1-21 The commenter asks what is the federal need for water in the eastern Mojave and how can adverse effects be mitigated. The Project would not impede use of groundwater to any current federal land uses since groundwater is amply available throughout the Fenner Watershed. Impacts to groundwater are described in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality. See also **Master Response 3.7** Water Rights.
- I_Bongartz1-22 The commenter questions Cadiz Inc.'s water rights. See **Master Response 3.7** Water Rights.
- I_Bongartz1-23 The commenter questions the estimates of recharge to the Watershed. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. This comment is further addressed in **Master Responses 3.3** Groundwater Pumping Impacts, **3.4** Springs, and **3.9** Biological Resources.
- I_Bongartz1-24 The commenter asks to be kept informed and states that an extension to the comment period should be granted and that additional efforts aimed

at reaching those affected by this Project should be implemented, particularly, that meetings will be held in areas closer to them and requests to keep me informed of future developments in this process. The commenter has been added to notification lists for future CEQA actions and a comment period extension was granted, which lengthened the comment period by an additional 30 days to a total of 100 days. This comment is further discussed in **Master Response 3.11** CEQA Public Process.

I_Bongartz2-1

The commenter questions whether the water evaporating from the Dry Lakes is “lost” or if it serves some other vital and useful purpose. Specifically, the commenter asks if vegetation in the surrounding desert derived some benefit from the evaporation and cooling of the water and if, in turn, being deprived of that water vapor would contribute to global warming. As described in the Draft EIR Vol. 1 Section 4.9.1 Hydrology and Water Quality, pp. 4.9-15 to 4.9-18, there is no vegetation of any kind in the Dry Lake centers where the evaporation is occurring and thus no vegetation that could benefit. The commenter also questions the role of evaporation in maintaining the integrity of the desert floor. The commenter is presumably referring to the salt crust in the Dry Lakes, a comment further addressed in **Master Response 3.5** Dry Lakes and Dust. See also **Master Responses 3.6** Vegetation and **3.9** Biological Resources.

I_Bongartz3-1

The commenter states the extension of time is good news and inquires if there will be more meetings at locations to the east of the Project area in an attempt to reach those segments of the public. The commenter is referred to **Master Response 3.11** CEQA Public Process.

Craig Brainard

I_Brainard-1

The commenter requests hard copies of the Draft EIR, and any reports related to soils, geology seismology, and riparian studies. On February 14, 2012, the Draft EIR Volume 1, Appendix H Hydrology Reports were provided to the commenter. The package provided an explanation that the Draft EIR does not include a seismic report, and that riparian habitat does not exist in the proposed Project area so riparian studies were not conducted.

Chris Brown (2 submissions)

I_BrownC1-1

The commenter expresses opinion regarding the adequacy of the Draft EIR. The comment does not point to specific instances of inadequacy in the Draft EIR that can be remedied, but instead makes a blanket assertion

concerning the document as a whole. The Draft EIR has been prepared in compliance with CEQA. No further response is necessary.

I_BrownC1-2

The commenter states that the extraction of groundwater could affect the water table in the higher elevations of the surrounding mountains and so affect adjacent communities water rights. This comment is addressed in **Master Responses 3.3** Groundwater Pumping Impacts and **3.4** Springs, which explain that the groundwater drawdown cannot reach into the higher elevations in the mountains. Nonetheless, the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP) includes the monitoring of three springs in the higher elevations to further verify that the groundwater pumping will not affect groundwater in higher elevations consistent with San Bernardino County requirements.

I_BrownC1-3

The commenter states that the Project groundwater pumping would affect springs which some wildlife use for water supply. This comment is addressed in **Master Response 3.4** Springs.

I_BrownC1-4

The commenter states the property owners within the Study Area should have been notified via U.S. mail concerning the nature of the Project. The commenter is referred to **Master Response 3.11** CEQA Public Process.

I_BrownC1-5

The commenter states that the Project would affect springs and resources in the higher elevations and that the springs at higher elevations wouldn't be monitored. There would be no impact to springs or other groundwater resources at the higher elevations as there is no hydraulic connection between them and the aquifer below. However, as stated above in **Response I_BrownC1-2**, consistent with San Bernardino County requirements, there will be monitoring of three springs in these areas. This comment is addressed in **Master Responses 3.3** Groundwater Pumping Impacts and **3.4** Springs. See also the Final EIR Vol. 7, Appendix B1 Updated GMMMP, as revised.

The commenter states that the local property owners do not have the financial resources to construct deeper wells in the event that groundwater drawdown affects third-party wells and constructing a deeper well is the selected mitigation. Although the anticipated drawdown area does not reach areas where private residential wells area located, as described in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP), all costs for providing deeper wells to affected third-party well owners would be borne by the FVMWC. See **Response I_Collett1-1**, below.

- I_BrownC2-1 The commenter states that he is a local landowner residing near the proposed Project and is writing to oppose the approval of the Project. This general comment in opposition to the Project does not require a response pursuant to CEQA. However, the comment is acknowledged for the record. The comment is noted and will be provided to the decision-makers through its inclusion in the Final EIR.
- I_BrownC2-2 The commenter states the wrong agency was chosen to circulate Draft EIR. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency and **3.11** CEQA Public Process.
- I_BrownC2-3 The commenter states that the Project does not abide by safe yield concepts, does not adequately monitor the groundwater table, and the Draft EIR does not sufficiently analyze Phase 2. The Project, as described in Chapter 3 of the Draft EIR, is designed to reverse the groundwater flow below the wellfield to conserve and capture groundwater that otherwise would have flowed to the Dry Lakes and evaporated. To accomplish this, annual extraction would exceed estimated natural recharge in order to create the necessary hydraulic control. See **Master Response 3.3** Groundwater Pumping Impacts. Please see **Master Response 3.15** Terminology, for a discussion of safe yield.
- With regard to monitoring the groundwater table, the Updated GMMMP provides for extensive monitoring of groundwater resources in the Project area. As described in the Final EIR Vol. 7, Appendix B1 Updated GMMMP, monitoring would be implemented by the FVMWC, an entity comprised of the Project's participating public water systems, in consultation with the Technical Review Panel (TRP). The County of San Bernardino, a Responsible Party, would review monitoring reports and both ensure vigilance and determine whether mitigation has been triggered and what preventative actions or remedies should be implemented. See **Master Response 3.8** GMMMP.
- With regard to the comments regarding analysis of Phase 2, this Component of the Project, the Imported Water Storage Component, is addressed in every section of Chapter 4 Environmental Setting, Impacts, and Mitigation Measures. Phase 2 was analyzed at the programmatic level because it is still in the conceptual stage. Implementation of this future portion of the Project would require subsequent CEQA analysis prior to approval. See **Master Responses 3.3** Groundwater Pumping Impacts and **3.12** Project vs. Program Level Analysis.
- I_BrownC2-4 The commenter states the Project will acquire over 2 MAF of San Bernardino water and sell it to Los Angeles and Orange Counties, and

the residents of San Bernardino County must be allowed a fair opportunity to comment. The commenter is referred to **Master Response 3.11** CEQA Public Process. Current Project Participants are not only located in Los Angeles and Orange County. The six participating water providers that have entered into option agreements with Cadiz Inc. for Project water supplies are located in Ventura, Los Angeles, Riverside and Orange Counties. Furthermore, as part of the MOU of May 11, 2012 by and between the San Bernardino County Board of Supervisors, the County and Cadiz Inc. have agreed to consider in the future whether to enter in an agreement to reserve up to 20 percent of annual yield for the benefit of water providers in San Bernardino County for future use under terms and conditions similar to those of other Project Participants. See **Master Response 3.8** GMMMP.

John C. Brown

I_BrownJ-1 through I_BrownJ-4

The comment letter is identical to comment letter **I_BrownC**. See **Response I_BrownC2-1** through **I_BrownC2-4**.

Charles T. Collett

I_Collett1-1

The commenter states that groundwater drawdown will affect his well located along the National Trails Highway (former Route 66) approximately three miles west of Cadiz Road. As shown on Figures 64 through 69 in the Draft EIR (Vol. 4 Appendix H1 Cadiz Groundwater Modeling and Impact Analysis), the general area identified by the commenter is expected to experience a decrease of water levels of about 30 feet under the Project scenario after 50 years of pumping. Any impacts to the commenter's well would be mitigated under the GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 6.2). The Updated GMMMP accounts for the monitoring and mitigation of third-party wells with no cost to well owners if impacts are caused by the Project. Groundwater levels and water quality would be monitored during pre-operational, operational, and post-operational years (see also Updated GMMMP Table 5.1). Wells would be replaced or modified at no cost to the well owners and well owners would be compensated for additional, related pumping expenses. See also **Master Response 3.8** GMMMP.

I_Collett1-2

The commenter objects to the Project and states that SMWD as the lead agency is a conflict of interest. See **Master Responses 3.7** Water Rights and **3.10** CEQA Lead Agency.

- I_Collett1-3 The commenter states that the Project would adversely affect wildlife, specifically birds, reptiles, and mammals. The Project would not affect the springs in the Watershed, including those used by plant and animal wildlife and under current conditions, vegetation and wildlife have no access to the groundwater due to the great depth at which the water table begins. Furthermore, the Project's potential impacts to desert tortoise were found to be less than significant with mitigation and are described in the Draft EIR Vol. 1, Section 4.4, Biological Resources, pp. 4.4-17 to 4.4-19 and 4.4-40 to 4.4-42. Potential impacts to mammals, including Nelson's bighorn sheep, burrowing owl, and American badger were also found to be less than significant with mitigation and are described in Draft EIR Vol. 1, Section 4.4 Biological Resources, pp. 4.4-24 and 4.4-43. This comment is further addressed in **Response O_MDLT-2**, as well as **Master Responses 3.4** Springs, **3.6** Vegetation, and **3.9** Biological Resources and **Response O_NPCA-CDB et al -60, -67, 78**.
- I_Collett1-4 The commenter expresses a general concern that the Project would result in land subsidence. Land subsidence is discussed in the Draft EIR Vol. 1, Section 4.6.3 Geology and Soils, pp. 4.6-27 through 4.6-32, pp. 4.6-35 to 4.6-38. The maximum potential for land subsidence in the area of the commenter's property is estimated to be on the order of less than one inch for the Project Scenario. Nonetheless, the Draft EIR includes Mitigation Measure **GEO-1** on page 4.6-38 and related monitoring and mitigation measures described in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 6.3). See also **Master Response 3.8** GMMMP.
- I_Collett1-5 The commenter questions the legality of the political and public process including the notification process and the role of San Bernardino County. The role of the County as the enforcement authority for the GMMMP is discussed in the **Master Response 3.8** GMMMP. The commenter is referred to **Master Response 3.11** CEQA Public Process, which provides a discussion of the notification process. The commenter also questions the Phase 2, program level analysis. The commenter is referred to **Master Response 3.12** Project vs. Program Level Analysis.
- I_Collett1-6 The commenter states there are a number of other entities that object to the Project. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- The commenter also suggests more transparency in the EIR. The Draft EIR was analyzed, written, and distributed in accordance with CEQA Guidelines. Two public comment meetings were held, one in the district

of the Lead Agency, SMWD, and one near the Project area in Joshua Tree, California. In addition, an informational workshop was held in Joshua Tree where members of the public could ask questions of the scientists who conducted the Project-related studies. This comment is further addressed in **Master Response 3.11** CEQA Public Process.

Debbie Cook

- I_Cook1-1 The commenter questions the financial relationships between parties associated to the Draft EIR and proposed Project. The Project would be financed privately and the costs recouped through long-term water supply contracts. The commenter also expresses opinion unrelated to the content of the Draft EIR. This comment does not state a specific concern regarding the adequacy of the Draft EIR; therefore, a response is not required pursuant to CEQA.
- I_Cook1-2 The commenter questions the use of the term “conservation” related to the Project Description and Project purpose. The commenter is referred to **Master Response 3.15** Terminology.
- I_Cook1-3 The commenter states that overdrafting of the aquifer is not sustainable. The commenter is referred to **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.15** Terminology.
- I_Cook1-4 The commenter expresses concern over the hydrologic connection between the underground aquifer and springs. The commenter is referred to **Master Responses 3.3** Groundwater Pumping Impacts and **3.4** Springs.
- I_Cook1-5 The commenter expresses concern regarding subsidence as a potential impact of the proposed Project. The commenter is referred to **Master Response 3.3** Groundwater Pumping Impacts.
- I_Cook1-6 The commenter questions the recharge rates and climate change. The commenter is referred to **Master Response 3.1** Groundwater Recharge and Evaporation.
- I_Cook1-7 The commenter expresses concern regarding potential impacts to dust production. The commenter is referred to **Master Response 3.5** Dry Lakes and Dust.
- I_Cook1-8 The commenter states that impacts to water resources may have growth inducing impacts. The Draft EIR Vol. 1, Chapter 6 Growth-Inducement Potential and Secondary Effects of Growth, analyzes the potential Project impacts to growth inducement in Southern California, and concludes that

the Project could support a small amount of growth. The commenter is referred to **Response O_NPCA-CBD *et al.*-14**.

- I_Cook1-9 The commenter questions the fire suppressants required by the proposed Project along the Railroad ROW. The commenter is referred to **Response A_NPS-25** and **Master Response 3.13** Right-of Way and NEPA.
- I_Cook1-10 The commenter questions the evapotranspiration rates in relationship to Death Valley. The commenter is referred to **Master Response 3.1** Groundwater Recharge and Evaporation and **Response A_NPS-1, 6, and 54**.
- I_Cook1-11 The commenter expresses opinion regarding the proposed Project. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

Linda DeLuca-Snively

- I_DeLuca-Snively-1 The commenter expresses opposition to the Project. The commenter proposes that, instead, a desalination plant in Orange County be built to produce potable water. CEQA Guidelines Section 15126.6 states that alternatives to a proposed project should “feasibly attain most of the basic objectives of the project” while “avoid[ing] or substantially lessening[ing] any of the significant effects of the project.” In addition, an EIR “need not consider every conceivable alternative to a project.” The Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives identifies an Other Supply Sources Alternative that includes the prospect of desalination (see Table 7-1). As stated in Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-5, *the fundamental purpose of the Project* is to save substantial quantities of groundwater that are presently wasted and lost to evaporation. Further, Project objectives are explained in Chapter 7, Analysis of Alternatives, Section 7.2, p. 7-2 to 7-3. Pumping of a naturally recharging underground aquifer to capture water lost to evaporation is a fundamentally different project than desalination of ocean water. As such, the projects cannot be compared on a project level in the alternatives analysis. Further, there is no indication that a desalination project in Orange County would have fewer environmental impacts than a groundwater recovery project in San Bernardino County. See **Master Response 3.14** Alternatives.

Kyle Detwiler

- Kyle Detwiler The commenter asks about the timeline for the Project, going forward. Following the completion of the Draft EIR public review period, the

Final EIR is prepared and will be provided to all public agency commenters at least 10 days prior to its certification by SMWD, the lead agency. The Final EIR consists of all the comments received on the Draft EIR and responses to those comment. SMWD will then consider whether or not to certify the EIR as adequate. Once certification occurs, SMWD will consider whether or not to approve the Project. Assuming SMWD approves the Project, SMWD or the Joint Powers Authority formed for the Project, as appropriate, would then apply for the necessary permits, including approval of the GMMMP by the County. Project construction could begin following issuance of the necessary permits listed in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-53 to 3-54, and as revised in the Final EIR Vol. 6, Chapter 5 Draft EIR Text Changes.

Robert R. Dunn

I_Dunn-1 This commenter in support of the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration as part of the Final EIR.

Bob Ellis

I_Ellis-1 The commenter states the Project will drain the aquifer. See **Master Response 3.3** Groundwater Pumping Impacts.

I_Ellis-2 The commenter expresses general concern that Project impacts will be discovered too late to make a recovery. As described in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP, mitigation triggers set forth in the Mitigation Measures recommended in the EIR and in the GMMMP would identify corrective measures and action criteria to address impacts prior to their occurrence. See **Master Response 3.8** GMMMP.

I_Ellis-3 The commenter makes a statement objecting to the agreements with Project Participants. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

I_Ellis-4 The commenter states that NEPA is required for the Project because the pipeline goes through federal land. The Project would not require any federal approvals requiring NEPA compliance. As stated in Draft EIR Vol. 1, Chapter 2 Project Background, p. 2-4, the proposed Project intends to utilize a portion of the ARZC railroad Right-of-Way (ROW) for the pipeline. Cadiz Inc. has acquired a right-of-way agreement with ARZC for this purpose. A recent opinion from the Solicitor of the U.S.

Department of the Interior holds that as long as new activities derive from or further a railroad purpose, even if those activities have both railroad and commercial purposes, authorization is within the purview of the railroad. Accordingly, no federal authorization is required. The commenter is referred to **Response A_NPS-25** and **Master Response 3.13 Right-of-Way and NEPA**.

I_Ellis-5

The commenter asks where the power is coming from to support the Project. The commenter is referred to **Response A_NPS-9**. As stated in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-39 to 3-40, three power options are being examined for providing pumping capacity at the wellfield. Since natural gas can be accessed from an existing natural gas line which is located near the proposed wellfield and runs across Cadiz Inc. property, this option is preferred since it would result in fewer physical impacts to the environment. However, as stated on p. 3-40, power would be distributed to the well pads either underground or on 30-foot overhead power poles. Additionally, the commenter is referred to the Draft EIR Vol. 1, Section 4.13 Public Services and Utilities, p. 4.13-17.

I_Ellis-6

The commenter asks how Metropolitan facilities would be used. The proposed Project would construct a tie-in to the CRA as described in the Draft EIR Vol. 1, Chapter 3 Project Description p. 3-34 to 3-38. Details of the facilities and operational modifications of the CRA would be developed in close coordination with Metropolitan. The tie-in would require Metropolitan approval.

I_Ellis-7

The commenter asks who regulates injection of Colorado River water into the public aquifer. The Draft EIR Vol. 1, Chapter 3 Project Description, describes Phase 2 of the Project beginning on p. 3-14. As noted in Section 3.8 of the Draft EIR, an approval from the RWQCB would be required to recharge water into the groundwater basin. The potential impact of importing CRA or SWP water for storage in the aquifer is discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-76 to 4.9-77. The Draft EIR concludes that although imported water would likely have higher TDS concentrations and potentially low levels of other contaminants, the imported water would comply with drinking water standards and would be substantially diluted by the vast quantity of existing groundwater in storage. Since the Draft EIR assessed the Imported Water Storage Component primarily at a program level of analysis, subsequent water quality analysis would be required prior to implementing this Component. See the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-54 for a list of required water quality-related permits and approvals, including approvals from the

Regional Water Quality Control Board (RWQCB). Also see **Response O_OCC1-5** and **A_NPCA-CBD *et al.*-10**.

I_Ellis-8

The commenter states that a Supplemental EIR will be required. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA. The commenter is referred to **Master Response 3.12** Project vs. Program Level Analysis, which provides that future environmental analysis will be required for Phase 2 of the Project.

Mary Ann and Darrell Finstad

I_FinstadMAD1-1

The comment is identical to the I_Bise comment letter. Please see **Responses I_Bise-1** through **I_Bise-5**.

Valerie Finstad (2 submissions)

I_FinstadV1-1

The commenter states that taking water from the desert to water landscaped golf courses is wrong, and states it would be like Owens Valley. The conditions at Owens Lake are fundamentally different than the conditions at Bristol and Cadiz Dry Lakes. The proposed Project would not divert surface water from an established water body; the Bristol and Cadiz Dry Lakes have been dry for thousands of years. In addition, the chemistry of Owens Lake is such that fine particulates are created and release dust. The chemistry at the Bristol and Cadiz Dry Lakes creates a surface crust that is maintained despite changes in groundwater and brine levels. Therefore, the chemistry at the Bristol and Cadiz Dry Lakes creates a crust that is resistant to wind erosion. See Draft EIR Vol. 1, Chapter 4.3 Air Quality, pp. 4.3-15 to 4.3-16. In addition, the Mojave Desert Air Quality Management District submitted a comment letter in which they find Mitigation Measures **AQ-1** through **AQ-5** feasible. See **Response A_MDAQMD2-1**. This comment is further addressed in **Response O_Tetra1-8** and **Master Response 3.5** Dry Lakes and Dust.

I_FinstadV1-2

The commenter states that without a snow pack there is less water in the Fenner Valley and compares that with an assertion of significant snowpack feeding Owens Valley. As described in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-9, precipitation falls in the mountains surrounding the Watershed as both rain and snow on the order of 4 to 12 inches per year. Precipitation percolates into the ground and proceeds to the groundwater aquifer deep below the surface. The groundwater currently in storage has been estimated to be 17 to 34 MAF. Also see **Response I_FinstadV1-1**, above, and **Master Response 3.1**

Groundwater Recharge and Evaporation. See also **Master Responses 3.5** Dry Lakes and Dust and **3.6** Vegetation.

- I_FinstadV1-3 The commenter expresses the opinion that the Project would ruin a whole ecosystem. See **Response I_FinstadVI-2**. The commenter is referred to **Master Responses 3.6** Vegetation and **3.9** Biological Resources.
- I_FinstadV1-4 The commenter lists rainfall data for 2004 through 2011. The commenter is referred to **Responses I_FinstadV1-1 and -2**, above, and **Master Response 3.1** Groundwater Recharge and Evaporation.
- I_FinstadV1-5 The commenter states opposition to the Project. The comment expressing opinion does not address the content or adequacy of the Draft EIR. The comment is noted.
- I_FinstadV2-1 The commenter wishes to correct information included in Comment Letter I_FinstadV1. The comment is noted.

William J. and Susan L. Garvin

- I_Garvin1-1 The commenters provide support for the Project. The comment in support of the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Andrea and James Gutman

- I_Gutman-1 The commenter comments on pumping effects. The commenter is referred to **Master Responses 3.2** Groundwater Modeling and **3.6** Vegetation.

Norma J.F. Harrison

- I_Harrison-1 The commenter requests information regarding regulations, and a summary of potential environmental impacts (if such a document exists), as well as “environmentalists reports of ‘upstream’/‘downstream’ effects.” The Draft EIR analyzes potential environmental impacts throughout Chapter 4 and provides summaries of applicable regulations. See also the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP and **Master Response 3.8** GMMMP. The commenter also expresses opposition to the Project as a private rather than public endeavor. This comment does not state a specific concern regarding the

adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

Janis Hatlestad

- I_Hatlestad-1 The commenter objects to the Project, stating that too much is unknown. The Draft EIR is supported by a substantial body of evidence. Implementation of the GMMMP would ensure that impacts are not greater than anticipated. See **Master Responses 3.2** Groundwater Modeling and **3.8** GMMMP.
- I_Hatlestad-2 The commenter suggests that greater water conservation and other water sources are better alternatives. The Draft EIR discusses a Water Conservation Alternative and an Other Water Supply Sources Alternative in Vol. 1, Chapter 7 Alternatives Analysis. The Draft EIR concludes that increased conservation and development of other water supplies will occur with or without the Project. Demand control measures are an integral part of each Project Participant's Urban Water Management Plan and are included as key elements of water supply policies with or without the Project. However, since a key goal of the Project is to increase water reliability for Project Participants, the need for the Project remains while demand controls and other water sources are also pursued. See **Master Response 3.14** Alternatives.

Steve Iverson (3 submissions)

- I_Iverson1-1 The commenter objects to the Project and claims groundwater pumping impacts on biological resources. The commenter is referred to **Master Responses 3.3** Groundwater Pumping Impacts and **3.9** Biological Resources.
- I_Iverson2-1 The commenter objects to the Project and claims groundwater pumping will impact biological resources. The commenter is referred to **Master Responses 3.3** Groundwater Pumping Impacts and **3.9** Biological Resources.
- I_Iverson3-1 The commenter states he visited an area near the Project recently which was once a lush oasis and is now drying up. The commenter expresses concern about the Bonanza Spring area. The commenter also states that he did not see bighorn sheep, hawks, owls, or other birds on a recent visit. Neither the existing pumping nor the proposed pumping impact the higher elevation springs due to the lack of hydraulic connectivity. See **Master Response 3.4** Springs. For more detail about the wildlife in the area see **Master Response 3.9** Biological Resources. The existing pumping and proposed pumping do not affect the higher elevation

springs. The observations do not reflect on the adequacy of the Draft EIR.

Paula Jeane

I_Jeane-1 The commenter expresses general opposition to the Project. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA, but the comment is noted for the administrative record.

Paul Limon

I_Limon-1 The commenter questions the groundwater recharge. See **Master Response 3.1** Groundwater Recharge and Evaporation.

Christopher Lish

I_Lish-1 The commenter objects to the Project and expresses an opinion regarding the sustainability of the proposed Project. The commenter is referred to **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.15** Terminology.

I_Lish-2 The commenter questions the potential effects of pumping on biological resources. The commenter is referred to **Master Responses 3.3** Groundwater Pumping Impacts, **3.4** Springs, and **3.9** Biological Resources.

I_Lish-3 The commenter expresses an opinion regarding the adequacy of the Draft EIR impact analysis, the adequacy of the monitoring program, and potential impacts to springs. In preparation of the Draft EIR, numerous studies were conducted to determine the amount of water in storage in the aquifer, the hydrology and geology of the aquifer, and the potential impacts of the Project on the aquifer, wildlife, and entire desert ecosystem. These studies and reports are discussed throughout Volume 1 of the Draft EIR in text, tables, and figures and are attached as supporting documentation in the Appendices A through J in Volumes 2-4. With regard to the monitoring program, the commenter is referred to **Master Response 3.8** GMMMP. With regard to springs, there is no hydraulic connection between the aquifer and the mountain springs, therefore changes in the water table will not affect springs. This comment is further addressed in the commenter is referred to **Master Response 3.4** Springs.

I_Lish-4 The commenter urges rejection of the Project. The comment does not state a specific concern regarding the adequacy of the Draft EIR.

Therefore, a response is not required pursuant to CEQA, but the comment is noted for the administrative record.

I_Lish-5

The commenter requests not to be added to future mailings regarding the Draft EIR. The commenter has been removed from SMWD's public notification list. The comment is noted.

Richard MacPherson (3 submissions)

I_MacPherson1-1

The commenter objects to the Project and states that the effects to the upper Watershed are ignored. See **Master Response 3.3** Groundwater Pumping Impacts and **Master Response 3.4** Springs.

The commenter expresses general concern that the recovery rates are overestimated. This comment is addressed in **Master Response 3.3** Groundwater Pumping Impacts. The commenter states that there would be no recharge to the aquifer. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. As described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-7 to 4.9-9, precipitation records indicate that the Watershed receives rainfall every year. Pages 4.9-19 to 4.9-39 contain a thorough discussion of aquifer hydrology, groundwater flow, and recharge. The recharge rate has been estimated to be 32,500 AFY. As described on pages 4.9-28 to 4.9-31, the water table does have a gradient (slope), meaning that groundwater is flowing in response to recharge.

The commenter states that the ability of Metropolitan to provide water should be guaranteed. No Colorado River water would be diverted as part of Phase 1. Phase 2 of the Project would enable entities with Colorado River water rights to store water in years when water is available and enable extraction of water in dry years when water is scarce. The Imported Water Storage Component is evaluated primarily at a program level in the Draft EIR. Future opportunities to recharge water will depend on water availability and the need for additional storage capacity. See **Master Response 3.12** Project vs. Program Level Analysis.

I_MacPherson1-2

The commenter states that a number of stakeholders not notified of the Project. The commenter is referred to **Master Response 3.11** CEQA Public Process.

I_MacPherson1-3

The commenter expresses a general concern that additional wells and springs should be included in the monitoring program described in the Draft GMMMP (Draft EIR Vol. 2, Appendix B1 GMMMP). The springs found at higher elevations in the mountains are not hydraulically

connected to the aquifer, as discussed in **Master Response 3.4** Springs. As described in Section 1.8 of the Draft and Updated GMMMP, the purpose of the GMMMP is to ensure protection of critical resources, including wells and springs. The monitoring network was designed specifically to provide early warning and detect potential adverse impacts on critical resources in the Project area. See **Master Response 3.8** GMMMP.

The commenter states that the monitoring should be conducted by a neutral third party. As described in the Updated GMMMP, monitoring would be implemented by the FVMWC, an entity comprised of the Project's participating public water systems, in consultation with the Technical Review Panel (TRP). The County of San Bernardino, a Responsible Party, would review monitoring reports and both ensure vigilance and determine whether mitigation has been triggered and what preventative actions or remedies should be implemented. The GMMMP would be implemented by the FVMWC. See **Master Response 3.8** GMMMP.

- I_MacPherson1-4 The commenter states that monitoring should include wells in various areas outside of the Fenner Watershed and springs in the Turtle Mountains (corrected to east side of Old Woman Mountains in follow-up Comment Letter I_MacPherson2) and Granite Mountains. The springs found at higher elevations in the mountains are not hydraulically connected to the aquifer, as discussed in **Master Response 3.4** Springs. With regard to wells, as shown on Figures 64 through 69 in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, the areas identified by the commenter are outside of the area expected to experience a decrease in water levels. Nonetheless, the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP includes monitoring of wells outside the Fenner Watershed to verify adjacent areas are not affected. See **Master Response 3.8** GMMMP.
- I_MacPherson1-5 The commenter states mitigation discussed in previous comments must be in the document and supported by bonded escrow accounts. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_MacPherson2-1 The commenter wishes to correct information included in Comment Letter I_MacPherson1. The comment is noted.
- I_MacPherson3-1 The commenter expresses the opinion that monitoring springs would trigger federal NEPA review. No federal approval for monitoring these springs as described in the Updated GMMMP is required because these

are not “waters of the United States” and therefore NEPA is not triggered, and an EIS would not need to be prepared. See **Master Response 3.13** Right-of-Way and NEPA.

I_MacPherson3-2

The comment letter is a follow-up from the same commenter and this comment letter repeated some concerns that are addressed in the responses to the first Comment Letter I_MacPherson1, therefore see **Responses I_MacPherson1-1 to 1-5**, above.

The commenter also expresses a general concern about the costs of the Project and who bears those costs. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

The commenter expresses concern regarding the recharge estimate. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

The commenter questions whether the springs have a hydraulic connection to the aquifer. This comment is addressed in **Master Response 3.4** Springs.

I_MacPherson3-3

The commenter expresses an opinion regarding a lack of evidence showing that the conservation process proposed for the Project would work. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. See also **Response O_Tetra1-7**, **Master Response 3.15** Terminology and **Responses A_NPS-36, -72 and A_NPCA-CBD et al.-7**.

I_MacPherson3-4

The commenter states that each spring or well that is monitored should have its own action criteria. As described in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP Section 1.8), the purpose of the GMMMP is to ensure protection of critical resources, including wells and springs. The action criteria are keyed to the model-predicted responses at the relevant locations and therefore are specific to each monitoring location. Impacts are assessed in Section 4.2, of the Updated GMMMP, the monitoring network is addressed in Sections 5.2 to 5.10, and action criteria and corrective measures are addressed in Chapter 6. See **Master Response 3.8** GMMMP.

I_MacPherson3-5

The commenter states that all neighbors and potentially affected parties need to be notified and included in the development of future decisions. The commenter is referred to **Response I_MacPherson1-2**, above. The commenter is referred to **Master Response 3.11** CEQA Public Process.

Norman Meek

I_Meek-1

The commenter states that the Draft EIR is too large to review and provides irrelevant details. The Draft EIR has been prepared pursuant to CEQA requirements. The Executive Summary of the Draft EIR is 43 pages, and provides a summary of the Project's potential impacts and mitigation measures. The technical information supporting the impact analysis is provided in the Appendices which are found in Volumes 2 to 4. The Groundwater Management, Monitoring, and Mitigation Plan (GMMMP) is found in the Final EIR Vol. 7, Appendix B1 Updated GMMMP and addresses potential impacts, the monitoring network, and action criteria and corrective measures. The public review period was extended from 45 days to 100 days, and, along with a workshop and two hearings, it provided an opportunity for the public to evaluate the material. See also **Master Response 3.11** CEQA Public Process.

I_Meek-2

The commenter states that the desert aquifers cannot support extended extraction. The desert aquifer examples the commenter provides are from areas outside the Project's watersheds. The groundwater currently in storage has been estimated to be 17 to 34 MAF as indicated in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-32. Substantial technical information has been provided in the Draft EIR supporting the availability of water to meet the Project's extractions. See **Master Response 3.1** Groundwater Recharge and Evaporation.

I_Meek-3

The commenter expresses the opinion that the reason for recent reductions in the Cadiz Inc. agricultural well pumping amounts is due to groundwater drawdown at the agricultural wells. Data and graphs demonstrating that groundwater levels have changed little in response to agricultural pumping can be found in the various monitoring report prepared for the agricultural operations including the 5-year monitoring report (*Cadiz Valley Agricultural Development, Five-Year Monitoring Report, January 1998 – December 2002*, dated January 27, 2003) available to the public at San Bernardino County Planning Department. In addition, groundwater use by the agricultural wells varies year-to-year depending on crops in production and is not related to availability of groundwater supplies.

It should also be noted that the annual volume of groundwater pumped by the Cadiz Inc. agricultural operations in any year, whether 5,495 AF in 2002 or 1,867 AF in 2010, is a fractional percent of the 17 to 34 MAF of groundwater estimated to be in storage in the Fenner Valley, Bristol, Cadiz, and Orange Blossom Wash Watersheds as indicated in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-32.

Consequently, the agricultural pumping would not be expected to have a significant effect on groundwater levels.

I_Meek-4

The commenter states that the aquifer groundwater dates back to the ice ages and is not from modern recharge. Although the aquifer is ancient (oldest parts from the Proterozoic Age) and some of the groundwater is hundreds, maybe thousands of years old (because it moves very slowly from its origination points in the mountains down into the valley), it is also recharged annually. The groundwater gradient observed in the Fenner Valley from the upper Watershed to the lower Watershed provides empirical data that the groundwater basin is being recharged and that the groundwater basin is not in a static state. The recharge rate is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. See the Draft EIR Vol. 1, Section 4.6 Geology and Soils and Section 4.9 Hydrology and Water Quality, pp. 4.9-32 to 4.9-39. Also see the Draft EIR Vol. 4, Appendix H1 Sub-Appendix B Geologic Structural Evaluation of the Fenner Gap Region, p.3.

I_Meek-5

The commenter expresses concern regarding the recharge estimate. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. The commenter expresses the opinion that hydrographs of the agricultural well water levels would help support that the groundwater supply is abundant and sustainable. This comment is addressed in **Response I_Meek-3**.

I_Meek-6

The commenter states that there is not enough water to satisfy the needs of the proposed plan, that imported water sources are unclear, and that there are groundwater basins closer to the CRA that could be used instead of the pursuing this project. The groundwater currently in storage has been estimated to be 17 to 34 MAF as indicated in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-32. The amount of water in storage in the basin would not be exhausted, in fact, with recharge of 32,000 AFY, the Project would only deplete the aquifer three to six percent after 50 years. See **Master Response 3.1** Groundwater Recharge and Evaporation regarding availability. Regarding imported water availability for Phase 2, the Draft EIR acknowledges that storage of imported water in Phase 2 groundwater recharge will be dependent on the availability of water. Phase 2 of the Project would not proceed unless available imported water supplies are identified and would be subject to additional environmental review. Regarding groundwater basins closer to the CRA, the hydrogeological characteristics of the Fenner, Bristol, and Cadiz Watersheds and the Fenner Gap are fundamental to the proposed Project. Developing other groundwater basins does not meet the fundamental purpose of the Project nor does it meet the stated objectives

of maximizing beneficial uses of the Fenner, Bristol, and Cadiz Watersheds. Please see **Master Response 3.14** Alternatives.

I_Meek-7

The commenter states that the reduction in evaporation from the Dry Lakes would lower the local humidity and reduce the local and regional rainfall. As described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-6 to 4.9-7, the seasonal weather patterns of the eastern Mojave Desert region are primarily controlled by semi-permanent high and low pressure systems located over North America and the Pacific Ocean. Precipitation predominantly originates outside the local area and region. Furthermore the Valley is extremely hot and exhibits low humidity compared to other areas in the desert, and the evaporation occurring at the Dry Lakes does not have a significant cooling effect compared to other areas of the eastern Mojave. See **Master Responses 3.5** Dry Lakes and Dust and **3.9** Biological Resources.

I_Meek-8

The commenter states that the Colorado River is over-apportioned, that Cadiz Inc. is promoting this Project for profit, and that expenses of the Project will be borne by tax payers. No Colorado River water would be diverted as part of Phase 1. Phase 2 of the Project would enable entities with Colorado River water rights to store water in years when water is available and enable extraction of water in dry years when water is scarce. The Draft EIR acknowledges that the Imported Water Storage Component is contingent on surplus water availability on the Colorado River or the availability of other supplies. Phase 2 of the Project, which would include importing water to the Project area for storage, was analyzed at the programmatic level because the details of the Project, as well as participating parties, are yet to be determined. Once these details are known, project-level CEQA analysis will be completed prior to approval and implementation (see **Master Response 3.12** Project vs. Program Level Analysis). The comments related to Cadiz Inc. and financing the Project are not relevant to the analysis in the Draft EIR and no response is necessary.

Shell McIntosh

I_McIntosh-1

The commenter objects to the Project and states that the Project will affect his well, and that property owners were not notified or involved in the process. The commenter is referred to **Master Responses 3.3** Groundwater Pumping Impacts and **3.11** CEQA Public Process, and the Final EIR Vol. 7, Appendix B1 Updated GMMMP.

Jean McLaughlin

- I_McLaughlin1-1 The commenter expresses an opinion that too many unanswerable questions remain to go forward with the Project. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA, but will be noted for the record.
- I_McLaughlin1-2 The commenter states that because of climate change there might be more dry years with less recharge than estimated. The Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, discusses climate change in the Draft EIR Volume I, on pp. 4.9-10 through 4.9-15. If there is a decline in precipitation, the recharge rate should not be affected. There are already large quantities of groundwater moving slowly downgradient from the mountains to the valley; this water fell as precipitation hundreds, even thousands of years ago. Therefore, even with less precipitation, natural recharge into the Project area is still expected throughout the life of the Project. To address various climate scenarios, the Project was analyzed using two worst case scenarios—recharge at 16,000 AFY and 5,000 AFY. Even with these conservation assumptions, the impacts on groundwater resources remain less than significant. This comment is addressed in **Response O_OCC1-7**.
- I_McLaughlin1-3 The commenter states that the water imported from the Colorado River would contain contaminants that would infiltrate to the aquifer. The potential impact of importing CRA or SWP water for storage in the aquifer is discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-76 to 4.9-77. The Draft EIR concludes that although imported water would likely have higher TDS concentrations and potentially low levels of other contaminants, the imported water would comply with drinking water standards and would be substantially diluted by the vast quantity of existing groundwater in storage. See the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-54 for a list of required water quality-related permits and approvals, including approvals from the Regional Water Quality Control Board (RWQCB). Also see **Responses O_OCC1-5 and A_NPCA-CBD et al.-10**.
- I_McLaughlin1-4 The commenter states an opinion that the taking of a major resource underlying private and public properties for profit is wrong. The Project operate in full compliance with California water law and is not unprecedented. Groundwater is a major source of water throughout California and extraction occurs from both private and public properties in the State. The comment does not state a specific concern regarding the adequacy of the Draft EIR.

- I_McLaughlin1-5 The commenter requests information regarding the monitoring of springs. This comment is addressed in Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP. Additional information is provided in **Master Response 3.8** GMMMP.
- I_McLaughlin1-6 The commenter states that groundwater drawdown may affect springs. In addition to the information provided in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-19, and Draft EIR Vol. 4, Appendix H3 Assessment of Effects of the Cadiz Groundwater Conservation Recovery and Storage Project Operations on Springs, additional information is provided in **Master Response 3.4** Springs.
- I_McLaughlin1-7 The commenter expresses an opinion that the biological resources mitigation measures are unacceptable. The commenter is referred to **Master Responses 3.8** GMMMP and **3.9** Biological Resources.
- I_McLaughlin1-8 The commenter states that the elimination of evaporation at the Dry Lakes might affect the weather. This comment is addressed in the **Response I_Meek-7**.
- The commenter states that some birds rely on groundwater. As described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-28 to 4.9-31, the depth to groundwater in the freshwater area is on the order of hundreds of feet. Once the groundwater reaches to shallower depths at the centers of the Dry Lake, it has become too saline for consumption. Neither plant nor animal wildlife relies on the groundwater at the Project area or Dry Lakes. This comment is also addressed in **Master Responses 3.6** Vegetation and **3.9** Biological Resources.
- I_McLaughlin1-9 The commenter states the Project will create a major alteration to natural resources. The Draft EIR Vol. 1, Executive Summary, provides an extensive assessment of potential impact to the natural environment. Those effects are summarized in the Draft EIR Vol. 1, Executive Summary, Table ES-1. This comment is addressed in **Response I_Collett1-3**.

Ramon Alviso Mendoza

- I_Mendoza1-1 This commenter in support of the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Ted & Karen Meyers

I_Meyers-1 The commenters express opposition to the proposed Project because of concerns about the aquifer, and are referred to **Master Responses 3.3** Groundwater Pumping Impacts and **3.9** Biological Resources.

Chris and Bob Mills

I_Mills-1 This commenter states that there is not surplus in the Colorado River. No Colorado River water would be diverted as part of Phase 1. Phase 2 of the Project would enable entities with Colorado River water rights to store water in years when water is available and enable extraction of water in dry years when water is scarce. The Draft EIR acknowledges that implementation of Phase 2 is dependent on surplus water availability on the Colorado River or the availability of other supplies. Phase 2 of the Project, which would include importing water to the Project area for storage, was analyzed at the programmatic level because the details of the Project, as well as participating parties, are yet to be determined. Once these details are known, project-level CEQA analysis will be completed prior to approval and implementation (see **Master Response 3.12** Project vs. Program Level Analysis).

I_Mills-2 The commenter states that the recharge estimates are too high. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation. See also the discussion of past and current recharge estimates in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-32 to 4.9-39.

I_Mills-3 The commenter states that seasonal water on the Cadiz Dry Lake bed limits the amount of dust and particulates in the air. The Project would not change the current condition of occasional seasonal water on the surface of the Dry Lakes as a result of precipitation or runoff. The commenter is referred to **Master Response 3.5** Dry Lakes and Dust.

I_Mills-4 The commenter states that drawdown will impact nearby springs, local people and wildlife. This comment is addressed in **Master Responses 3.4** Springs and **3.9** Biological Resources. Also see the Final EIR Vol. 7, Appendix B1 Updated GMMMP.

I_Mills-5 The commenter objects to the Project and supports greater conservation. See **Master Response 3.14** Alternatives. The Draft EIR Vol. 1, Chapter 7 Alternatives Analysis, evaluates an Increased Conservation Alternative beginning on p. 7-6. The analysis summarizes demand control measures throughout the urbanized areas of use. Demand control measures are an integral part of each Project Participant's Urban Water Management

Plans and they are included as key elements of water supply and demand with or without the Project. The Project would provide alternative water supplies to Project Participants to diversify water supply options that compliment on-going conservation efforts rather than replace them. The analysis concludes that conservation only would not reduce the need for the Project.

Ruth Musser-Lopez (5 submissions)

- I_Musser-Lopez1-1 The commenter requests a meeting in Needles, San Bernardino County, CA. The commenter is referred to **Master Response 3.11** CEQA Public Process, concerning the request for additional community meetings.
- I_Musser-Lopez2-1 The commenter requests information used in the analysis of the Draft EIR. This is not a comment regarding the adequacy of the environmental review for the Project and so no response is required. However, the requested document (Memorandum of Opinion M-37025 Partial Withdrawal of M-36946, November 2011, U. S. Department of the Interior, Office of the Solicitor) is included as Appendix M1 to the Final EIR Vol. 7.
- I_Musser-Lopez2-2 The commenter requests an extension of time. An extension of time to comment was provided to the public. The commenter is referred to **Master Response 3.11** CEQA Public Process, concerning the request for extension of time.
- I_Musser-Lopez2-3 The commenter requests hard copies of Appendices A-F and H-J to the Draft EIR, as well as a copy of transcripts from both Public Hearings and any comments filed to date. On February 15, 2012, the commenter was sent all appendices referenced above. The commenter was made aware that copies of transcripts from both Public Hearings, copies of all comment letters received, and responses to those comments are included in the Final EIR, pursuant to CEQA Guidelines section 15132.
- I_Musser-Lopez3-1 The commenter states the comments made in the included letter should be included as a request for answers from the County of San Bernardino Board of Supervisors. Additionally, the commenter requests a 90- day extension of the public comment period. The commenter is referred to **Master Response 3.11** CEQA Public Process, concerning the request for extension of time.
- I_Musser-Lopez3-2 The commenter asks about Cadiz Inc.'s right to water in the aquifer. See **Master Response 3.7** Water Rights.

- I_Musser-Lopez3-3 The commenter asks for time to address the Project at the County Board of Supervisors meeting on February 14, 2012. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_Musser-Lopez3-4 The commenter states that the Project would be located in the First District and that the “Cadiz Land Company” has contributed to the campaign of a San Bernardino Board member for the First District. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_Musser-Lopez3-5 The commenter makes assertions concerning SMWD acting as lead agency for the proposed Project. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency and **3.11** CEQA Public Process.
- I_Musser-Lopez3-6 The commenter states there have been complaints filed with SMWD Board Members and Managers and the District Attorney’s Office of Integrity. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_Musser-Lopez3-7 The commenter makes assertions concerning SMWD acting as lead agency for the proposed Project. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency, and **3.11** CEQA Public Process. Other parts of this comment do not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_Musser-Lopez3-8 The commenter asks if the meeting in Joshua Tree was a “ruse,” stating the meeting gave the appearance that there would be a real hearing with regard to the content of the Draft EIR and therefore was misleading. This meeting was advertised and organized as a public comment meeting with the intent to take verbal and written comments on the Draft EIR. It was not advertised or organized as a CEQA hearing. See **Master Response 3.11** CEQA Public Process.
- I_Musser-Lopez3-9 The commenter states that the aquifer pumping proposed by the Project would “induce” water from the “high country” to the aquifer. This comment is addressed in **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.4** Springs.
- I_Musser-Lopez3-10 The commenter provides a comment concerning the public notification process. The commenter is referred to **Master Response 3.11** CEQA Public Process.

- I_Musser-Lopez3-11 The commenter states there are Native American concerns not addressed in the Draft EIR. Regarding Native American concerns, please see **Responses A/T_Chemehuevi-6, O_RiverAHA4-27, A_NAHC-1 and A_NAHC-2**. Regarding springs, the commenter is referred to **Responses O_RiverAHA4-18, I_SmithP-5, A_CDFG-1 and Master Response 3.4 Springs**.
- I_Musser-Lopez3-12 The commenter states that the Project will result in the loss of long-term socio-economic benefits for the County. CEQA Guidelines Section 15131 states that "...economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from anticipated economic or social changes resulting from the project to physical change caused in turn by the economic or social changes." However, the Draft EIR makes clear that the Project would not result in economic losses to San Bernardino County, rather it is projected to result in increased property tax revenue and job creation in the County. See **Master Response 3.8 GMMMP, Response O_SPCW-8**, and the Draft EIR Vol. 4, Appendix I Economic Impact of the Proposed Cadiz Valley Groundwater Conservation, Recovery and Imported Water Storage Project Final Report.
- The comment states that groundwater quality will decrease with recharge. See **Master Response 3.3 Groundwater Pumping Impacts**.
- I_Musser-Lopez3-13 The commenter states that the groundwater drawdown would affect rare and endangered species. This comment is addressed in **Master Responses 3.4 Springs and 3.9 Biological Resources**. The Draft EIR evaluates potential impacts to recreational facilities used by tourists in the Draft EIR Vol. 1, Section 4.14 Recreation.
- I_Musser-Lopez3-14 The commenter states the San Bernardino County Board of Supervisors should uphold their duties as elected officials. This comment does not state a specific concern regarding the adequacy of the Draft EIR.
- I_Musser-Lopez3-15 The commenter states the County of San Bernardino has the responsibility to act as the lead agency. The commenter is referred to **Master Response 3.10 CEQA Lead Agency**.
- I_Musser-Lopez3-16 The commenter states there should be notice to surrounding property owners. The commenter is referred to **Master Response 3.11 CEQA Public Process**, concerning the notification process.
- I_Musser-Lopez3-17 The commenter states the Project and schedule should be available on the San Bernardino County website. The commenter is referred to **Master Response 3.10 CEQA Lead Agency**. The Draft EIR is available

on SMWD website from a link on the home page,
<http://www.smwd.com/>.

- I_Musser-Lopez3-18 The commenter states that the San Bernardino County Board of Supervisors should deny the Project. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_Musser-Lopez4-1 The commenter asks why the Project CEQA documents were not made available to members of the public owning property east of Kelbaker Road. The commenter is referred to **Master Response 3.11** CEQA Public Process.
- I_Musser-Lopez4-2 The commenter objects to the Project as a “water grab” mining project. The objectives of the Project are found in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-5 to 3-6. This comment is further addressed in **Master Response 3.3** Groundwater Pumping Impacts.
- I_Musser-Lopez4-3 The commenter states that springs, wildlife, and habitats would be affected. This comment is addressed in **Master Responses 3.4** Springs and **3.9** Biological Resources.
- I_Musser-Lopez4-4 The commenter asks about the use of Cadiz Inc.’s water to implement the Project. See **Master Response 3.7** Water Rights.
- I_Musser-Lopez4-5 The commenter makes general statements opposing the Project, and states this is an ill-conceived project that should never have been let back on the agenda. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA, but is noted for the record.
- I_Musser-Lopez5-1 The commenter objects to the Draft GMMMP, states that the Project will cause harm, and states that SMWD should not be the lead agency. The comment also states that the Project would violate safe yield concepts. See **Master Responses 3.3** Groundwater Pumping Impacts, **3.8** GMMMP, **3.10** CEQA Lead Agency, and **3.15** Terminology.
- I_Musser-Lopez5-2 The commenter objects to the Project and prefers the No Project Alternative. The No Project Alternative was evaluated in Chapter 7. The No Project Alternative would not meet any of the Project Objectives. See **Response O_OCC1-12**, **Master Response 3.8** GMMMP, and the Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives, Sections 7.3 and 7.4.5.
- I_Musser-Lopez5-3 The commenter supports comments made in the “Johnson & Wright letter” and includes the letter by reference. See **Response O_NPCA-**

CBD-et al. Attachment A 1-44. The commenter further states that the groundwater drawdown would affect the springs. This comment is addressed in **Master Response 3.4** Springs.

- I_Musser-Lopez5-4 The commenter states that the volume of water in the aquifer is not sustainable. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation, **3.8** GMMMP, and **3.15** Terminology.
- I_Musser-Lopez5-5 The commenter refers to studies performed in the Ward Valley for a previously-proposed radioactive waste site and states that their studies showed a connection of the Project aquifers with aquifers outside of the Cadiz Valley. As described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-1 through 4.9-5, the Project area is in a closed basin. Groundwater flows from the mountains down to the valley and ultimately to the Dry Lakes where it becomes highly saline in the form of brine and then evaporates. The concern for the Ward Valley project was that if contamination from a radioactive site affected groundwater, underground connectivity with the Colorado River could convey contamination to a major water supply. The EIS prepared for the Ward Valley project found no evidence of any underground connection between Ward Valley and the Colorado River.⁶² See **Response O_RiverAHA4-5** and **Master Response 3.1** Groundwater Recharge and Evaporation.
- I_Musser-Lopez5-6 The commenter objects to the proposed Project alternatives provided for in the Draft EIR. The Draft EIR provides an assessment of Project alternatives in compliance with CEQA. The commenter's opinion is noted. See **Master Response 3.14** Alternatives.
- I_Musser-Lopez5-7 The commenter states that the water imported from the Colorado River would contain contaminants that would infiltrate to the aquifer. As described in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-53 to 4.9-57, the current Colorado River water quality meets drinking water standards. In addition, the potential impact of importing CRA or SWP water for storage in the aquifer is discussed in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-76 to 4.9-77. The Draft EIR concludes that although imported water would likely have higher TDS concentrations and potentially low levels of other contaminants, the imported water would comply with drinking water standards and would be substantially diluted by the vast quantity of existing groundwater in storage. See the Draft EIR Vol. 1, Chapter 3

⁶² U.S. General Accounting Office, *Radioactive Waste, Interior's Continuing Review of the Proposed Transfer of the Ward Valley Site*, July 1997.

Project Description, p. 3-54 for a list of required water quality-related permits and approvals, including approvals from the Regional Water Quality Control Board (RWQCB). Also see **Responses O_NPCA-CBD et al.-10** and **O_OCC1-5**.

- I_Musser-Lopez5-8 The commenter states that she incorporates by reference all comments from the 2001 EIR, specifically those from Marjorie Mikels. This commenter does not state a specific concern regarding the adequacy of the Draft EIR. Comments made on a previous project are not relevant to the proposed Project. No responses are necessary. A copy of the 2001 Draft and Final EIR from the earlier Metropolitan Project will be included in the administrative record for this Project.
- I_Musser-Lopez5-9 The commenter states an objection to using local groundwater for Southern California. This commenter does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_Musser-Lopez5-10 The commenter objects to the title assigned to the proposed Project. Please refer to **Master Response 3.15** Terminology. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_Musser-Lopez5-11 The commenter states SMWD should not be the lead agency and that therefore, the document is invalid. The commenter is referred to **Master Response 3.10** CEQA Lead Agency.
- I_Musser-Lopez5-12 The commenter requests full public disclosure and involvement by San Bernardino County. See **Master Response 3.10** CEQA Lead Agency. See also **Responses I_Black2-4, I_Bongartz1-19, and I_Stearn1-4** regarding the County's involvement and MOU.
- I_Musser-Lopez5-13 The commenter objects to omissions of the Project including the GMMMP approval needed from San Bernardino County. The Draft EIR Vol. 1, Chapter 3 Project Description, Section 3.8, and as revised in the Final EIR Vol. 6, Chapter 5 Draft EIR Text Changes, lists County approval of the GMMMP as one of the Project approvals. See **Master Responses 3.8** GMMMP and **3.10** CEQA Lead Agency.
- I_Musser-Lopez5-14 The commenter claims that the Draft EIR has not been shared with the San Bernardino County Land Use Services Department and the San Bernardino County Planning Commission, Districts 1 through 5. Although the Project does not require approval by these entities, the Draft EIR was circulated to both. The commenter is also referred to **Response A_SBCounty-2** above concerning the County's review of the

Project. The commenter is also referred to **Master Response 3.10** CEQA Lead Agency and **Response O_RiverAHA1-2**.

- I_Musser-Lopez5-15 The commenter asserts that the opportunity for public review of this Draft EIR is insufficient. The commenter is referred to **Master Response 3.11** CEQA Public Process, concerning the request for extension of the public comment period, notice and the availability of the Draft EIR.
- I_Musser-Lopez5-16 The commenter states objections to the withholding or omission of pertinent documents from public in the Draft EIR. See **Master Response 3.10** CEQA Lead Agency and **3.11** CEQA Public Process; see also **Responses I_Black2-4, I_Bongartz1-19, and I_Stearn1-4** regarding the County's involvement and MOU.
- I_Musser-Lopez5-17 The commenter states objections that there are no well data included in the Draft EIR that would show flow patterns from the drainages south of Cadiz Valley toward Blythe; and there is insufficient data to show that the groundwater flowing through the Fenner Gap. This comment is addressed in the **Response I_Musser-Lopez5-5**. See **Master Response 3.1** Groundwater Recharge and Evaporation and the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-19 to 4.9-24.
- I_Musser-Lopez5-18 The commenter opines that the Project aquifer is not a sustainable source of water and that the Colorado River does not have surplus water. The Draft EIR acknowledges that implementation of Phase 2 is dependent on water availability. See **Master Response 3.1** Groundwater Recharge and Evaporation. Phase 2 of the Project, which would include importing water to the Project area for storage, was analyzed at the programmatic level because the details of the Project, as well as participating parties, are yet to be determined. Once these details are known, project-level CEQA analysis will be completed prior to approval and implementation (see **Master Response 3.12** Project vs. Program Level Analysis).
- I_Musser-Lopez5-19 The commenter alleges that the Draft EIR Project Participants are in violation of Section 2 of the Sherman Act, which addresses monopolization of trade or commerce. As stated in the Draft EIR Vol. 1, Chapter 6 Growth-Inducement Potential, Section 6.2.8, p. 6-42, not all Project Participants have been identified. There still exists 9,000 to 19,000 AFY of unsubscribed water, which would allow for other entities to enter into an agreement with Cadiz Inc. to obtain Project water at a future date (Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-21). Further, the assertion that three of the six Project Participants are in competition with Cadiz Inc. does not address the adequacy of the Draft EIR and so no response is required.

- I_Musser-Lopez5-20 The commenter states that the water that is evaporating from the Dry Lakes is not the water that is being extracted. As explained in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-28 to 4.9-31, the water table does have a gradient (slope), meaning that groundwater is flowing in response to recharge, ultimately migrating to the Dry Lakes where it evaporates. By pumping water at the wellfield upgradient from the Dry Lakes, the Project will alter the hydraulic gradient and thus alter the flow of water so that some of it no longer flows to the Dry Lakes. See **Master Response 3.1** Groundwater Recharge and Evaporation.
- The commenter states that the Project will contribute to global warming. The Draft EIR evaluates the Project's GHG emissions in Section 4.7 Greenhouse Gas Emissions. See **Responses A_MWD-6, A_MWD-46, and A_NPCA-CBD et al.-92**
- The commenter requests further evidence of the volume of water evaporating from the Dry Lakes. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.
- The commenter states that the water evaporating from vegetation serves to cool the Earth. As described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-15 to 4.9-18, the Dry Lakes have no vegetation. No vegetation would be affected by the Project. See **Master Responses 3.6** Vegetation and **3.9** Biological Resources and **Response I_Meek-7**.
- I_Musser-Lopez5-21 The commenter states that in 2007, then-California Attorney General Jerry Brown successfully sued San Bernardino County to make reducing global warming part of its growth plan. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_Musser-Lopez5-22 The comment states that the people of San Bernardino County have not had the chance to comment on the Project. See **Master Responses 3.8** GMMMP, **3.10** CEQA Lead Agency, and **3.11** CEQA Public Process.

Sterling Perkes

- I_Perkes-1 The commenter states preference for desalination and conservation alternatives. The Draft EIR evaluates other water supplies including desalination as listed in the Draft EIR Vol. 1, Chapter 7 Alternatives Analysis, p. 7-11, Table 7-1. Desalination will be pursued by Participating Entities with or without the Project. The Draft EIR

evaluates an Increased Conservation Alternative beginning on p. 7-6. The commenter is referred to **Response I_DeLuca-Snively-1**, concerning desalination alternatives, and **Response I_Hatlestad-2** concerning conservation alternatives, and also **Master Response 3.14** Alternatives.

Drew Reese

I_Reese-1 This commenter objects to the Project. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA, but it is noted for the record.

C. David Renquest

I_Renquest-1 The commenter supports the proposed Project. This comment in support of the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Catherine Robinson

I_Robinson-1 The commenter states they own undeveloped land in Cadiz, California and only received notice of the Project from the Mojave Desert Heritage and Cultural Association. The commenter is referred to **Master Response 3.11** CEQA Public Process, concerning the notification process.

I_Robinson-2 The commenter objects the Draft EIR's characterization of the Project as intending to conserve water currently lost to evaporation. As stated in Project Description, Section 3.2 Project Objectives, "The fundamental purpose of the Project is to save substantial quantities of groundwater that are presently lost to evaporation by natural processes" (original emphasis) (Draft EIR Vol. 1, Chapter 3 Project Description). Without implementation of the Project, water currently stored in the closed aquifer system will continue to migrate towards Cadiz and Bristol Dry Lakes, mix with brine, and evaporate. The proposed Project intends to conserve the dissipating resource by recovering the fresh water, thereby increasing water supply reliability in drought-ridden Southern California. The recovery effort would be implemented and limited to the 50-year life of the Project. See **Response I_MacPherson3-3** and **Master Response 3.15** Terminology.

I_Robinson-3 The commenter is concerned for the two businesses that actively mine calcium chloride from the Bristol Dry Lake and they use this water that

would "otherwise be lost to evaporation" for their mining operations, and that without it, they would be out of business. Thus this water is already being used for productive purposes. The Draft EIR addresses impacts to mineral resources in Draft EIR Vol. 1, Section 4.11 Mineral Resources. See **Responses O_Tetra1-1 to O_Tetra1-28 and O_Tetra-Attachment-1 to O_Tetra1-Attachment-22 and Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP.

I_Robinson-4 The commenter states that the recharge rate is overstated in the Draft EIR, and cites lesser recharge rates provided by other scientists and studies. The commenter also expresses opinion regarding the sustainability of the recharge rate. The commenter is referred to **Master Response 3.1** Groundwater Recharge and Evaporation.

I_Robinson-5 The commenter states that she recently learned about the Ogallala Aquifer, the world's largest aquifer. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

Joe Ross

I_Ross-1 The commenter asks to be maintained on the mailing list when the Final EIR is distributed. The commenter's request is noted, the commenter will be notified of future actions concerning the Project, per the request.

I_Ross-2 This comment is a lead-in to more specific subsequent comments that are addressed in the following responses.

I_Ross-3 The commenter references biological and cultural studies conducted by the U.S. Marine Corps as part of their Marine Corps Air Ground Combat Center Land Acquisition Project, and states that the Draft EIR failed to cite them. The Draft EIR Vol. 1, Chapter 5 Cumulative Impacts acknowledges the U.S. Marine Corps proposed Land Acquisition Project, however the studies conducted for that project did not cover the area of this Project. The studies conducted for the proposed Project cover the specific Project area and therefore provide better information that is more relevant to the Project than the broad evaluations referenced in the comment letter.

I_Ross-4 The commenter states that the Draft EIR description of the aquifers conflicts with the description in the State DWR Bulletin 118. As stated in Bulletin 118, the degree of knowledge cited by the DWR back in 1975 (37 years ago) was described as "superficial for geology and limited for hydrology and water quality", and therefore are not as accurate as the

recent and site-specific information presented in the Draft EIR. See **Master Response 3.1** Groundwater Recharge and Evaporation.

I_Ross-5

The commenter states that the description of the volume of water stored in the aquifer conflicts with an estimate provide in Koehler, J.H. 1983, *Ground water in the northeast part of Twentynine Palms Marine Corps Base, Bagdad Area, California*, USGS Water Resources Investigation Report 83-4053. The Bagdad location cited by the Koehler is not within the Watershed of the proposed Project and therefore is not applicable to the estimates of volumes in storage for this Project. See **Master Response 3.1** Groundwater Recharge and Evaporation.

I_Ross-6

The commenter notes that the Draft EIR states that the total dissolved solids (TDS) concentrations in the Fenner Gap and Fenner Gap area are in the range of 300 to 400 milligrams per kilogram (mg/kg) but that it is common knowledge that the TDS concentrations in the Dry Lakes area are as high as 298,000 mg/kg. The Draft EIR includes this data in Vol. 1, Section 4.9.1 Hydrology and Water Quality, p. 4.9-9, and discusses the Dry Lakes further at 4.9-15 to 4.9-18. Also see **Master Responses 3.5** Dry Lakes and Dust and **3.3** Groundwater Pumping Impacts. Fresh groundwater in the aquifer system at the Project area ultimately flows to the Dry Lakes. The evaporative process that has been occurring at the Dry Lakes over hundreds, even thousands of years has left behind highly saline brine. When groundwater reaches this area, it can no longer be used for municipal or agricultural supply purposes.

I_Ross-7

The commenter states that the Draft EIR fails to adequately assess paleontological resources, particularly in the Marble Mountains. The Marble Mountains and associated fossil-bearing formations are not located within the Project area, and there would be no impact to these resources. As stated in the Draft EIR Vol. 1, Section 4.5 Cultural Resources, p. 4.5-30, the Final EIR/EIS for the Cadiz Groundwater Storage and Dry-Year Supply Program (2001) was reviewed as part of the paleontological analysis for the proposed Project.

I_Ross-8

The commenter states that the Draft EIR did not limit the analysis of the impacts of Project construction to the 1,100 square mile Fenner Watershed. The analysis in the Draft EIR includes areas extending into the Bristol, Cadiz, and Orange Blossom Wash Watersheds, and the groundwater drawdown is anticipated to affect portions of those area, as shown on Figures 64 through 69 in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis.

I_Ross-9

The commenter states that groundwater impacts related to the Twentynine Palms U.S. Marine Base were not considered. As described

in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-1 through 4.9-5, the Twentynine Palms U.S. Marine Corps Base is located outside of the closed basin of the Project, over 50 miles to the west. It is not possible for the two separate watersheds to affect one another.

I_Ross-10

The commenter expresses dissatisfaction with the fact that specific operations location were not identified for the Imported Water Storage Component. The commenter is referred to **Master Response 3.12** Project vs. Program Level Analysis. The specific participants for the Phase 2 Component have not been identified as the Project is only at a conceptual stage. However, a project-level EIR will be prepared, when Phase 2 Project features are known and no longer conceptual.

I_Ross-11

The commenter requests that the Draft EIR provide a graphic that “defines all boundaries and extent of use within the Metropolitan service area *and/or* service areas of the participating water providers: SMWD, Three Valleys, Suburban, Golden State, JCSD, and Cal Water” (emphasis added). The Draft EIR Vol. 1, Chapter 6 Growth-Inducement Potential and Secondary Effects of Growth, Figure 6-1 depicts the extent of Metropolitan’s service area, and Figure ES-3 and ES-4 (Draft EIR Vol. 1, Executive Summary) depict the boundaries of the aforementioned Project Participants.

I_Ross-12

The commenter expresses the opinion that additional project-level environmental review, documentation, and permitting should be provided as details are further fleshed out. The comment is noted and is consistent with the CEQA process described for Phase 2 in the Draft EIR. Additional project-level environmental review, documentation, and permitting of the Phase 2 portion of the Project will be provided when Project features and participants are identified. See **Master Response 3.12** Project vs. Program Level Analysis.

I_Ross-13

The commenter questions the reasoning behind inclusion of two wellfield configuration scenarios, rather than one. As stated in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-23, two wellfield configurations were presented in the Draft EIR to ensure that all potential Project elements are evaluated at a project-level, two scenarios were analyzed and a larger wellfield than is likely was assessed in order to provide the worst-case-scenario for the analysis. Both wellfield configurations were modeled as summarized in Draft EIR Appendix H5.

I_Ross-14

The commenter states that an unrealistic pumping scenario is presented in the Draft EIR. As stated in Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-26, well pump operation at a rate of 24 hours per day,

365 days per year is “assumed,” and depends on current conditions during pumping operations, which are unknown at this point in time. The pumping operations schedule is the most conservative analysis and therefore provides a worst-case-scenario for this Project analysis.

I_Ross-15

The commenter states that the recharge estimate is optimistic. This comment is addressed in **Master Response 3.1** Groundwater Recharge and Evaporation.

The commenter requests further explanation for how pumping 50,000 AFY when the recharge estimate is 32,000 AFY is sustainable. This comment is addressed in **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.3** Groundwater Pumping Impacts. See also the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-10 regarding the need to pump more groundwater than is recharged in order to establish hydraulic control of the groundwater flow and allow for the conservation of groundwater that otherwise would have evaporated.

I_Ross-16

The commenter states that the groundwater drawdown could affect groundwater flow beneath the Mojave National Preserve. As shown on Figures 64 through 69 in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, the extent of groundwater drawdown does not extend north of the Clipper Mountains, located just south of the Preserve. See also **Master Responses 3.3** Groundwater Pumping Impacts.

I_Ross-17

The commenter states that climate change may result in a long-term decrease in precipitation and recharge. To account for this, the modeling performed for the Draft EIR included two sensitivity scenarios, where the assumed recharge was reduced to 16,000 AFY and 5,000 AFY as discussed in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis, pp. 8 to 13. In the analysis, the time it would take for aquifer storage to fully recover was estimated and the modeling revealed that, even under severe drought conditions, the storage would still recover to pre-Project levels after the pumping has stopped. See **Master Response 3.1** Groundwater Recharge and Evaporation and **Responses A_NPS-52, O_NPCA-CBD et al.-66 and 93, and O_OCC1-7.**

I_Ross-18

The commenter expresses a concern that the Bristol and Cadiz Dry Lakes could be deprived of all moisture, which could lead to airborne dust and poor air quality and that a worst case analysis should be conducted for the Draft EIR. The Project would not change the current condition of occasional seasonal water on the surface of the Dry Lakes because it

occurs as a result of precipitation or runoff. The commenter is referred to **Master Response 3.5** Dry Lakes and Dust.

I_Ross-19

The commenter requests a cost analysis on air quality mitigation. The commenter is referred to **Response O_Tetra1-8** and **Master Response 3.5** Dry Lakes and Dust for a discussion of air quality impacts and why this Project cannot do to the area what water conveyance out of Owens Lake did to the Owens Valley. Regarding costs, CEQA does not require that costs of a project be disclosed or included in an assessment of environmental impacts. However, Mitigation Measure **AQ-5** and as also reflected in the Updated GMMMP (Final EIR Vol. 7, Appendix B1 Updated GMMMP, Sections 4.3 through 5.13), air quality potential impacts and monitoring are discussed; four nephelometers will be installed, one upwind and one downwind at each Dry Lake, to measure the opacity of the air consistent with San Bernardino County requirements.

I_Ross-20

The commenter states the Draft EIR should document any coordination with the USACE because he believes that only the USACE can determine whether any of the Project objectives affects waters of the US. The USACE will be consulted to determine whether any of the Project features are within their jurisdiction under the federal Clean Water Act.

I_Ross-21

The commenter requests that historical pumping rates for the agricultural operations be included. These are provided in Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-24 to 4.9-28.

I_Ross-22

The commenter requests the Draft document provide a map showing the “hard” and “soft” sites used in the Draft EIR analysis. As discussed in the Draft EIR Vol. 1, Section 4.12 Noise, p. 4.12-4, noise levels attenuate at a rate between 6 dBA for hard sites and 7.5 dBA for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver such as parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites. Soft sites have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. An excess ground attenuation value of 1.5 dBA (per doubling distance) is normally assumed for soft sites.

Since the proposed Project is located entirely within an expansive desert, a noise attenuation of 7.5 dBA was considered for this Project. Please refer to Draft EIR Vol. 1, Section 4.1 Aesthetics, Figure 4.1-1 and Figures 4.1-2 through 4.1-7 for an overview of the Project area and photos of the site. As seen in the photos, the majority of the Project site would be considered soft sites. See also **Response I_Bongartz 1-7**.

- I_Ross-23 The commenter questions whether full-build-out of designated renewable energy development zones (CREZs) would remove habitats for the remaining 144,000 acres. The commenter misconstrues the statement made in the Draft EIR. The Draft EIR is merely stating that the remaining 144,000 acres, with full build-out of designated renewable energy projects, would remove/disturb habitats, not that it would remove all habitat in the 144,000 acres.
- I_Ross-24 The commenter questions the conservation estimate provided on p. 6-50. The data referenced are published in Metropolitan's 2010 Regional Urban Water Management Plan.
- I_Ross-25 The commenter questions Metropolitan conservation assumptions. The data referenced are published in Metropolitan's 2010 Regional Urban Water Management Plan.
- I_Ross-26 The commenter questions future SWP deliveries. The data referenced are published in Metropolitan's 2010 Regional Urban Water Management Plan.

David Sabol

- I_Sabol-1 The commenter requests a hard copy of the Draft EIR. On January 17, 2012, the commenter was sent requested document.

Dianna Sahhar

- I_Sahaar-1 The commenter states that the Project will impact fragile habitat. See **Master Response 3.9** Biological Resources.
- I_Sahaar-2 The commenter urges alternative conservation efforts in Orange County. The Draft EIR Vol. 1, Chapter 7 Alternatives Analysis, beginning on page 7-6 evaluates an Increased Conservation Alternative. The analysis summarizes demand control measures throughout the urbanized areas of use. Demand control measures are an integral part of each Project Participant's Urban Water Management Plans and they are included as key elements of water supply and demand with or without the Project. The Project would provide alternative water supplies to Project Participants to diversify water supply options that compliment on-going conservation efforts rather than replace them. The analysis concludes that conservation only would not reduce the need for the Project. See **Master Response 3.14** Alternatives.

Karen Scheuermann

I_Schuermann-1 The commenter requests additional comments on the Draft EIR be allowed. Please refer to **Master Response 3.11** CEQA Public Process, concerning the request for extension of time.

Sidney Silliman

I_Silliman-1 The commenter requests to be added to the mailing list. The commenter will be added to the mailing list and will be notified of future actions concerning the Project, per the request.

Julian V. Simeon

I_Simeon-1 The commenter makes statements about a company that has not affiliation with this Project. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA, but it is acknowledged for the record.

Calvin Sisco

I_Sisco-1 The commenter provides comments regarding water and electricity, which it states are key components in the Mojave Desert. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA, but it is acknowledged for the record.

Fred Stearn (2 submissions)

I_Stearn1-1 The commenter states a hope that the San Bernardino County Board of Supervisors would become actively involved as a lead agency along with SMWD. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency and **3.8** GMMMP.

I_Stearn1-2 The commenter objects to the Project and the adequacy of the Draft EIR. This comment is a prologue for comments below. See responses **I_Stearn1-3** through **I_Stearn1-14** below.

I_Stearn1-3 The commenter objects to SMWD as lead agency for this Project. The commenter is referred to **Master Response 3.10** CEQA Lead Agency.

I_Stearn1-4 The commenter states that pumping at 50,000 to 75,000 AFY would violate the safe yield requirement in the San Bernardino County Desert Groundwater Ordinance. The San Bernardino County Groundwater Management Ordinance provides exclusion for projects that have an approved Memorandum of Understanding (MOU) with the County that

establishes a County-approved groundwater management plan governing Project operations. The County entered into an MOU on May 11, 2012 with SMWD, FVMWC and Cadiz, Inc. The MOU establishes the framework for working together to finalize the GMMMP. The MOU is a first step, and it does not obligate SMWD to proceed with the Project, or to presume that the environmental documentation for the Project will be certified, nor does it require the County to approve the GMMMP. No obligation included in the MOU is binding on SMWD or the County until such time as the District and County complete their respective environmental reviews of the Project and approve the Project and the GMMMP. The MOU provides a framework for managing the basin consistent with both the California Supreme Court precedent and the County's Desert Groundwater Ordinance. The Project will comply with the Groundwater Management Ordinance subject to an approved GMMMP. See **Master Responses 3.8** GMMMP, **3.10** CEQA Lead Agency, and **3.15** Terminology, and **Response A_NPS-80**.

- I_Stearn1-5 The commenter questions if the Draft EIR is incomplete because the Phase 2 Imported Water Storage Component is still in the conceptual stage. The commenter is referred to **Master Response 3.12** Project vs. Program Level Analysis.
- I_Stearn1-6 The commenter requests that the previous EIR/EIS be included by reference. The comment is noted. A copy of the 2001 Draft and Final EIR from the earlier Metropolitan Project will be included in the administrative record for this Project. However, the Project under consideration in this EIR is not the same project evaluated by the Metropolitan in 2001. The document, the Cadiz Groundwater Storage and Dry-Year Supply Program Final Environmental Report and Final Environmental Impact Statement, Volume I, Volume II, and Environmental Planning Technical Report, Biological Resources by the Metropolitan Water District of Southern California and Bureau of Land Management is included as a reference in the Draft EIR Vol. 1, Chapter 11 References, p. 11-14.
- I_Stearn1-7 The commenter requested that a third party provide an evaluation of the estimate of evaporation off of the Dry Lakes. See **Master Response 3.1** Groundwater Recharge and Evaporation.
- I_Stearn1-8 The commenter states that the Project violates safe yield. The Project would capture water prior to reaching the saline sink beneath the Dry Lakes. The Project, as described in Chapter 3 of the Draft EIR, is designed to reverse the groundwater flow below the wellfield to reduce evaporation on the Dry Lakes and capture that water that is currently

being lost to evaporation and provide it for municipal use by Southern California water providers. To accomplish this change of hydraulic gradient, annual extraction would exceed estimated natural recharge, but would be implemented under requirements of the GMMMP to assure safety. See **Master Responses 3.1** Groundwater Recharge and Evaporation, **3.3** Groundwater Pumping Impacts, and **3.15** Terminology.

I_Stearn1-9

The commenter is concerned about Native American cultural assets and asks about notification to Native American interests. Regarding Native American concerns, please see **Responses O_RiverAHA4-27**, **A_NAHC-1**, and **A_NAHC-2**. See also the Draft EIR Vol. 1, Section 4.5 for a discussion of Native American resources. As summarized on pages 4.5-15 through 4.5-21, eight prehistoric archaeological sites, one site with both prehistoric and historic-era components, and five prehistoric isolated artifacts have been previously recorded within 0.5 miles of the Project area; however, no prehistoric or Native American resources were identified within the Project area itself. A summary of communications with Native American groups is included on page 4.5-22 of the Draft EIR.

I_Stearn1-10

The commenter suggests alternative groundwater storage sites to which groundwater could be conveyed from the Project, and suggests that groundwater be conveyed to these sites via converted natural gas pipelines because these alternative sites are currently overdrafted or contaminated. The Draft EIR discusses a Water Conservation Alternative and an Other Water Supply Sources Alternative in Vol. 1, Chapter 7 Analysis of Alternatives. A key objective of the Project is to increase water reliability for Project Participants, and this objective would not be met were water conveyed to other water providers. However, 9,000 to 19,000 AFY of groundwater is unsubscribed, which allows for other entities to enter into agreements to obtain Project water. The Project Participants are each water purveyors that would deliver water directly to customers after receiving water from Metropolitan conveyance facilities. The Project does not include any improvements to local distribution systems, since it is assumed that these facilities are adequate to convey water to the end users under the baseline condition.

I_Stearn1-11

The commenter asks if the Project is in compliance with California water code. See **Master Response 3.7** Water Rights.

I_Stearn1-12

The commenter asks if the California Department of Water Resources (DWR) has been contacted regarding the Project. The comment is noted, the DWR is included on the NOP mailing list and the Draft EIR. The DWR has been notified of the Draft EIR. There has been no comment

provided by the DWR. Additionally, the commenter is referred to **Master Response 3.11** CEQA Public Process, concerning the notification process.

- I_Stearn1-13 The commenter asks if the Project is in compliance with the California water code. See **Master Response 3.7** Water Rights.
- I_Stearn1-14 The commenter would like DWR Bulletin No. 91-14, titled Water Wells and Springs in Bristol, Broadwell, Cadiz, Danby, and Lavic Valleys and Vicinity, August, 1967, be included in identifying wells and springs in the area. This reference was used in identifying wells and springs in the Draft EIR and is listed in the Draft EIR Vol. 1, Chapter 11 References, p. 11-5.
- I_Stearn2-1 The commenter is concerned about the use of farmland for the Project, especially as it pertains to the San Bernardino County General Plan regarding protected farmland. The current agricultural activities are covered under a CUP as required by the County. Figure 4.2-1 of the Draft EIR identifies agricultural zoning in the Project area. The proposed Project would not significantly affect land uses within this agricultural zoned area. Furthermore, the California Department of Conservation, Division of Land Resource Protection oversees the Farmland Mapping and Monitoring Program (FMMP) which maps and monitors the conversion of farmland to and from agricultural use through its Important Farmland Inventory System. Farmland is divided into categories based on their suitability for agriculture. These categories are described in Draft EIR Vol. 1, Section 4.2 Agricultural Resources, p. 4.2-5. As described on p. 4.2-7 of the Draft EIR, the U.S. Department of Agriculture Soil Conservation Service (SCS), now the Natural Resource Conservation Service (NRCS) has not mapped soils in the Project area; therefore no soils in the area are currently designated as agricultural soils. Similarly, the California Resources Agency's FMMP does not cover the Project area. None of the lands in the vicinity of the Project are designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, the Groundwater Conservation and Recovery Component of the proposed Project would result in no impact to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.
- The commenter also states that under Policy CO 6.1, at Item 3, on p. V-29 of the General Plan, it says, "Desert playas will not be used for habitable structures nor have large quantities of water applied to them, except for mining operations or to maintain existing wetland." The

proposed Project does not propose to develop habitable structures, nor does the Project propose to water a desert playa.

I_Stearn2-2

The commenter is concerned that the Project would violate the conservation component of the County General Plan's goal of protecting wetlands (p. V-47 of the General Plan). The County policy in favor of protecting wetlands in Policy C/CO 5.1 states "Desert playas shall not be used for habitable structures nor have large quantities of waters applied to them, except for mining operations or to maintain existing wetlands." As described in the Project Description in the Draft EIR Vol. 1, Chapter 3 Project Description, the Project does not include the construction of habitable structures and does not propose to apply water to desert playas. In addition, the Dry Lakes are not considered wetlands. For information about the Dry Lakes, see **Master Response 3.5** Dry Lakes and Dust and **Response O_Tetra1-8**.

I_Stearn2-3

The commenter asks if the Dry Lakes are wetlands defined in the County General Plan and whether the Project will destroy the Dry Lakes. The Bristol Dry Lake and Cadiz Dry Lakes are not wetlands by any government definition. There is only surface water on the Dry Lakes periodically. In addition, the Dry Lakes are so highly saline that no animal or plant life currently lives in or on it, with the exception of the four-wing saltbush at the edges of the Dry Lakes, which do not rely on groundwater below the Dry Lakes. Sensitive habitats in the Project area are introduced in the Draft EIR Vol. 1, Section 4.4 Biological Resources, p. 4.4-27. Potential impacts to wetlands are discussed on p. 4.4-51. See **Response I_Stearn2-2**, above and **Master Response 3.6** Vegetation.

I_Stearn2-4

The commenter asks whether the Federal Railway Administration or the Surface Transportation Board has been notified of the Project. The two federal organizations noted in the comment have no approval authority over the ARZC ROW easement. See **Master Response 3.13** Right-of-Way and NEPA.

I_Stearn2-5

The commenter questions whether SMWD has produced an Urban Water Management Plan (UWMP) in accordance with the Urban Water Management Planning Act (Water Code § 10610 et seq.). SMWD has produced an UWMP⁶³ consistent with Water Code Sections 10610 through 10656 of the Urban Water Management Planning Act.⁶⁴ The 2011 UWMP is referenced on pp. 1-4, 7-8, and 11-17 of the Draft EIR Vol. 1. The UWMP can be accessed online at:

⁶³ Santa Margarita Water District, *2010 Urban Water Management Plan*, July 2011.

⁶⁴ Santa Margarita Water District, *2010 Urban Water Management Plan*, July 2011, p. 1.

<http://www.smwd.com/assets/downloads/reports/2010-Urban-Water-Management-Plan.pdf>.

- I_Stearn2-6 The commenter asks what biological resources mitigations are proposed. The Project identifies impacts to biological resources in the Draft EIR Vol. 1, Section 4.4 Biological Resources. Mitigation Measures **BIO-1** through **BIO-18** are listed in the Executive Summary, Table ES-1, pp. ES-14 to ES-19.
- I_Stearn2-7 The commenter cites *Stanislaus Natural Heritage Project v. County of Stanislaus* (1996), 48 Cal. App. 4th 182, in arguing that the County of San Bernardino should be the lead agency. The case the commenter is citing overturned approval of an EIR for a 25-year development project because that EIR had not identified water supplies for development after the first five years, the case did not concern lead agency issues. The commenter is referred to **Master Response 3.10** CEQA Lead Agency.
- I_Stearn2-8 The commenter requests that the *Cadiz Land Co. v. Rail Cycle*⁶⁵ decision be included by reference. The comment does not pertain to the adequacy of the Draft EIR, but is noted for the record.
- I_Stearn2-9 The commenter asks what public notices the County of San Bernardino (County) has made for the Project. The County provided public notice for a meeting of the Board of Supervisors on May 1, 2012 that considered an MOU between the County, Cadiz Inc., FVMWC and SMWD regarding the process for pursue approval of the GMMMP. The MOU was approved by the Board at that meeting. Members of the public attended and provided comments. The commenter is referred to **Master Responses 3.8** GMMMP and **3.11** CEQA Public Process.

Gary Thompson

- I_Thompson-1 This commenter in support of the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

S. Tott

- I_Tott-1 The commenter provides a number of statements concerning their familiarity with the Project area. This comment provides a personal perspective on the commenter's understanding of projects in the proposed Project area. This comment does not state a specific concern

⁶⁵ *Cadiz Land Co. v. Rail Cycle*, 83 Cal.App.4th 74.

regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

- I_Tott-2 This commenter provides a personal perspective regarding the adequacy of the Draft EIR, as well as a summary of following comments. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA. However, the comments summarized are addressed in **Response I_Tott-3** to **I_Tott-16**, below.
- I_Tott-3 The commenter states the lead agency should be the County of San Bernardino, and therefore, a new Draft EIR should be prepared. The commenter is referred to **Master Response 3.10** CEQA Lead Agency.
- I_Tott-4 The commenter states that groundwater may be appropriated if it will not result in overdraft. The Project would capture water prior to reaching the saline sink beneath the Dry Lakes. For a discussion on the safe yield, see **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.3** Groundwater Pumping Impacts.
- I_Tott-5 The commenter states that the Project proposes to overdraft the groundwater basin. The Project, as described in Chapter 3 of the Draft EIR Vol. 1, is designed to reverse the groundwater flow below the wellfield to reduce evaporation on the Dry Lakes and capture that water before it reaches the saline sink beneath the Dry Lakes. To accomplish this change of hydraulic gradient, annual extraction would exceed estimated natural recharge. For a discussion on the safe yield, see **Master Responses 3.1** Groundwater Recharge and Evaporation, **3.3** Groundwater Pumping Impacts, **3.7** Water Rights, and **3.15** Terminology.
- I_Tott-6 The commenter states that the Project underlies federal lands, that the modeled cone of depression extends over an area that is largely BLM lands, and that the federal government has jurisdiction over the Project. No federal approval is required to extract groundwater from the Cadiz Inc. properties. Drawdown of groundwater under federal lands does not require any federal approval. See **Master Response 3.7** Water Rights. The Draft EIR evaluates potential impacts of the drawdown in Section 4.9 and concludes that with implementation of the GMMMP, impacts to overlying groundwater users (third party wells) would be less than significant. See **Response A_NPS-25**.
- I_Tott-7 The commenter states that the conversion of the natural gas line from natural gas to water use would require an EIR/EIS in accordance with CEQA and NEPA, with BLM as the lead agency and the State Lands

Commission as a responsible agency. The commenter is referred to **Master Response 3.12** Project vs. Program Level Analysis. The Draft EIR acknowledges that federal approval would be necessary to implement the natural gas pipeline component of the Project under Phase 2. The EIR analysis prepared for Phase 2, Imported Water Storage Component is primarily a program-level analysis. When the details and design have been determined, a project-level environmental document will be prepared. When the details and design for the Imported Water Storage Component are determined, a project-level environmental document will be prepared to analyze the environmental impacts of implementation of the existing unused natural gas pipelines that traverse the Cadiz Inc. property converted for water conveyance to be used to convey water to potential Project Participants for the Imported Water Storage Component. The Draft EIR Vol. 1, Chapter 3 Project Description, pp. 3-41 through 3-42 describes how the existing pipelines would be used.

- I_Tott-8 The commenter states that Metropolitan approval is required to implement the Project. The Draft EIR, Chapter 3, Project Description, Section 3.8 acknowledges that Metropolitan must approve the Project's CRA tie-in facilities for use of conveyance facilities is required to implement the Project.
- I_Tott-9 The commenter states that the Project wellfield should be better defined in the Draft EIR. As stated in Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-23, two wellfield configurations were presented in the Draft EIR to ensure that all potential Project elements are evaluated at a project-level.
- I_Tott-10 The commenter states that Project components may trigger NEPA review. The commenter is directed to **I_Tott-6** and **Master Response 3.13** Right-of-Way and NEPA.
- I_Tott-11 The commenter takes issue with the Project objective of creating additional water storage capacity to enhance water supply reliability and argues that there are better water storage alternatives, such as the Joshua Basin Water District overdrawn groundwater basin. See **Response I_Stearn1-10**. The commenter also argues that the lead agency should be the County of San Bernardino. See **Master Response 3.10** CEQA Lead Agency.
- I_Tott-12 The commenter states that the Project does not improve reliability since it is a finite source of groundwater that will be used up and not replaced if Phase 2 is not approved. The Project would capture water that would otherwise flow to the saline sink beneath the Dry Lakes. The Project

provides for a 50-year supply to enhance supply reliability. Figure 4.9-11b describes how the groundwater basin would recover over time. Table 4.9-10 provides estimates of time needed for recovery. Phase 2 if implemented would store surplus water and extraction it when needed. The commenter questions whether the Project improves reliability as claimed and argues that the aquifer offers a finite source of groundwater that would be permanently exhausted if Phase 2 is not approved. The groundwater currently in storage has been estimated to be 17 to 34 MAF. If Phase 1 were approved and Phase 2 never went forward, the amount of water in storage in the basin would not be exhausted. In fact, with a recharge of 32,000 AFY, the aquifer would be depleted no more than three to six percent after 50 years. The Project provides increased supply reliability because, for a 50-year term, southern California Project Participants would have access to new supplies not dependent upon the Colorado River or State Water Project. Water from these supply sources is particularly unreliable due to environmental, agricultural, and political concerns. The Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, Figure 4.9-11b describes how the groundwater basin would recover over time. Table 4.9-10 provides estimates of time needed for recovery. These recovery estimates are not dependent upon Phase 2 implementation. See **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.12** Phase 1 v. Phase 2 Analysis, and **3.15** Terminology.

I_Tott-13

The commenter expresses support for the No Project Alternative. CEQA Guidelines Section 15126.6 states that alternatives to a proposed Project should “feasibly attain most of the basic objectives of the project” while “avoid[ing] or substantially lessen[ing] any of the significant effects of the project”. As stated in the Draft EIR Vol. 1, Chapter 3 Project Description, p. 3-5, *the fundamental purpose of the Project* is to save substantial quantities of groundwater that are presently wasted and lost to evaporation, which would not occur under the No Project Alternative. Therefore none of the Project objectives would be met. See **Response O_OCC1-12** and the Draft EIR Vol. 1, Chapter 7 Analysis of Alternatives, Sections 7.3 and 7.4.5.

I_Tott-14

The commenter argues that the Project does not serve a beneficial use because the water is being exported outside of San Bernardino County (County). See **Master Response 3.7** Water Rights. The commenter also argues that the County should have an active role in the Project. The County is a responsible agency and has also entered into an agreement with SMWD, Cadiz Inc., and FVMWC that grants the County enforcement authority over the monitoring and mitigation program as outlined in the Updated GMMMP. See also **Master Responses 3.8**

GMMMP and **3.10** CEQA Lead Agency. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

I_Tott-15

The commenter states that Figure ES-2 (Draft EIR Vol. 1 Executive Summary) should be made to scale. The purpose of the Draft EIR Vol. 1, Executive Summary, Figure ES-2 is to illustrate the overall flow paths of water. Making the figure to scale would greatly expand the horizontal scale and obscure the concepts. In the figure, the water in storage is shown to flow toward the Dry Lakes and is labeled “Natural Recharge.” In the comment, this has been confused with “annual recharge”. The figure does not say annual recharge. The commenter correctly notes that the total sum of groundwater in storage is the cumulative result of many years of precipitation. In addition, as described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-7 to 4.9-9, precipitation does contribute to the annual amount of recharge to the aquifer each year as well.

I_Tott-16

The commenter expresses an opinion regarding SMWD’s role as lead agency for the proposed Project. The commenter is referred to **Master Response 3.10** CEQA Lead Agency.

Karen Tracy (2 submissions)

I_Tracy1-1

The commenter states that the Project will drawdown water levels and reduce the commenter’s access to potable water. The Project will not reduce access to potable water to any other user in the combined Watersheds. Implementation of Mitigation Measures **HYDRO-2** and **HYDRO-3**, as also reflected in the Updated GMMMP ensures that access to water is maintained and that if the Project causes water levels to decline in third-party any wells, all remediation costs required under the GMMMP would be borne by the Project Proponents. See **Master Response 3.3** Groundwater Pumping Impacts, **Master Response 3.7** Water Rights and the Final EIR Vol. 7, Appendix B1 Updated GMMMP, Section 6.2 and Table 5.1.

I_Tracy1-2

The commenter requests an extension of the public comment period. The commenter is referred to **Master Response 3.11** CEQA Public Process, concerning the request for extension of time. An extension of time was granted.

I_Tracy1-3

The commenter states that reputable hydrologists and techniques be consulted before the Project goes forward. The Draft EIR was compiled according the CEQA Guidelines and is based on the professional scientific analysis of Geoscience Support Services, Inc., and CH2M Hill,

both of which are reputable firms in the industry. In preparation of the Draft EIR, numerous studies were conducted to determine the amount of water in storage in the aquifer, the hydrology and geology of the aquifer, and the potential impacts of the Project on the aquifer, wildlife, and entire desert ecosystem. These studies and reports are discussed throughout Draft EIR Vol. 1, in text, tables, and figures, and are attached as supporting documentation in the Draft EIR Vols. 2 to 4, Appendices A through J. The Draft EIR contains a Hydrology Appendix H, which includes scientifically prepared reports providing ample evidence substantiating the proposed Project. Furthermore, the Draft EIR was reviewed by SMWD, the County of San Bernardino, and the Groundwater Stewardship Committee.

I_Tracy2-1 The commenter objects to the Project and states that the Mojave Desert is a well-known and highly trafficked holiday destination. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA. See Draft EIR Vol. 1, Section 4.1 Aesthetics and Section 4.12 Noise.

I_Tracy2-2 The commenter questions who has authority over management of the monitoring program. As described in the Updated GMMMP, the monitoring would be implemented by the FVMWC. FVMWC is an entity comprised of the Project's participating public water systems, in consultation with the Technical Review Panel (TRP). The County of San Bernardino, a Responsible Party, would review monitoring reports and both ensure vigilance and determine whether mitigation has been triggered and what preventative actions or remedies should be implemented. This comment is further addressed in **Responses O_NPCA-CBD *et al.*102** and **O_Tetra1-7** and **Master Response 3.8** GMMMP.

I_Tracy2-3 The commenter questions the descriptions of the salt chemistry at the Dry Lakes. This comment is addressed in **Master Response 3.5** Dry Lakes and Dust and an analysis of the chemistry of the surface soils on the Dry Lakes is provided in the Draft EIR Vol. 3, Appendix E2 Fugitive Dust and Effects from Changing Water Table at Bristol and Cadiz Playas as well as in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-15 to 4.9-18.

I_Tracy2-4 The commenter questions whether the aquifer system really is a closed basin and expresses concern over delicate ecological niches. As described in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-1 through 4.9-5, the Project area is in a closed basin. The comment expressing opinion does not address the content or adequacy of

the Draft EIR; no response is necessary. However, see **Responses A_NPS-17** and **O_RiverAHA4-5**.

I_Tracy2-5 The commenter states the National Park Service must become part of this process because of the potential impact to natural resources on adjacent federal lands. The Project would not affect lands managed by the National Park Service. The proposed Project is located over 20 miles from National Parks. See **Responses A_NPS-8** and **A_NPS-17** and **Master Response 3.1** Groundwater Recharge and Evaporation.

I_Tracy2-6 The commenter objects to the Project. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

Victoria Williams

I_Williams-1 The commenter states that groundwater pumping impacts may have effects on the commenter's third party well. The Project will not reduce access to potable water to any other user in the combined Watersheds. Implementation of Mitigation Measures **HYDRO-2** and **HYDRO-3**, as also reflected in the Updated GMMMP ensures that access to water is maintained and that if water levels decline in any wells, that compensation is provided to return unimpeded access to water which is a right of all overlying land owners. See **Response I-BrownC1-5** and **Master Responses 3.3** Groundwater Pumping Impacts and **3.4** Springs.

Judy Wisboro

I_Wisboro-1 The commenter references safety concerns regarding nuclear power plants, and expresses her views regarding oil drilling, and fracking. This comment does not address this Project or the adequacy of the Draft EIR. The Project does not include the development of uses that may result in safety hazards to local land uses. See Draft EIR Vol. 1, Section 4.8 Hazards and Hazardous Materials. See **Master Response 3.11** CEQA Public Process. A response is not required pursuant to CEQA.

4.5 Form Letter

Approximately 7,000 submissions were received.

I_FormLetter-1 The commenters express opinions regarding the sustainability of the proposed Project. The commenter is referred to **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.15** Terminology, which discusses the meaning of "Sustainability" as related to the proposed Project.

I_FormLetter-2

The commenters state that overdrafting the Project aquifer will harm springs and delicate desert wildlife and habitats that rely on the water to survive. Under current conditions, vegetation and wildlife have no access to the groundwater due to the great depth at which the water table begins. There is no hydraulic connection between the aquifer and the springs, so there will be no impact on springs. This comment is addressed in **Responses A_CDFG-1, NPS-2, and O_OCC1-1** and **Master Responses 3.3 Groundwater Pumping Impacts, 3.4 Springs, 3.6 Vegetation, and 3.9 Biological Resources.**

I_FormLetter-3

The commenters state the Draft EIR fails to explain the risks of the proposed Project. This comment is addressed in **Response I_Bise-1**. The commenter also asserts that the proposed water monitoring program will only detect damage from the groundwater extraction long after it has occurred, particularly to springs. The Draft EIR provides substantial evidence supporting the impact conclusions. The Updated GMMMP action triggers are set to identify potential issues before they occur. The commenter is referred to **Response A/T_29PalmsIndians-19** and **Master Response 3.8 GMMMP.**

4.6 Public Hearing Transcripts

Commenters are listed in order of their first speaking turn.

4.6.1 Rancho Santa Margarita, California, Tuesday, January 24, 2012

| Commenter | Affiliation |
|--------------------|---|
| Tony Beall | Individual |
| Curt Stanley | Individual |
| Tom Hume | Individual |
| John Whitman | South Orange County Regional Chamber of Commerce |
| Jim Leach | South Orange County Regional Chamber of Commerce |
| Michael LaBroad | Northwest Pipe Company (additional submissions in Section 2.3) |
| Marvin Floyd | Ameron International Corporation (additional submissions in Sections 2.3 and 2.6) |
| Sherri Butterfield | Individual |
| Chris Ervin | Mojave Desert Heritage and Cultural Association (additional submission in Section 2.3) |
| Beth Apodaca | Individual |
| Wendy Bucknum | South Orange County Regional Chamber of Commerce |
| Jim Thor | Individual |

| Commenter | Affiliation |
|---|--|
| Mike Phillips | Individual |
| Charlie Hoherd | Roscoe Moss Company (additional submissions in Sections 2.3 and 2.6) |
| Larry Robinson | Individual |
| Bob Ereth | Layne Christiansen Company (additional submissions in Sections 2.3 and 2.6) |
| Paul Lanhardt | |
| Ron James | Individual |
| Floyd Wicks | Individual |
| Dave Stefanides | Orange County Association of Realtors |
| Donna Varner | Individual |
| Leigh Adams (additional submissions in Sections 2.4 and 2.6) | Individual |
| Emily Green (additional submission in Section 2.6) | Individual |
| Joe Kelly | Orange County Coastkeeper (additional submission in Section 2.3) |
| Linda Feather | Los Angeles Salad Company (additional submission in Section 2.3) |
| Ruth Musser-Lopez (additional submissions in Sections 2.4 and 2.6) | Individual |
| Charles T. Collett (additional submission in Section 2.4) | Individual |
| Russell Woodruff | Individual |

Tony Beall

Individual

I_Beall-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Curt Stanley

Individual

I_St Stanley-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

**Tom Hume
Individual**

I_Hume-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

**John Whitman
South Orange County Regional Chamber of Commerce**

O_SOCChamber1-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

O_SOCChamber1-2

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

**Jim Leach
South Orange County Regional Chamber of Commerce**

O_SOCChamber2-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

O_SOCChamber2-2

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

**Michael LaBroad
Northwest Pipe Company**

O_NWPipe2-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Marvin Floyd
Ameron International Corporation

O_Ameron2-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Sherri Butterfield
Individual

I_Butterfield-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Chris Ervin
Mojave Desert Heritage and Cultural Association

O_MDHCA2-1 The commenter provides the same comment as submitted in their January 24, 2012 comment letter. The commenter is referred to **Response O_MDHCA1-1**.

O_MDHCA2-2 The commenter provides the same comment as submitted in their January 24, 2012 comment letter. The commenter is referred to **Response O_MDHCA1-2**.

O_MDHCA2-3 The commenter provides the same comment as submitted in their January 24, 2012 comment letter. The commenter is referred to **Response O_MDHCA1-3**.

O_MDHCA2-4 The commenter provides the same comment as submitted in their January 24, 2012 comment letter. The commenter is referred to **Response O_MDHCA1-4**.

O_MDHCA2-5 The commenter provides the same comment as submitted in their January 24, 2012 comment letter. The commenter is referred to **Response O_MDHCA1-5**.

Beth Apodaca
Individual

I_Apodaca-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Wendy Bucknum
South Orange County Regional Chamber of Commerce

O_SOCChamber3-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Jim Thor
Individual

I_Thor-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Mike Phillips
Individual

I_Phillips-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

I_Phillips-2 The commenter states that the only impact is to air quality during construction, which is necessary to create a benefit for our residents here in Southern California. Impacts to air quality are described in Draft EIR Vol. 1 Section 4.3 Air Quality. No response is necessary.

I_Phillips-3 The commenter states another benefit is that the Project will bring jobs to the San Bernardino area, which is an economic benefit. This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Charlie Hoherd
Roscoe Moss Company

O_RoscoeMoss2-1 The commenter states the Project represents a chance for more job creation and growth. This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

O_RoscoeMoss2-2 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Larry Robinson Individual

I_Robinson-1 The commenter states that he is a property owner in Cadiz, California and that there are concerns with a planned drawdown to 50,000 AFY, and there is a serious question as to the viability of this natural resource as a reliable resource long term. The commenter is referred to **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.3** Groundwater Pumping Impacts.

I_Robinson-2 The commenter states there are two commercial enterprises that retrieve calcium chloride in the area with the Dry Lakes and these enterprises are able to retrieve this calcium chloride naturally which would be lost once the Project is complete, forcing these enterprises to fail. The commenter states this Project could trigger lawsuits by these commercial enterprises. The commenter is referred to **Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP.

I_Robinson-3 The commenter states that the area is a completely closed system, it is unique, and needs responsible stewardship. The Draft EIR provides a detailed description of the region in each section of Chapter 4. Table ES-1 identifies potential impacts and mitigation measures developed to minimize potential environmental effects. See also **Master Response 3.8** GMMMP.

Bob Ereth Layne Christiansen Company

O_Layne2-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Paul Lanhardt Layne Christiansen Company

O_Layne3-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Ron James Individual

I_James-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Floyd Wicks Individual

I_Wicks-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Dave Stefanides Orange County Association of Realtors

O_OCRealtors-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Donna Varner Individual

I_Varner-1

The commenter states it is important to continue to determine the project's viability, both from a conservation perspective and fiscally. The Draft EIR describes the Project in Vol. 1, Chapter 3 Project Description. Section 3.4.1 describes groundwater flow and the proposed conservation of groundwater that would otherwise evaporate. The commenter is referred to **Master Responses 3.3** Groundwater Pumping Impacts and **3.15** Terminology.

Leigh Adams Individual

I_Adams2-1

The commenter suggests that water should be conserved and that storm water detention is a better conservation practice. The Draft EIR evaluates other water supply alternatives in Vol. 1, Chapter 7 Alternatives Analysis, Section 7.4.5. Other storm water detention opportunities in Orange County would not eliminate the need for the Project to provide water supply options and would not meet most of the basic Project

objectives. This comment is also addressed in **Master Response 3.14** Alternatives.

I_Adams2-Attachment

- | | |
|-----------------------|--|
| I_Adams2-Attachment-1 | The comment suggests that the Project would be unsustainable. This comment is addressed in Master Response 3.1 Groundwater Recharge and Evaporation and 3.3 Groundwater Pumping Impacts. |
| I_Adams2-Attachment-2 | The comment states that the Project mines water and is not economically viable without the mining component. The Project would recover groundwater that would otherwise become saline and evaporate. This comment is addressed in Master Responses 3.1 Groundwater Recharge and Evaporation and 3.3 Groundwater Pumping Impacts. |
| I_Adams2-Attachment-3 | The comment suggests that groundwater recharge is lower than estimated in the Draft EIR and that the Project is therefore unsustainable. This comment is addressed in Master Responses 3.1 Groundwater Recharge and Evaporation and 3.3 Groundwater Pumping Impacts. |
| I_Adams2-Attachment-4 | The comment suggests that the Project is an unsustainable mining project. The Project would recover groundwater that would otherwise become saline and evaporate. This comment is addressed in all Master Responses 3.1 through 3.15 . |
| I_Adams2-Attachment-5 | The comment states that the water supply is unsustainable. The Project would recover groundwater that would otherwise become saline and evaporate. This comment is addressed in Master Responses 3.1 Groundwater Recharge and Evaporation and 3.15 Terminology. |
| I_Adams2-Attachment-6 | The comment suggests that conservation through demand management is more effective. The Draft EIR evaluates other water conservation efforts in Vol. 1, Chapter 7 Alternatives Analysis, Section 7.4.4. Implementation of water conservation programs is on-going and would not eliminate the need for the Project to provide water supply options. See also Master Response 3.14 Alternatives. |
| I_Adams2-Attachment-7 | The comment suggests that other water users would be adversely affected. This comment is addressed in Master Response 3.3 Groundwater Pumping Impacts and 3.8 GMMMP. |

- I_Adams2-Attachment-8 The comment states concerns that the Project could adversely affect water quality. The Draft EIR evaluates potential water quality impacts from the Conservation and Recovery Component as well as the Imported Water Storage Component. As noted on page 4.9-55 (Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality), pumped water would not adversely affect water quality in the CRA due in part to the dilution effect provided in the CRA as well as Metropolitan's pump-in water quality requirements. The Draft EIR also evaluates potential water quality impacts from recharging Colorado River water into the ground on page 4.9-76. The Draft EIR concludes that the Imported Water Storage Component may adversely affect groundwater quality depending on CRA water quality, but that more likely the dilution of the groundwater in storage would minimize the effect. Without knowing the participants of the potential Imported Water Storage Component or the availability or amount of CRA water that could be imported, it is too early in the process to analyze effects at the project-level. Any potential effects would be evaluated in detail in subsequent environmental documents.
- I_Adams2-Attachment-9 The comment states that springs and seeps could be affected by the Project for years to come. This comment is addressed in **Master Responses 3.1** Groundwater Recharge and Evaporation, **3.3** Groundwater Pumping Impacts, and **3.4** Springs.
- I_Adams2-Attachment-10 The comment states that the Project would divert surface water that is relied upon by the desert ecosystem. The comment expresses a fundamental misunderstanding of the Project. No surface water would be diverted. This comment is addressed in **Master Responses 3.1** Groundwater Recharge and Evaporation, **3.3** Groundwater Pumping Impacts, and **3.4** Springs.
- I_Adams2-Attachment-11 The comment suggests that groundwater is as renewable as fossil fuels and that climate change may affect the hydrology. The Project would extract water that would otherwise evaporate. This comment is addressed in **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.3** Groundwater Pumping Impacts. Climate change is discussed in the Draft EIR Vol. 1, Section 4.9.1 Hydrology and Water Quality, pp. 4.9-10 to 4.9-15.
- I_Adams2-Attachment-12 The comment states that the Project could impact springs. This comment is addressed in **Master Response 3.4** Springs.
- I_Adams2-Attachment-13 The commenter expresses opinion regarding the adequacy of the Draft EIR, and in particular highlights a range of alternatives to

the proposed Project. **Response O_OCC1-14** addresses the alternative analysis in the Draft EIR. See also **Master Response 3.14** Alternatives.

Emily Green Individual

- I_Green1-1 The commenter states that she is a vocal opponent of this Project. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_Green1-2 The commenter provides her credentials on water and water reclamation. The commenter states that the Project proponents have not demonstrated a commitment to conservation locally that warrants seeking new water from beneath the Mojave Desert. The Draft EIR evaluates other water supply alternatives in Vol. 1, Chapter 7 Alternatives Analysis, Section 7.4.5 and Conservation in Section 7.4.4. As discussed in these sections, other urban runoff detention opportunities in Orange County would not eliminate the need for the Project to provide water supply options and would not meet the Project objectives. See also **Master Response 3.14** Alternatives.
- I_Green1-3 The commenter states that the Project needs federal oversight. The Draft EIR provides CEQA compliance. NEPA compliance is not required since no federal approvals are required to implement the Project. The commenter is referred to **Response A_NPS-25**.
- I_Green1-4 The commenter states USGS should review the results of the model prepared for the Project. The commenter states that there is no independent oversight for the GMMMP and the TRP. This comment is addressed in the **Response O_NPCA-CBD et al.-102**. See **Master Response 3.8** GMMMP.
- I_Green1-5 The commenter states the EIR does not satisfactorily address water quality problems including Chromium 6 (hexavalent chromium) levels noted in the Mojave. Project groundwater meets all of the existing State and federal MCLs established for drinking water, and as such the Draft EIR concludes that water quality impacts are less than significant. See **Response A_MWD-4** for a discussion of water quality and Chromium 6.
- I_Green1-6 The commenter states the Project offers a private consortium as caretakers of public land, while shutting out the respected and vigilant existing public caretakers, and it proposes sinking deep wells whose effects could be wide ranging and impossible to monitor. See **Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP.

I_Green1-7 The commenter states the Project could become a liability just as Owens Lake has been for DWP, and she stated that although there are some arguments over the salt chemistry, she was not impressed by the Draft EIR. The commenter further discusses dust storms and a “billion-dollar liability.” The chemistry of soils and water at the Bristol and Cadiz Playas are very different than those found at Owens Lake. The commenter is referred to **Master Response 3.5** Dry Lakes and Dust for a discussion on the playa.

I_Green1-8 The commenter states that capturing the water currently wasted, and conservation of water already imported to the region could not only create twice the water of the Project, but many times the jobs for engineers, home builders, landscape companies, and home improvement stores. The Draft EIR evaluates other water supply alternatives in Vol. 1, Chapter 7 Alternative Analysis, Section 7.4.5 and conservation in Section 7.4.4. As discussed in these sections, other urban runoff detention opportunities in Orange County would not eliminate the need for the Project to provide water supply options and would not meet the Project objectives. See also **Master Response 3.14** Alternatives.

Joe Kelly
Orange County Coastkeeper

O_OCC2-1 The commenter urges the consideration of sustainable local water recycling projects to secure resource for the future. The Draft EIR evaluates other water supply alternatives in Vol. 1, Chapter 7 Alternative Analysis, Section 7.4.5 and conservation in Section 7.4.4. As discussed in these sections, other recycled water projects would not eliminate the need for the Project to provide water supply options and would not meet the Project objectives. The commenter is also referred to **Master Response 3.14** Alternatives.

Linda Feather
Los Angeles Salad Company

O_LASalad2-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Ruth Musser-Lopez
Individual

I_Musser-Lopez6-1 The commenter states the Project is a “water heist.” The Project is described in the Draft EIR Vol. 1, Chapter 3 Project Description. The

Project would recover groundwater that would otherwise join with saline groundwater beneath the Dry Lakes and evaporate. Table 4.9-10 (Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality) identifies the estimated duration of recovery of the groundwater basin. Once the basin recovers, fresh water stored in the aquifer would continue to flow toward the saline sinks below the Dry Lakes and evaporate. The commenter is also referred to **Master Response 3.7** Water Rights.

- I_Musser-Lopez6-2 The commenter states that the EIR is flawed and reflects a total misunderstanding of the desert. The comment does not state a specific concern regarding the adequacy of the Draft EIR. The Draft EIR describes the desert ecosystems in detail in Vol. 1, Section 4.4 Biological Resources. The Draft EIR describes in detail the Project's potential effects to the desert ecosystem. See **Master Response 3.6** Vegetation and **3.9** Biological Resources.
- I_Musser-Lopez6-3 The commenter states the Project is a water heist. The commenter is referred to **Response I_Musser-Lopez6-1** above.
- I_Musser-Lopez6-4 The commenter states evaporation is not waste. The Project would extract groundwater that would otherwise join with saline groundwater beneath the Dry Lakes and evaporate. The Project Description describes this as conserving water that would otherwise be wasted to evaporation. See **Master Responses 3.3** Groundwater Pumping Impacts and **3.15** Terminology for the definition of the word conservation as it relates to evaporation.
- I_Musser-Lopez6-5 The commenter objects that an Environmental Impact Statement (EIS) was not prepared and states the Project will have an effect on the springs. An EIS is prepared only for projects requiring federal agency approval. According to Code of Federal Regulations Section 1508.18, an EIS is prepared if an agency proposes to implement a specific policy, to adopt a plan for a group of related actions, or to implement a specific statutory program or executive directive. The proposed Project would not require federal approval requiring NEPA compliance. See **Response A_NPS-25** and **Master Responses 3.4** Springs and **3.13** Right-of-Way and NEPA.
- I_Musser-Lopez6-6 The commenter states there needs to be a public hearing in Needles. The commenter is referred to **Master Response 3.11** CEQA Public Process.
- I_Musser-Lopez6-7 The commenter states the water drains into an underground river. There is no evidence provided that an underground river exists in the area. The hydrogeology of the region is described in Vol. 1, Section 4.9.1 Hydrology and Water Quality beginning on page 4.9-19.

I_Musser-Lopez6-8 The commenter states she does not understand how SMWD could be the lead agency for the proposed Project. The commenter is referred to **Master Response 3.10** CEQA Lead Agency.

Charlie Collett Individual

I_Collett2-1 The commenter states there has never been any notice of the Project. The commenter is referred to **Master Response 3.11** CEQA Public Process.

I_Collett2-2 The commenter asks what will be charged for the water and raises concerns regarding impacts to neighboring wells. The cost of water to Project Participants has not been included in the Draft EIR since it is not relevant to the environmental impacts of the Project. Long-term agreements with Project Participants would identify a cost per acre-foot delivered. The commenter is referred to Mitigation Measure **HYDRO-3** as updated in **Chapter 5**, which addresses impacts to third party wells.

I_Collett2-3 The commenter questions whether water from the Colorado River could maintain water levels. The recharged water proposed for Phase 2 is not intended to recover the groundwater levels. Rather, the purpose of Phase 2 is to use the storage space created by Phase 1 to store imported water during wet years for use during dry years. Phase 2 is not being approved presently and would only be implement after further project-level environmental review. If Phase 2 is not approved and implemented, groundwater levels would, nevertheless, recover through natural recharge of the basin once pumping stops as shown in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, Table 4.9-10.

I_Collett2-4 The commenter questions if water quality of the Colorado River would adversely affect the groundwater basin, particularly high aluminum content. The CRA water, SWP water, and the groundwater in the Fenner Gap area currently meet drinking water standards before treatment. Importation of water to the aquifer is only contemplated in Phase 2 of the Project. The Draft EIR acknowledges in Vol. 1, Chapter 3 Project Description, p. 3-54 that the RWQCB would require further analysis of potential impacts to water quality, including an anti-degradation analysis; this would be conducted as part of project-level environmental review prior to the implementation of Phase 2 (see **Master Response 3.12** Project vs. Program Level Analysis).

I_Collett2-5 The commenter states that the Project is a short-term fix to a long-term problem resulting from overdevelopment. The commenter also provides a number of other opinions regarding overpopulation and Rancho Santa Margarita. The Project Objectives are described on page 3-6 of the Draft

EIR Vol. 1, Chapter 3 Project Description. The Project provides water supply options for Project Participants and may support limited growth as described in the Draft EIR Vol. 1, Chapter 6 Growth-Inducement Potential and Secondary Effects of Growth.

I_Collett2-6 The commenter states that habitat is pristine and he believes Senator Feinstein is currently trying to have that whole area included in the National Trails Highway National Monument. The commenter is referred to the Draft EIR Vol. 1, Section 4.14 Recreation and Chapter 5 Cumulative Impacts for a discussion of the California Desert Protection Act of 2011.

I_Collett2-7 The commenter states the Project will drain the aquifer in about 20 years. No evidence is given for this assertion. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

Russell Woodruff Individual

I_Woodruff-1 The commenter states that he is very concerned about the drawdown that is going to occur if the proposed Project goes through. The commenter is referred to **Response I_Collett2-2** above. See **Master Response 3.3** Groundwater Pumping Impacts.

4.6.2 Joshua Tree, California, Wednesday, February 1, 2012

| Commenter | Affiliation |
|---|--|
| Ruth Musser-Lopez (additional submissions in Sections 2.4 and 2.6) | Individual |
| Ramon Alviso Mendoza (additional submission in Section 2.4) | Individual |
| Bruce Akana | Individual |
| Robert R. Dunn (additional submission in Section 2.4) | Individual |
| Rob Fleck | Fairfield Inn & Suites by Marriott in Twentynine Palms (additional submission in Section 2.3) |
| Dennis Shearer | Ameron International Corporation (additional submissions in Sections 2.3 and 2.6) |
| Tom Beeghly | National Chloride Company (additional submissions in Section 2.3) |
| Leigh Adams (additional submissions in Sections 2.4 and 2.6) | Individual |
| Tom O'Key | Individual |

| Commenter | Affiliation |
|--|--|
| Andrew Stone | Individual |
| Phillip Smith | Individual |
| Seth Shteir | National Parks Conservation Association (additional submission in Section 2.3 (CBD <i>et. al</i>)) |
| Helena Bongartz (additional submissions in Section 2.4) | Individual |
| Bob Minella | Layne Christiansen Company (additional submissions in Sections 2.3 and 2.6) |
| Doug Watson | |
| Chris Brown (additional submissions in Section 2.4) | Individual |
| Dave Fick | Individual |
| Bill Garvin (additional submission in Section 2.4) | Individual |
| Charlie Hoherd | Roscoe Moss Company (additional submissions in Sections 2.3 and 2.6) |
| Brendan Hughes | Individual |
| Sequoia Smith | Individual |
| Pat Flanagan | Individual |
| Almut Fleck | Individual |
| Jean McLaughlin (additional submission in Section 2.4) | Individual |
| Emily Green (additional submission in Section 2.6) | Individual |
| Conner Everts | Individual |
| Tom Askew | Individual |
| Stacy Doolittle | Individual |
| Debbie Cook (additional submissions in Section 2.4) | Individual |
| Karen Tracy (additional submissions in Section 2.4) | Individual |
| Kathy Phelan | Individual |
| Ron Bowers | Individual |
| Claudia Saw | Individual |

Ruth Musser-Lopez

Individual

I_Musser-Lopez7-1 The commenter states the public comment meeting is in violation of the Brown Act because SMWD is not authorized to hold meetings in San Bernardino County. The public comment meeting was not a public hearing but an informative meeting conducted by the environmental consultant and SMWD staff to inform the public of the Project and to

take comments. The meeting was not required but is encouraged by CEQA and was not subject to the Brown Act. Therefore, the public meeting did not violate the Brown Act. Rather, the meeting was held to provide greater public participation in the CEQA process. The same is true for the public comment meeting held in Santa Margarita. The commenter is referred to **Master Response 3.11** CEQA Public Process.

- I_Musser-Lopez7-2 The commenter states that people in the desert need the evaporation for survival. Reducing evaporation above the Dry Lake playas would not change the desert climate. See **Master Responses 3.6** Vegetation and **3.9** Biological Resources.
- I_Musser-Lopez7-3 The commenter states that the claim that water does not recycle back into the Cadiz Valley is untrue. It is unclear what in particular the commenter is referring to. The basin is a closed drainage basin because all groundwater flows to the interior of the basin and terminates at the Dry Lakes where it approaches the surface and evaporates. The Draft EIR describes the desert climate and average precipitation of the desert in Vol. 4, Section 4.9 Hydrology and Water Quality. For a discussion on the effect of evaporation on the local humidity and precipitation, see **Master Response 3.9** Biological Resources.
- I_Musser-Lopez7-4 The commenter states that SMWD has no right to come to Joshua Tree in San Bernardino County and hold a hearing. The Joshua Tree meeting was not a public hearing but an informal meeting by the environmental consultant and SMWD staff to inform the public of the Project and to take comments. The meeting was not required by CEQA and was not subject to the Brown Act. The commenter is referred to **Master Response 3.11** CEQA Public Process.
- I_Musser-Lopez7-5 The commenter states that San Bernardino County Supervisor Mitzelfelt should have been at the meeting and that the Project should be heard by the County. The commenter is referred to **Master Response 3.10** CEQA Lead Agency. For a discussion on San Bernardino County's role in the Project, see **Master Response 3.8** GMMMP. The commenter states the meeting violates the Brown Act. The public meetings did not violate the Brown Act. Rather, the meeting was held to provide greater public participation in the CEQA process. The commenter is referred to **Responses I_Musser-Lopez3-6** and **7-1**.
- I_Musser-Lopez7-6 The commenter provides an opinion on artesian wells and suggests that water pressure in the aquifer brings water to the surface in springs. No artesian wells have been identified in the Project area. See **Master Response 3.1** Groundwater Recharge and Evaporation and **3.4** Springs.

- I_Musser-Lopez7-7 The commenter states the Project proponent could inject water into the canal and get credit for that water, take the credits, and sell them to deliver additional Colorado River water to Las Vegas. The Project includes extracting groundwater from the Fenner Valley and conveying the water to the CRA and ultimately to Project Participants located in Southern California. The Project provides a new water supply to the Southern California region.
- I_Musser-Lopez7-8 The commenter makes comments about the prehistory in the area and asks how SMWD became the Lead Agency. Cultural resources are addressed in the Draft EIR Vol. 1, Chapter 4.5 Cultural Resources, and information about the area tribes is found in 4.5.1 pp. 1–9. The commenter is also referred to **Response A/T_29PalmsIndians-34** and **Master Response 3.10** CEQA Lead Agency.

Ramon Alviso Mendoza Individual

- I_Mendoza2-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.
- I_Mendoza2-2 The commenter states that he works for a company that makes water out of the atmosphere. The comment does not address the adequacy of the Draft EIR. However, the comment is acknowledged for the record and will be forwarded to the decision making bodies for their review and consideration.
- I_Mendoza2-3 The commenter asks about the piping for the Project and the design layout because it is in an earthquake area. The commenter is referred to the Draft EIR Vol. 1, Section 4.6 Geology and Soils, pages 4.6-33 through 4.6-34, which discuss potential impacts from a seismic event and pages 4.6-35 through 4.6-38 which discuss the Project's pipeline and potential impacts from an unstable geologic unit.
- I_Mendoza2-4 The commenter requests an extension of the comment period. The commenter is referred to **Master Response 3.11** CEQA Public Process.

Bruce Akana Individual

- I_Akana-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the

record and will be forwarded to the decision-making bodies for their review and consideration.

I_Akana-2

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

**Robert R. Dunn
Individual**

I_Dunn2-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

**Rob Fleck
Fairfield Inn & Suites by Marriott in Twentynine Palms**

O_FairfieldInn2-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

**Dennis Shearer
Ameron International Corporation**

O_Ameron3-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

**Tom Beeghly
National Chloride Company**

O_NatlChloride3-1

The commenter states that the Project would take surface water and groundwater from Bristol Dry Lake and affect current mining operations. The commenter states an objection to any proposal that would take water away from the National Chloride Company. The Project would not change existing conditions related to surface water at the Dry Lakes. The Draft EIR evaluates potential impacts to mineral resources in Section 4.11 and includes measures to reduce potential effects to a less than significant level. See **Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP. Additional information related to mining at

the Dry Lakes can be found in **Responses O_Tetra1-1** and **O_NatlChloride1-1**.

Leigh Adams Individual

- I_Adams3-1 The commenter voices opposition to the proposed Project. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision making bodies for their review and consideration.
- I_Adams3-2 The commenter asks if the meeting is illegal. The Joshua Tree meeting was not a public hearing but an informal meeting by the environmental consultant and SMWD staff to inform the public of the Project and to answer questions. The meeting was not required by CEQA and was not subject to the Brown Act. See **Master Response 3.11** CEQA Public Process.
- I_Adams3-3 The commenter asks how Joshua Tree was chosen as the meeting place. The commenter is referred to **Master Response 3.11** CEQA Public Process.

Tom O'Key Individual

- I_O'Key-1 The commenter voices opposition to the proposed Project. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_O'Key-2 The commenter asks if the Draft EIR has been reviewed with counter scientific scrutiny. In addition to undergoing a public review process pursuant to CEQA, the technical and scientific reports for the Project have been peer reviewed by the Groundwater Stewardship Committee. See Final EIR Vol. 7, Appendix B1 Updated GMMMP, Sub-Appendix A Groundwater Stewardship Committee April 2012 Summary of Findings and Recommendations. See **Master Response 3.2** Groundwater Modeling.
- I_O'Key-3 The commenter expresses opposition to the Project. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

I_O'Key-4 The commenter expresses concern for groundwater drawdown, access to fire suppression, groundwater levels at property owners at the higher elevations. See **Master Response 3.3** Groundwater Pumping Impacts.

Andrew Stone Individual

I_Stone-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Phillip Smith Individual

I_SmithP-1 This commenter states that the Project will drain the aquifer. See **Master Response 3.3** Groundwater Pumping Impacts.

I_SmithP-2 The commenter states the meeting was far from Needles and that the Project would affect the City of Needles. The comment refers to previous promises of jobs in the area such as the Ward Valley Project and the previous Metropolitan Water District project. The Project would not affect the City of Needles located 50 miles to the east of the proposed wellfield. See **Master Responses 3.3** Groundwater Pumping Impacts, **3.11** CEQA Public Process, and **3.15** Terminology.

I_SmithP-3 The commenter asks what Native American tribes were consulted regarding the Project. Consultation with Native American tribes is summarized on page 4.5-22 of the Draft EIR Vol. 1, Section 4.5 Cultural Resources. The commenter is referred to **Response A_NAHC-2**.

I_SmithP-4 The commenter states that the Salt Song Trail relates to the area where the Chemehuevi lived. The commenter is referred to **Responses A/T_Chemehuevi-6** and **O_RiverAHA4-18**.

I_SmithP-5 The commenter states that springs that used to be in the desert are no longer there due to drawdown and that cattlemen moved to the area, built the windmill, and took the water table down. The Draft EIR describes the estimated drawdown of the groundwater beneath the wellfield and surrounding area in Vol. 1, Section 4.9 Hydrology and Water Quality. Under Mitigation Measures included in the EIR and the Updated GMMMP, FVMWC would monitor the effects of the drawdown. Potential impacts to third party wells are identified and mitigation is proposed to avoid or minimize these effects. The springs in the

surrounding areas would not be affected by the Project. See **Master Responses 3.3** Groundwater Pumping Impacts and **3.4** Springs.

Seth Shteir
National Parks Conservation Association

- O_NPCA-1 The commenter states that the Project is unsustainable, characterized by unknowns and that the hydrologic models are flawed. See **Master Responses 3.2** Groundwater Models, **3.3** Groundwater Pumping Impacts, and **3.15** Terminology.
- O_NPCA-2 The comment states that evaporation rates are incorrect and provides an evaporation estimate from Death Valley. See **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.3** Groundwater Pumping Impacts.
- O_NPCA-3 The commenter states that the impact of the Project is unknown. Impacts to groundwater resources and surface resources have been extensively analyzed and reviewed. See **Master Response 3.3** Groundwater Pumping Impacts and the Draft EIR, Vol. 1, Chapter 4.
- O_NPCA-4 The commenter states that there are unanswered questions regarding the hydrologic model and job creation claims. Estimates of job creation are not relevant to the environmental impact analysis. See **Master Responses 3.1** Groundwater Recharge and Evaporation, **3.2** Groundwater Modeling, and **3.3** Groundwater Pumping Impacts for a discussion of the hydrologic model.
- O_NPCA-5 The commenter requests a 90-day extension to the public review period. A 30-day extension to the public review period was granted bringing the total comment period time to 100-days. The commenter is referred to **Master Response 3.11** CEQA Public Process.
- O_NPCA-6 The commenter states they requested the parameters of the hydrologic models multiple times. Details of the modeling efforts are provided in the Draft EIR Vol. 4, Appendix H1 Cadiz Groundwater Modeling and Impact Analysis. In response to the commenter's request for MODFLOW data, SMWD responded with a letter, dated February 13, 2012,⁶⁶ that informed the commenter that the Draft EIR includes all of the input and output data necessary for the analysis of impacts to the groundwater within Appendix H1 and that the output was produced utilizing software that can be downloaded from the USGS website at no

⁶⁶ Letter from Dan Ferons of SMWD to Seth Shteir, Field Representative for the National Parks Conservation Association, dated February 13, 2012, responding to public records request made via email from Seth Shteir to John Schatz of SMWD, dated February 3, 2012.

charge. SMWD also offered to set up a meeting with technical experts from Geoscience and CH2M Hill to discuss the data in the reports and answer any technical questions their hydrologist might have. To date, the commenter has not accepted to the offer to meet with SMWD's technical experts. The commenter is also referred to **Master Response 3.2** Groundwater Modeling and **Response A_NPS-5**.

- O_NPCA-7 The commenter requests a 90-day extension to the public review period. The commenter is referred to **Master Response 3.11** CEQA Public Process.
- O_NPCA-8 The commenter states that the amount of water coming out of Bishop Creek and Big Pine Creek on an annual basis is 50,000 AF. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- O_NPCA-9 The commenter states that climate change will alter the recharge in the valley. Climate change is discussed in the Draft EIR, Vol. 1, Section 4.9 Hydrology and Water Quality. See **Response A_NPS-52** and **Master Response 3.3** Groundwater Pumping Impacts.
- O_NPCA-10 The commenter states that recreational tourism is important. The Draft EIR Vol. 1, Section 4.14 Recreation identifies local recreation opportunities and concludes that the Project would have a less than significant impact on local recreational uses.
- O_NPCA-11 The commenter asks for the groundwater modeling files. The commenter is referred to **Master Response 3.2** Groundwater Modeling and **Response O_NPCA-6**, above.

Helena Bongartz Individual

- I_Bongartz4-1 The commenter states that potential impacts to Dale Valley and other areas have not been considered. The Draft EIR provides an analysis of impacts for resources that could be affected by the Project. The potential extent of groundwater drawdown over 50 years is shown in Figures 4.9-12, 4.9-13, and 4.9-14 (Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality). Dale Valley is in another watershed and under the jurisdiction of the Twentynine Palms Water District. Areas such as Dale Valley which are outside the drawdown area would not be affected by the Project. See also **Master Response 3.3** Groundwater Pumping Impacts.

Bob Minella
Layne Christiansen Company

O_Layne4-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Doug Watson
Layne Christiansen Company

O_Layne5-1 This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Chris Brown
Individual

I_BrownC3-1 The commenter questions impacts to local groundwater wells and water rights. The Mitigation Measures included in the EIR, as well as in the Updated GMMMP, address potential impacts to third party wells, water quality, subsidence, and air quality to fully mitigate any impacts on the basin to a less than significant level. See **Master Responses 3.3** Groundwater Pumping Impacts, **3.7** Water Rights, and **3.8** GMMMP.

Dave Fick
Individual

I_Fick-1 The commenter asks for an extension of time for the public review period. The commenter is referred to **Master Response 3.11** CEQA Public Process.

I_Fick-2 The commenter asks to differentiate whether the wet and dry years are for the Colorado River or Orange County. The wet year refers to SWP water imports. The analysis provided in the Draft EIR Vol. 4, Appendix H2 Supplemental Assessment of Pumping Required references the California wet and dry years reported by the Department of Water Resources. The reports dictate deliveries of the SWP each year. In wet years, more water is available for delivery in the SWP.

I_Fick-3 The comment states that Joshua Trees rely on moisture in the atmosphere and that a large Joshua Tree Woodland called Cima Dome Forest is located down wind of the Dry Lakes. The Cima Dome Joshua Tree Woodland is located in the Mojave National Preserve north of I-40. The

prevailing wind in the Bristol Dry Lake and Cadiz Dry Lake valley is from the northwest. The Cima Dome Forest is located outside of the Fenner Watershed and upwind of the Project site. No Joshua Trees are located in the vicinity downwind from the Dry Lakes.

Bill Garvin Individual

I_Garvin2-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Charlie Hoherd Roscoe Moss Company

O_RoscoeMoss3-1

This comment supporting the Draft EIR does not require a response pursuant to CEQA. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Brendan Hughes Individual

I_Hughes-1

The commenter asks for an extension of time for the public review period. The commenter is referred to **Master Response 3.11** CEQA Public Process.

I_Hughes-2

The commenter claims that 17 to 34 MAF equates to two to three years of full flow of the Colorado River. The comment also says that extraction will cause subsidence. See **Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP.

I_Hughes-3

The commenter states property owners should have been contacted in the Project area and that it is a failure of duty under CEQA. The commenter is referred to **Master Response 3.11** CEQA Public Process.

I_Hughes-4

The commenter states that significant spring resources could be affected and that EIR should be an Environmental Impact Statement. See **Master Response 3.4** Springs. An EIS is prepared only for projects requiring federal agency approval. The proposed Project would not require federal approval needing NEPA compliance. See **Response A_NPS-25** and **Master Response 3.13** Right-of-Way and NEPA.

Sequoia Smith Individual

I_SmithS-1

The commenter asks about Orange County rainwater collection as an option. The Draft EIR evaluates conservation and other water supplies as Project alternatives in Vol. 1, Chapter 7 Alternatives Analysis. See **Master Response 3.14** Alternatives. The commenter is also referred to **Response I_Adams2-1**.

The comment also states that sustainability includes a multi-generational perspective and that the proposed Project promotes excessive consumption. The Project's primary goal is to capture water before it becomes saline and evaporates. See **Master Response 3.15** Terminology that discusses conservation objectives.

Pat Flanagan Individual

I_Flanagan-1

The commenter states that it is mathematical sleight of hand to say that surface water evaporation can be reduced. The commenter states that the local ecosystem relies on water for survival. The Project would not divert any surface water or alter drainage patterns. The commenter is referred to the **Master Responses 3.6** Vegetation and **3.9** Biological Resources.

I_Flanagan-2

The commenter states that the Project claims to be sustainable since it would cease pumping after 50 years. In the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, Table 4.9-10 identifies the duration needed for the groundwater basin to recover after pumping stops. Table 4.9-11 provides an assessment of the amount of water recovered by the Project that would otherwise evaporate under disparate recharge scenarios. See **Master Response 3.15** Terminology that discusses conservation objectives.

I_Flanagan-3

The commenter states that the Draft EIR does not address subsidence, water quality impacts, low recharge rates, or climate change. The Draft EIR assesses potential impacts to subsidence in Vol. 1, Section 4.6 Geology and Soils. Mitigation measures are provided to monitor subsidence and reduce pumping if subsidence occurs that could damage structures. The Draft EIR evaluates water quality and recharge rates in Vol. 1, Section 4.9 Hydrology and Water Quality. The Draft EIR discusses impacts of climate change on the Project and local resources in Section 4.9. See **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.3** Groundwater Pumping Impacts.

I_Flanagan-4 The commenter states that the Draft EIR discounts any risk to local springs and states that the absence of evidence is not the same thing as evidence of absence. The Project would not affect springs. The commenter is referred to **Response A_NPS-2** and **Master Response 3.4** Springs.

Almut Fleck Individual

I_Fleck-1 The commenter states that many people are not in favor of the Project. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

I_Fleck-2 The commenter requests an extension of time to review the Draft EIR. The commenter is referred to **Master Response 3.11** CEQA Public Process.

I_Fleck-3 The commenter states that industry takes resources for profit that belong to the public and expresses concern for desert communities. See **Master Response 3.7** Water Rights. Regarding oversight of the Project by San Bernardino County see **Master Response 3.8** GMMMP.

I_Fleck-4 The commenter states there is no guarantee that the wet and dry days will continue in specific patterns, particularly if the climate changes. The commenter also expresses concern about the region becoming a dust bowl. The Draft EIR discusses the potential effects of climate change in the region. See response to comment **A_NPS_52**. The commenter is also referred to **Master Response 3.5** Dry Lakes and Dust.

Jean McLaughlin Individual

I_McLaughlin2-1 The commenter states that the Project will draw down water that will affect springs, wildlife, the ecosystem, and wilderness areas. See **Master Responses 3.5** Springs, **3.6** Vegetation, and **3.9** Biological Resources.

I_McLaughlin2-2 The commenter states that there needs to be more time for comment. The commenter is referred to **Master Response 3.11** CEQA Public Process.

I_McLaughlin2-3 The commenter states that the Project would lower groundwater levels in local wells. See **Master Responses 3.3** Groundwater Pumping Impacts and **3.8** GMMMP.

I_McLaughlin2-4 The commenter states the Colorado River is polluted and states that importation of CRA water as part of the Imported Water Storage Component will pollute the groundwater. The Draft EIR evaluates potential water quality impacts of importing Colorado River water and concludes that although water quality could be affected during Phase 2 of the Project, due to the size of the groundwater basin, Colorado River water would be largely diluted. However, subsequent environmental analysis would be needed prior to implementing Phase 2 of the Project. The commenter is referred to **Master Response 3.12** Project vs. Program Level Analysis.

Emily Green Individual

I_Green2-1 The commenter states that the Project is dangerous and a sham. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

I_Green2-2 The commenter states that the monitoring program managed by the Project proponent is unacceptable. The monitoring program will not be managed by the Project proponent. It will be managed and enforced by the County of San Bernardino. The commenter is referred to **Response A_NPS-7** above. See **Master Response 3.8** GMMMP regarding enforcement authority of the monitoring plan.

I_Green2-3 The commenter states that using the railroad ROW does not address impacts to the very sensitive federal land surrounding it. The commenter is referred to **Master Response 3.13** Right-of-Way and NEPA.

I_Green2-4 The commenter states the USGS should review and comment on the Project and Project monitoring. The commenter is referred to **Response A_NPS-5**. All agencies, organizations, and individuals are free to review and comment on the Project through the CEQA process.

Conner Everts Individual

I_Everts-1 The commenter states there needs to be more time for comment. The commenter is referred to **Master Response 3.11** CEQA Public Process.

I_Everts-2 The commenter provides a comment regarding SMWD as the lead agency. The commenter is referred to **Master Response 3.10** CEQA Lead Agency.

- I_Everts-3 The commenter states the Project is definitely a federal project requiring an Environmental Impact Statement. The commenter is referred to **Master Response 3.13** Right-of-Way and NEPA.
- I_Everts-4 The commenter states there is a lack of public outreach and community involvement. The commenter is referred to **Master Response 3.11** CEQA Public Process.
- I_Everts-5 The commenter states that the per capita water usage in Orange County needs to be reduced. The Draft EIR Vol. 1, Chapter 7 Alternatives Analysis identifies conservation efforts in Orange County targeted to achieve a 20 percent per capita reduction by 2020. The Draft EIR concludes that conservation will occur in any case. The proposed Project provides water supply options for Project Participants. For information about conservation efforts by participating agencies, the commenter is also referred to **Master Response 3.14** Alternatives.

Tom Askew Individual

- I_Askew-1 The commenter states a dislike for the Project on behalf of the people of the City of Essex. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_Askew-2 The commenter states he works for the Native American Land Conservancy and states that the animals will all end up dead. The Project would not significantly impact wildlife. See **Master Response 3.9** Biological Resources.

Stacy Doolittle Individual

- I_Doolittle-1 The commenter requests an extension of public comment time. The commenter states there is a lack of public outreach. The commenter is referred to **Master Response 3.11** CEQA Public Process.
- I_Doolittle-2 The commenter states that job creation is overstated and that the desert relies on the groundwater for survival. The Project would not result in significant impacts to the ecosystem. See **Master Responses 3.6** Vegetation and **3.9** Biological Resources. See also Draft EIR Vol. 4, Appendix I Economic Impact Report.

**Debbie Cook
Individual**

- I_Cook2-1 The commenter states that the Project is outrageous, audacious, and irrational. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_Cook2-2 The commenter asks where the elected officials are and makes a statement about SMWD being the Lead Agency. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency and **3.11** CEQA Public Process.
- I_Cook2-3 The commenter states that no other water district in Orange County supports the Project and that Cadiz Inc. is going to make money selling water. This comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.
- I_Cook2-4 The commenter states that the Project could only make sense if water is first recharged and then extracted. The Draft EIR describes the recovery of the groundwater basin in Vol. 1, Section 4.9 Hydrology and Water Quality. Figure 4.9-11 illustrates the groundwater basin recovery over time based on estimated natural recharge. Impacts of the Project have been evaluated in Section 4.9. See **Master Response 3.3** Groundwater Pumping Impacts. In order to save substantial amounts of freshwater that would otherwise be lost, pumping must exceed the natural recharge rate. If water were first recharged, mounding around the spreading basins would steepen the natural gradient from the Fenner Gap towards the Dry Lakes and increase the volume of groundwater flowing towards the brine sink and evaporating.

**Karen Tracy
Individual**

- I_Tracy3-1 The commenter would like the USGS to review the Project. The USGS was welcome to submit comments during the public review period but did not do so. The commenter is referred to **Master Response 3.2** Groundwater Modeling. The commenter also requests an extension of the public comment period. The commenter is referred to **Master Response 3.11** CEQA Public Process.
- I_Tracy3-2 The commenter states the Project is definitely a federal project requiring an Environmental Impact Statement. The commenter is referred to **Master Response 3.13** Right-of-Way and NEPA.

Kathy Faylan (Phelan?) Individual

I_Faylan-1 The commenter states opposition to the Project. The commenter requests an extension of public comment time. The commenter states there is a lack of public outreach. The commenter is referred to **Master Response 3.11** CEQA Public Process.

I_Faylan-2 The commenter states that what California needs is the desert. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA.

Ron Bowers Individual

I_Bowers-1 The commenter questions whether the jobs are worth the environmental cost. The Draft EIR evaluates impacts of the Project and finds a temporary significant and unavoidable impact to air quality from construction and significant unavoidable secondary effects of growth in the service areas of the Project Participants. Impacts to the local ecosystem and local land uses would be less than significant. See **Master Responses 3.9** Biological Resources.

Claudia Saw Individual

I_Saw-1 The commenter states the Wildlife Conservancy should be contacted and brought to the table. The comment does not state a specific concern regarding the adequacy of the Draft EIR. Therefore, a response is not required pursuant to CEQA. However, the Wildlife Conservancy was free to review and comment on the EIR.

4.7 Comment Letters Received after Deadline

**TABLE 4-7
COMMENT LETTERS RECEIVED AFTER DEADLINE**

| Commenter | Date of Comment | Signatory and Title |
|---|-----------------|---|
| Rancho Cucamonga Chamber of Commerce | 04/12/2012 | Joe Schumacher Chairman of the Board |
| Larry Witt, Individual | 04/26/2012 | – |
| NPCA-CBD <i>et al.</i> | 05/04/2012 | Adam Lazar |
| Tetra Technologies, Inc. via Rutan & Tucker | 05/07/2012 | Robert S. Bower |

| Commenter | Date of Comment | Signatory and Title |
|--|---|--|
| Metropolitan Water District of Southern California | 05/14/2012 | Joseph Vanderhorst Sr. Deputy General Counsel |
| Lozeau Drury LLP on behalf of Laborers International Union of North America Laborers Local Union 783 (4 submissions) | 05/23/2012 (2), 05/25/2012 and 06/22/12 | Christina Caro Attorney for Local 783 |
| Diane Allison, Individual | 05/24/2012 | – |
| MC and Lorenzo Hagerty, Individuals | 02/24/2012 | – |
| Anthony Nicolau, Individual | 05/24/2012 | – |
| Jean Marie Naples, Individual | 05/24/2012 | |
| Danielle Bower, Individual | 05/25/2012 | – |
| J. Capozzelli, Individual | 05/25/2012 | – |
| David A. Brunetti, Individual | 05/26/2012 | – |
| Phyllis Jacoby, Individual | undated | – |
| Steve Jacoby, Individual | undated | – |
| Heather Hahn, Individual | 5/29/2012 | – |
| Benjamin and Jennifer Valentine, Individuals | 05/29/2012 | |
| Center for Biological Diversity | 5/31/2012 | Adam Lazar, Staff Attorney |
| Pam Nelson, Individual | 6/01/2012 | – |
| Greta Loeffelbein, Individual | undated | – |
| Anuj Shaw, Individual | 06/20/2012 | -- |
| The Wildlands Conservancy | 06/24/2012 | Claudia Sall |

CEQA Guidelines section 15105 requires that a Draft EIR provide a public review period not less than 45 days. The Draft EIR was published on December 5, 2011 with the review period set to close on February 13, 2012, a period of 70 days. In response to requests for an extension of the comment period, in February, SMWD granted an additional 30 days in February. The Draft EIR public review period ended March 14, 2012, providing a total of 100 days for public review. The following are responses to comments received after the close of the 100 days public comment period on the Draft EIR. CEQA does not require that an agency respond to late comments. (Pub Res C §21091(d)(1); *Gilroy Citizens for Responsible Planning v City of Gilroy* (2006) 140 CA4th 911, 924 n10.) Given that there is no legal duty to respond to any late comments, the claimed inadequacy of any responses to late comments cannot be a basis for challenging the legal adequacy of an EIR. (*Gray v County of Madera* (2008) 167 CA4th 1099, 1111.)

Rancho Cucamonga Chamber of Commerce

O_RCCC-1

By letter dated April 12, 2012, this comment was received supporting the Draft EIR and pursuant to CEQA does not require a response. However, the comment is acknowledged for the record and will be forwarded to the decision-making bodies for their review and consideration.

Larry Witt

I_Witt-1

By email dated April 26, 2012, the commenter requests information on the date of the public hearing for the Final EIR. The commenter has been added to notification lists for future CEQA actions and will be sent notification of the Final EIR. The commenter is also referred to Final EIR Vol. 5, Chapter 1 Introduction, Section 1.2 CEQA Environmental Review Process.

National Parks Conservation Association and Center for Biological Diversity, *et al.*

O_NPCA-CBD *et al.*2-1

By letter dated May 4, 2012, the commenter requests the attached documents on Colorado River Aqueduct water quality be submitted in support of prior comments addressed in **Response O_NPCA-CBD *et al.*** The comment is noted.

It should be noted that water quality issues for Phase 2, including the water quality report for the upper Colorado region would have no bearing on water quality in Metropolitan's CRA. Therefore, attachments beyond the scope of the Metropolitan CRA and which pertain to Phase 2 are not relevant, until such time as Phase 2 undergoes Project level review.

Tetra Technologies, Inc. via Rutan & Tucker, LLP

O_Tetra7-1

By letter dated May 7, 2012, the commenter requests to be notified when SMWD Board of Directors is scheduled to consider any item related to the proposed Project. The commenter has been added to notification lists for future CEQA actions and will be sent notification of the Final EIR.

Metropolitan Water District of Southern California

A_MWD2-1

By letter dated May 14, 2012, the commenter restates comments addressed regarding Metropolitan's role in the proposed Project and Project objectives related to a CRA tie-in. Specifically, it reiterates its opinion that a stabilization reservoir must separate the conveyance pipeline with valves and gates. This issue is addressed in **Response A_MWD-4**. See also **Responses A_MWD 1 through 159**. The comment is noted.

Lozeau Drury LLP on behalf of Laborers International Union of North America Laborers Local Union 783

- O_LozeauDrury/LIUNA3-1 By email dated May 23, 2012, the commenter requests to be forwarded the Final EIR once it is published. The commenter has been added to notification lists for future CEQA actions and will be sent notification of the Final EIR.
- O_LozeauDrury/LIUNA4-1 By email dated May 23, 2012, the commenter requests that a prior comment letter dated December 12, 2011 requesting notification of action under CEQA be attached to the comment. The commenter letter dated December 12, 2011 is included as **Response O_LozeauDrury/LIUNA1-1**.
- O_LozeauDrury/LIUNA5-1 By email dated May 25, 2012, the commenter requests access to certain documents under the Public Records Act pursuant to Government Code section 6250 et seq. The commenter requests information used in the analysis. This is not a comment regarding the adequacy of the environmental review for the Project and therefore no response is required. SMWD has responded to this comment under the California Public Records Act.
- O_LozeauDrury/LIUNA6-1 By email dated June 22, 2012, the commenter requests access to certain documents under the Public Records Act pursuant to Government Code section 6250 et seq. The commenter requests information used in the analysis. This is not a comment regarding the adequacy of the environmental review for the Project and so no response is required. SMWD has responded to this comment under the California Public Records Act.

Diane Allison Individual

- I_Allison-1 By letter dated May 25, 2012, the commenter requests rejection of the proposed Project. This comment does not address the content or adequacy of the Draft EIR; therefore, no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.
- The commenter urges alternative conservation efforts in Orange County. The commenter is referred to **Response I_Sahaar-2**.

MC and Lorenzo Hagerty Individuals

I_Hagerty-1

By letter dated May 24, 2012, the commenter states concern regarding the Project. This comment does not address the content or adequacy of the Draft EIR; therefore, no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.

The commenter generally states that SMWD is not the proper lead agency, as well as the Draft EIR presents an inadequate analysis of impacts to water quality, air quality, wildlife, and the recharge rate. The commenter is referred to **Master Response 3.10** CEQA Lead Agency and also respectively to **Response I_Adams2-Attachment-8** for a discussion of water quality; the Draft EIR Vol. 1, Section 4.3 Air Quality, for a discussion of potential air quality impacts; **Master Response 3.9** Biological Resources for a discussion of potential impacts to wildlife; and finally to **Master Response 3.1** Groundwater Recharge and Evaporation for a discussion of the recharge rate.

Anthony Nicolau Individual

I_Nicolau-1

By letter dated May 24, 2012, the commenter urges rejection of the proposed Project and expresses concerns regarding the Project. This comment does not address the specific content or adequacy of the Draft EIR; therefore, no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.

The commenter states in general that the Draft EIR presents an inadequate analysis of impacts to water quality, air quality, and wildlife. The commenter is referred respectively to **Response I_Adams2-Attachment-8** for a discussion of water quality; the Draft EIR Vol. 1, Section 4.3 Air Quality, for a discussion of potential air quality impacts; and **Master Response 3.9** Biological Resources for a discussion of potential impacts to wildlife. The commenter also states general concern regarding the appropriateness of the lead agency, terminology regarding water conservation, and recharge rates. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency, **3.15** Terminology, and **3.1** Groundwater Recharge and Evaporation, respectively.

Jean Marie Naples Individual

I_Naples-1

By letter dated May 24, 2012, the commenter urges rejection of the proposed Project and expresses critical opinions regarding the Project. This comment does not address the content or adequacy of the Draft EIR; no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.

The commenter states that the Draft EIR presents an inadequate analysis of impacts to water quality, air quality, and wildlife. The commenter is referred respectively to **Response I_Adams2-Attachment-8** for a discussion of water quality; the Draft EIR Vol. 1, Section 4.3 Air Quality, for a discussion of potential air quality impacts; and **Master Response 3.9** Biological Resources for a discussion of potential impacts to wildlife. The commenter also questions the appropriateness of the lead agency, terminology regarding water conservation, recharge rates, and water rights. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency, **3.15** Terminology, **3.1** Groundwater Recharge and Evaporationand Evaporation, and **3.7** Water Rights, respectively.

Danielle Bower Individual

I_Bower-1

By letter dated May 25, 2012, the commenter urges rejection of the proposed Project. This comment does not specifically address the content or adequacy of the Draft EIR; therefore, no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.

The commenter generally states that the Draft EIR presents an inadequate analysis of impacts on water, local communities, air quality, and wildlife. The commenter is referred respectively to **Master Response 3.3** Groundwater Pumping Impacts for a discussion of potential impacts to surrounding landowners and water resources; the Draft EIR the Draft EIR Vol. 1, Section 4.3 Air Quality, for a discussion of potential air quality impacts; and **Master Response 3.9** Biological Resources for a discussion of potential impacts to wildlife. The commenter also questions the appropriateness of the lead agency and recharge rates. The commenter is also referred to **Master Responses 3.10** CEQA Lead Agency and **3.1** Groundwater Recharge and Evaporation.

J. Capozzelli Individual

I_Capozzelli-1

By letter dated May 25, 2012, the commenter states general concern regarding the Project including the desert wildlife's reliance on water,

but does not specifically address the contents of the Draft EIR, therefore a response is not necessary. However, the commenter is referred to **Master Response 3.9** Biological Resources. The commenter also questions the adequacy of the lead agency for the proposed Project. The commenter is referred to **Master Response 3.10** CEQA Lead Agency. The commenter expresses concern regarding pumping of water and its location near the Mojave National Preserve. The Project is located approximately 20 miles south of the Mojave National Preserve and 25 miles north of Joshua Tree National Park. With respect to Project pumping, the commenter is referred to **Master Response 3.3** Groundwater Pumping Impacts.

The commenter also states concern over the execution of a memorandum of understanding (MOU) between San Bernardino County, SMWD, and Cadiz Inc. in May 2012 that establishes a process to seek an exclusion from the Desert Groundwater Management Ordinance (San Bernardino County Code of Ordinances § 33.06551). The County is a responsible agency under CEQA, which has its own decision making processes in reviewing the Project. The MOU provides a framework for proceeding with the GMMMP for the Project. Please refer to **Master Responses 3.8** GMMMP and **3.10** CEQA Lead Agency.

The commenter also states the recharge rate. The commenter is referred to **Master Response 3.1** Groundwater Recharge and Evaporation.

David A. Brunetti Individual

I_Brunetti-1

By letter dated May 26, 2012, the commenter urges rejection of the proposed Project. This comment does not specifically address the content or adequacy of the Draft EIR; therefore, no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.

The commenter further states that the Draft EIR presents an inadequate analysis of impacts to water quality, air quality, and wildlife. The commenter is referred respectively to **Response I_Adams2-Attachment-8** for a discussion of water quality; the Draft EIR Vol. 1, Section 4.3 Air Quality, for a discussion of potential air quality impacts; and **Master Response 3.9** Biological Resources for a discussion of potential impacts to wildlife. The commenter also questions the appropriateness of the lead agency, terminology regarding water conservation, recharge rates, and water rights law. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency, **3.15**

Terminology, **3.1** Groundwater Recharge and Evaporation, and **3.7** Water Rights, respectively.

The commenter also states concern over the execution of an MOU between the County, SMWD and Cadiz Inc. in May 2012. See **Response I_Capozzelli-1**. Please refer to **Master Responses 3.8** GMMMP and **3.10** CEQA Lead Agency.

Phyllis Jacoby Individual

I_Jacoby-1

By undated letter, the commenter urges rejection of the proposed Project and expresses critical opinions regarding the Project. This comment does not specifically address the content or adequacy of the Draft EIR; therefore, no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.

The commenter generally states that the Draft EIR presents an inadequate analysis of impacts to water quality, air quality, and wildlife. The commenter is referred respectively to **Response I_Adams2-Attachment-8** for a discussion of water quality; the Draft EIR Vol. 1, Section 4.3 Air Quality, for a discussion of potential air quality impacts; and **Master Response 3.9** Biological Resources for a discussion of potential impacts to wildlife. The commenter also questions the appropriateness of the lead agency, terminology regarding water conservation, and recharge rates. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency, **3.15** Terminology, and **3.1** Groundwater Recharge and Evaporation, respectively.

Steve Jacoby Individual

I_Jacoby2-1

By undated letter, the commenter urges rejection of the proposed Project and expresses critical opinions regarding the Project. This comment does not specifically address the content or adequacy of the Draft EIR; therefore, no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.

The commenter also states that the Draft EIR presents an inadequate analysis of impacts to water quality, air quality, and wildlife. The commenter is referred respectively to **Response I_Adams2-Attachment-8** for a discussion of water quality; the Draft EIR Vol. 1, Section 4.3 Air Quality, for a discussion of potential air quality impacts; and **Master Response 3.9** Biological Resources for a discussion of potential impacts to wildlife. The commenter also questions the

appropriateness of the lead agency, terminology regarding water conservation, and recharge rates. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency, **3.15** Terminology, and **3.1** Groundwater Recharge and Evaporation, respectively.

Heather Hahn Individual

I_Hahn-1

By letter dated May 29, 2012, the commenter urges rejection of the proposed Project and expresses critical opinions regarding the Project. This comment does not specifically address the content or adequacy of the Draft EIR; therefore, no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.

The commenter states the review process was inadequate. See **Master Response 3.11** CEQA Public Process.

Benjamin and Jennifer Valentine Individuals

I_Valentine-1

The commenter urges analysis of impacts and rejection of the proposed Project. This comment does not specifically address the content or adequacy of the Draft EIR; therefore, no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.

Center for Biological Diversity

O_CBD2-1

By letter dated May 31, 2012, the commenter raises concerns regarding the scope of the County's authority under the GMMMP and its interpretation of the definitions contained in the County's Groundwater Ordinance.

The commenter also states that provisions in the May 2012 MOU regarding reservation of water under options available to the County are not analyzed in the EIR. First, the Draft EIR, Chapter 6 analyzes use of Project water in portions of the County that lie within the Metropolitan service area. See Table 6-34. Second, the MOU terms provide a conditional offer to the County for 25,000 AF of Project water, and up to 20% of total Project annual yield. However, further action is required by the County. For example, there is no time or specified method of delivery for when this would occur. Similarly, with respect to the manner of delivery, the MOU provides flexibility as to which

agency, either IEUA or any public water supplier in the County may deliver Project water to County users. Therefore, until that determination is made, an additional agency cannot be identified as a “responsible agency”. Moreover, additional environmental review of such an act is contemplated in the MOU itself. See MOU, page 6.

The commenter requests the MOU be included in the administrative record, and analyze definitions and terms of the MOU in the EIR, and then SMWD should re-circulate the EIR. The MOU will be available to the decision-makers as it will be an appendix to the Final EIR (Appendix N). With regard to definitions, the commenter is referred to **Master Response 3.15 Terminology**. With respect to re-circulation, it is not required. See **Master Response 3.11 CEQA Public Process**. The Commenter is also referred to **Master Response 3.7 Water Rights**. The May 11, 2012 MOU is a first step, and provides a framework for managing the basin consistent with the County’s Ordinance. In compliance with the County’s Groundwater Ordinance, the Draft GMMMP was updated since the publication of the Draft EIR to clarify matters such as the County’s enforcement authority over the management plan, the details of monitoring and corrective measures beyond those required by CEQA to protect critical resources, and to establish a management “floor” for the drawdown of groundwater levels and a limit for brine migration. The Updated GMMMP is included in the Final EIR Vol. 7, Appendix B1 Updated GMMMP. The revisions strengthen the management plan, but do not alter the analysis or findings in the EIR or present any new information that would require recirculation. The Updated GMMMP was prepared to satisfy the exclusion provisions of the County Ordinance and is subject to the County’s discretionary review and approval as a responsible agency under CEQA. See also **Master Response 3.8 GMMMP**.

The commenter states that the MOU redefines the term ‘overdraft’ and suggests its definition will limit monitoring and enforcement against drawdown. This is not the case. The mitigation measures in the EIR, as well as the provisions of the Updated GMMMP provide for extensive monitoring and enforcement. The Updated GMMMP contains a set of “early warning” monitoring features (See Final EIR Vol. 7, Appendix B1 Updated GMMMP, Chapter 5), specific objective action criteria (i.e. the pre-impact “triggers” and corrective measures,

Chapter 6), as well as strong enforcement provisions, including the organization of a Technical Review Panel (TRP) that will monitor and advise on technical aspects of the Project (Chapters 6 and 8). As proposed in the Updated GMMMP's adaptive management provisions, new monitoring measures may be proposed to refine the Management Plan as a result of information obtained from monitoring (See Updated GMMMP, Chapter 8). The Updated GMMMP is also designed to include a multi-level review of the monitoring, triggering events, and corrective actions. Under the decision-making process, FVMWC will notify all parties (County, SMWD, and TRP) within 10 business days of any triggering event and, within 60 days will provide an initial assessment and recommendation to be reviewed by the TRP. The TRP will then prepare its own assessment and recommendation for review by the County. The County's decision will be final and immediately effective, subject to a dispute resolution process. With respect to reporting, the Updated GMMMP would require the FVMWC to prepare annual and 5-year reports, summarizing all of the acquired data, evaluating the data to verify the aquifer response is as predicted, and providing recommendations.

The commenter asserts that the MOU definitions of safe yield, temporary surplus, overdraft and aquifer health should be analyzed in the EIR and GMMMP. The concepts are included in the Draft EIR Vol. 1, Section 4.9.3 Hydrology and Water Quality, pp. 4.9-71 to 4.9-72, and Table 4.9-10. A temporary surplus exists in the northern Bristol/Cadiz Sub-basin. The Project's withdrawal of groundwater is intended to temporarily exceed the natural recharge for the intentional and strategic purpose of lowering the groundwater table in sub-basin. This will temporarily reverse the present hydraulic gradient such that a portion of the groundwater that would otherwise flow into the Cadiz and Bristol Dry Lakes, where it would be lost to hypersalinity and evaporation, can be extracted for beneficial use. As explained in the Draft EIR Vol. 1, Section 4.9 Hydrology and Water Quality, pp. 4.9-61 to 4.9-63 and Volume 4, Appendix H1, this temporary lowering of the groundwater table and reversal of the present groundwater gradient is not anticipated to cause any adverse impact to the groundwater supply available to neighboring landowners, any other groundwater users, or the environment, nor cause any other "undesirable result." The water impacts are modeled and water levels will return to pre-pumping conditions approximately 67

years after pumping ceases. This is due in part because recharge continues during the 50 year Project life and afterwards, indicating that the Project is sustainable and no irreversible damage is anticipated. Therefore, the extraction of the “temporary surplus” is lawful and encouraged by California’s policy to foster maximum beneficial use of water and prevention of waste. See **Responses O_NPCA-CBD et al, O_PacificInstitute-3, O_PacificInstitute-4, and O_MDLT-3** and **Master Responses 3.1** Groundwater Recharge and Evaporation, **3.7** __ Water Rights and **3.15** Terminology. Further, the MOU provides a framework for managing the basin consistent with both the California Supreme Court precedent and the County’s Desert Groundwater Ordinance. The Project will comply with the Groundwater Management Ordinance subject to an approved GMMMP. See **Master Responses 3.8** GMMMP, **3.3** Groundwater Pumping Impacts, and **Response A/T_29PalmsIndians-21**.

The commenter contends that the Project should be limited to recharge rates. The Draft EIR evaluates water quality and recharge rates in Vol. 1, Section 4.9 Hydrology and Water Quality. However, reduced pumping is less effective in reversing the groundwater flow direction and less effective at reducing rates of evaporation both of which are design concepts necessary to conserve water that is presently being wasted. See **Master Responses 3.1** Groundwater Recharge and Evaporation and **3.3** Groundwater Pumping Impacts. Further, the Draft EIR Vol. 1, Chapter 7 Alternatives Analysis, analyzes a pumping scenario of 30,000 AFY under the Existing Natural Gas Pipeline Route Alternative, which is similar to the estimated recharge for the Project. This alternative, however, would not deliver water to an area accessible by the Project Participants as it is a portion of an unused natural gas pipeline that extends through the Cadiz Inc. property north through Barstow and to Wheeler Ridge near Bakersfield.

The commenter states that the groundwater floor and progressive rate of decline set forth in the MOU are not identified in the Draft GMMMP. The commenter is correct. This is because the groundwater floor and progressive rates of decline outlined in the MOU are measures not required, as detailed in **Master Responses 3.1** and **3.3** concerning groundwater recharge and groundwater pumping impacts, to mitigate any impact of the Project to the environment under CEQA. The groundwater floor

and rate of decline are set forth in the Updated GMMMP. In compliance with the provisions of the MOU and the County Ordinance, the Draft GMMMP was updated since the publication of the Draft EIR to clarify matters such as the County's enforcement authority over the management plan, the details of monitoring and corrective measures beyond those required by CEQA to protect critical resources, and to establish a management "floor" for the drawdown of groundwater levels and a limit for brine migration. The Updated GMMMP is included in the Final EIR Vol. 7, Appendix B1 Updated GMMMP. The revisions strengthen the management plan, but do not alter the analysis or findings in the EIR or present any new information that would require recirculation. The Updated GMMMP was prepared to satisfy the exclusion provisions of the County Ordinance and is subject to the County's discretionary review and approval as a responsible agency under CEQA. See **Master Response 3.8** GMMMP.

The commenter requests the EIR and GMMMP explain and analyze the provision in the MOU regarding arbitration. The legal remedy that parties may or may not avail themselves in the future when implementing the GMMMP do not require environmental analysis under CEQA as they will not result in any impacts to the environment. See **Master Response 3.8** GMMMP.

The commenter questions the role of the County in the EIR, GMMMP. The commenter is referred to **Master Response 3.10** Lead Agency and **3.8** GMMMP.

Pam Nelson Individual

I_Nelson-1

By letter dated June 1, 2012, the commenter urges rejection of the proposed Project. This comment does not specifically address the content or adequacy of the Draft EIR; therefore, no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.

The commenter also generally states that the Draft EIR presents an inadequate analysis of impacts to wildlife, questions recharge, and questions the appropriateness of the lead agency. The commenter is

referred to **Master Responses 3.1** Groundwater Recharge and Evaporation, **3.9** Biological Resources, and **3.10** CEQA Lead Agency.

Greta Loeffelbein Individual

I_Loeffelbein-1 By undated letter, the commenter urges rejection of the proposed Project and expresses critical opinions regarding the Project. This comment does not address the content or adequacy of the Draft EIR; no response is necessary. The comment is noted and will be made available to the decision-makers as part of the Final EIR.

The commenter states that the Draft EIR presents an inadequate analysis of impacts to water quality, air quality, and wildlife. The commenter is referred respectively to **Response I_Adams2-Attachment-8** for a discussion of water quality; the Draft EIR Vol. 1, Section 4.3 Air Quality, for a discussion of potential air quality impacts; and **Master Response 3.9** Biological Resources for a discussion of potential impacts to wildlife. The commenter also questions the appropriateness of the lead agency, terminology regarding water conservation, and recharge rates. The commenter is referred to **Master Responses 3.10** CEQA Lead Agency, **3.15** Terminology, and **3.1** Groundwater Recharge and Evaporation, respectively.

Shah Individual

I_Shah-1 By email dated June 24, 2012, the commenter requests to be notified when the Final EIR is published. The commenter is included in the Final EIR Distribution List and will receive notice of CEQA actions.

The Wildlands Conservancy

O_Wildlands2 By email dated June 24, 2012, the commenter requests information used in the analysis. This is not a comment regarding the adequacy of the environmental review for the Project and so no response is required pursuant to CEQA.