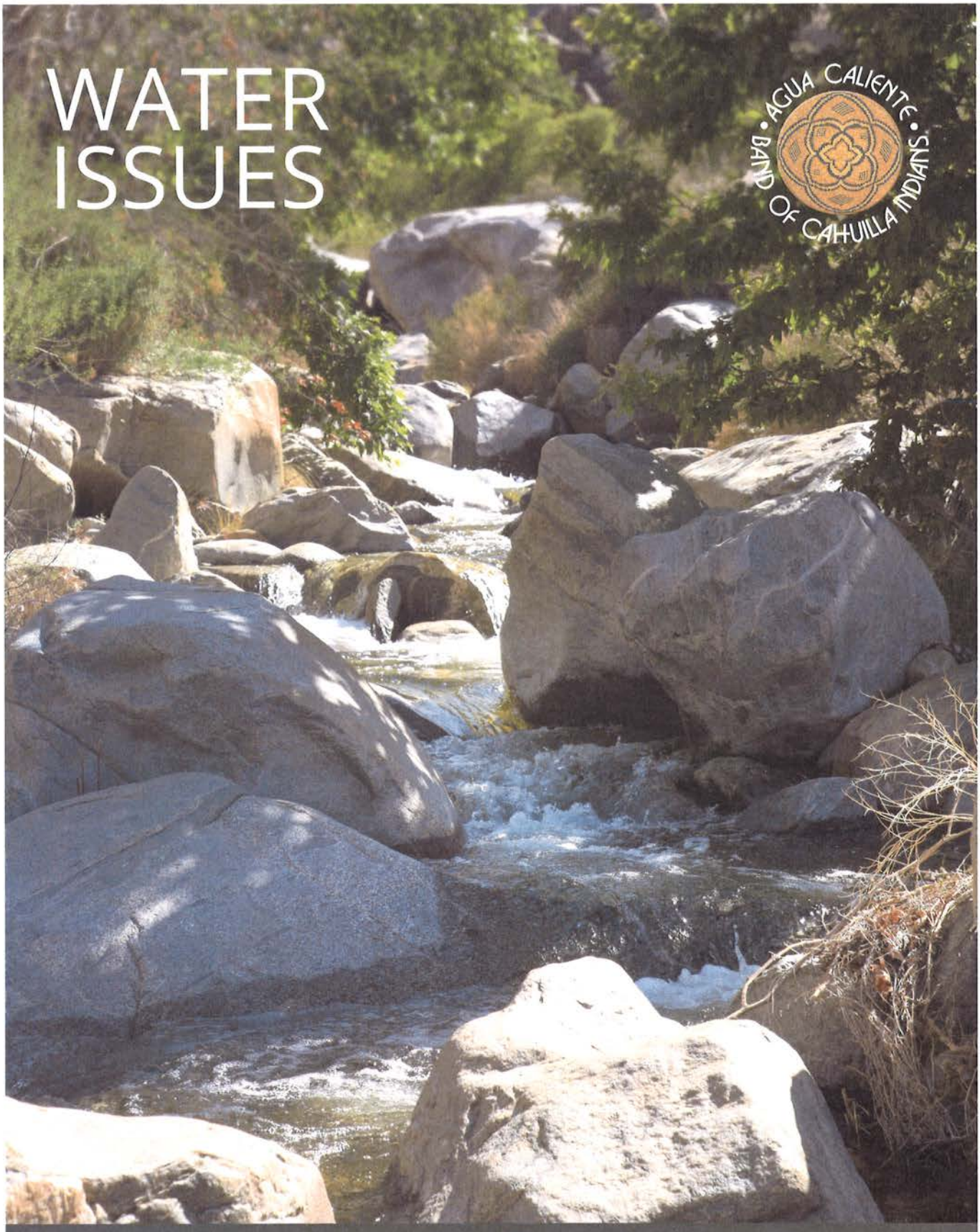
WATER ISSUES



AGUA CALIENTE • BAND OF CAHUILLA INDIANS •

Correspondence between the Agua Caliente Band of Cahuilla Indians and the United States, Desert Water Agency and Coachella Valley Water District **1996-2012**

INDEX

SUMMARY

On May 14, 2013, the Agua Caliente Band of Cahuilla Indians filed suit against the Coachella Valley Water District (CVWD) and Desert Water Agency (DWA) to stop those entities' ongoing overuse, degradation, and pollution of the vital groundwater resources that the Tribe shares with all residents of the Coachella Valley and to obtain a declaration of the Tribe's federally reserved water rights. The Tribe took this step only after it, along with other tribes within the Valley and representatives of the United States, spent more than a decade unsuccessfully asking CVWD and DWA to take concrete steps to ensure the preservation and long term availability of the high quality groundwater that is critical to life and development for all Coachella Valley residents, and on which the Tribe and its ancestors have relied since time immemorial.

In response to the Tribe's lawsuit, CVWD and DWA launched a public relations campaign designed to vilify the Tribe and frighten Coachella Valley residents into opposing the Tribe's lawsuit. The agencies feigned surprise at the Tribe's action, publicly calling on the Tribe to dismiss its lawsuit and claiming that the Tribe's concerns could be addressed through "ongoing discussions" and claiming that they have a "long history" of working with the Tribe and protecting the Valley's water resources. The facts belie these contentions.

As far back as 1996, the United States, the Tribe, and several other Valley tribes reached out to CVWD to express their concerns that CVWD practices were having an adverse impact on the quality and quantity of groundwater within the Valley. In particular, the United States and the tribes objected to CVWD's "inappropriate ... replenishment of the [groundwater] reservoir with inferior water." (April 2, 1996 Letter from U.S. Bureau of Indian Affairs (BIA) and Five Coachella Valley Tribal Leaders to CVWD.) CVWD, in what would become its standard fashion, offered no response. (*See* Dec. 6, 1998 Letter from BIA and Five Tribal Leaders to CVWD.)

In April of 2000, the tribal consortium again reached out to CVWD. They noted that the District "continued to fail to address Tribal interests and environmental concerns ... regarding its members water supply and water quality." (April 6, 2000 Letter from John Shordike to CVWD at 1.) The tribes reiterated their ongoing concerns about the use of inferior quality water from the Colorado River for recharging the Valley's aquifer, and called upon CVWD to find a different source of recharge water or to implement pre-treatment measures that are "necessary to protect groundwater quality from contaminants" known to be present in untreated Colorado River water. (*Id.* at 5.) CVWD and DWA took no action in response to the tribes' concerns.

Two years later, the Tribe was one of several entities to submit comments on CVWD's draft water management plan (the Plan). Again, the Tribe noted the District's "focus[] on quantity, with little regard for maintaining the current high quality of the groundwater." (Aug. 8, 2002 Letter from Art Bunce to CVWD at 1.) The Tribe expressed its dismay that, while the groundwater within the Coachella Valley at that time typically contained very low particulate counts (around 250 mg/L of total dissolved solids, or TDS), CVWD's Plan would make no distinction between the aquifer's existing high-quality water and much lower quality water that contained up to four times as many TDS and that failed to meet federally established secondary drinking standards. (*Id.* at 3.) The Tribe proposed alternatives to the continued use of "inherently

inferior" Colorado River water that would, if implemented, have preserved the high quality of the aquifer's natural water and resulted in CVWD and DWA customers paying an additional $0.001 (one-tenth of one cent) per gallon of water used. (*Id.* at 7.) In closing, the Tribe expressed its desire to "be more involved as an active partner in protecting groundwater quality in the Valley." (*Id.* at 10.)

The Tribe was not alone in its concerns. The United States simultaneously contacted CVWD to complain that CVWD had "consistently ... ignored" federal and tribal requests for groundwater data and to express concerns about CVWD's replacement of "very good quality" groundwater in the Valley with Colorado River water that "is much higher in TDS and nitrates and contains significantly increased pesticide residues and other contaminants." (Aug. 2, 2002 Letter from BIA to CVWD at 1-2.) "Perchlorate," the United States noted, "is a particular concern." (*Id.* at 2.)

In its official response, CVWD did not dispute the Tribe's concerns and data regarding the inferior quality of the Colorado River water that CVWD spreads into the Valley's aquifer. Nor did it dispute the fact that Colorado River water fails to meet federal secondary standards for drinking water. Instead, it simply declared that the Colorado River water has "satisfactory quality." (Coachella Valley WMP Final Program EIR at 13-15-11.) CVWD further noted that, while the Colorado River water fails to satisfy the EPA recommended secondary standard that is intended to "regulat[e] contaminants that may cause ... skin or tooth discoloration or aesthetic effects such as taste, odor, or color in drinking water," the lack of any federal ability to enforce that standard meant that it could – and would – be ignored by CVWD. (*Id.* at 13-15-13.) Finally, CVWD did not dispute that the Tribe's proposed alternatives would increase water costs by only $0.001 per gallon. (*Id.* at 13-15-17.) In sum, CVWD tacitly or explicitly admitted the validity of all of the Tribe's concerns and data – and it did nothing to address them.

Several years later, as overdraft of the Valley's aquifer and recharge with inferior water continued, the United States again reached out to CVWD to say that it was "disappointed" with CVWD's lack of response to federal and tribal concerns regarding the quality and quantity of Valley's groundwater. (Feb. 26, 2009 Letter from BIA to CVWD.) The Tribe likewise wrote to CVWD to reiterate the Tribe's longstanding, "strong concerns about the degradation of the groundwater quality" and the fact that CVWD "chose to ignore Tribal concerns" and made "few, if any efforts ... to improve groundwater quality." (Jan. 31, 2011 Letter from Tom Davis to CVWD at 3.) The Tribe lamented "the quality of the groundwater is no longer 'very high' and will continue to get worse as long as CVWD and DWA continue to recharge the aquifer with untreated Colorado River water." (*Id.*) And again the United States reached out to "wonder why Native American concerns were not documented" in CVWD's Plan update. (Sept. 28, 2011 Letter from BIA to CVWD at 1.)

Both the Tribe and the United States have repeatedly made clear to CVWD and DWA that "[p]rotecting Coachella Valley groundwater quality ... is a major concern for the tribes and the BIA." (*Id.* at 2.) The United States has further emphasized that the Tribe, "hold[s] federally reserved water rights held in trust by the United States" and that CVWD "must recognize the unique position the tribes hold in this valley." (*Id.* at 1-2 (emphasis added).) Nevertheless, CVWD and DWA continued to ignore the Tribe's concerns, to degrade the quality and diminish

the quantity of the Valley's groundwater, and to deny the existence of the Tribe's federally reserved rights.

In light of the record, it is disingenuous for CVWD and DWA to feign surprise over the Tribe's considered decision to initiate litigation or to suggest that the Tribe should have addressed its concerns through informal negotiations. The Tribe has tried that approach – often with the backing of the United States – for the better part of two decades, with little to nothing to show for it. Indeed, CVWD's legal counsel told the Tribe last year, in response to the Tribe's final, last-ditch effort to negotiate its grievances and avoid litigation, that "there is little discuss." (November 13, 2012 letter from Gerald Shoaf to Keith Harper and Steve Moore). DWA's legal counsel responded similarly, telling the Tribe that "any attempt to resolve the disagreement through the negotiation process likely would be unproductive." (November 12, 2012 letter from Rod Walston to Keith Harper and Steve Moore). Having reluctantly come to the same realization, the Tribe was compelled to press forward with the litigation to protect the Valley's groundwater in the interests of the Tribe, its membership, and all of the Valley's residents.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF INDIAN AFFAIRS
SOUTHERN CALIFORNIA AGENCY
3600 LIME STREET, SUITE 722
RIVERSIDE, CALIFORNIA 92501

BUREAU OF INDIAN AFFAIRS
SOUTHERN CALIFORNIA AGENCY
2038 IOWA AVENUE, SUITE 101
RIVERSIDE, CA 92507

April 9, 1996

Tom Levy, General Manager-Chief Engineer
Coachella Valley Water District
P.O. Box 1058
Coachella, California 92236

Re: Coachella Valley Water Management Plan

Dear Mr. Levy:

Thank you for the opportunity to provide input at the Scoping Phase of Coachella Valley Water District's (CVWD) preparation of a Draft Program Environmental Impact Report (DPEIR) for a proposed Water Management Plan (Plan) for the Coachella Valley.

The Augustine Band of Mission Indians, Agua Caliente Band of Cahuilla Indians, Cabazon Band of Mission Indians, Torres Martinez Desert Cahuilla Indians, and Twentynine Palms Band of Mission Indians, as well as the Bureau of Indian Affairs("BIA") -- the principal federal trustee who holds the Indian land in trust -- have significant concerns with the potential for adverse impacts associated with the Plan and DPEIR development in respect to tribal resources. We intend to work together in the trust relationship between the Tribes and the United States to communicate these significant concerns to the CVWD.

All of the Tribes have either met with or are in the process of meeting with members of the CVWD staff regarding the solicitation of input, all of which is intended to assist the water agency in the beginning stages of preparing an Environmental Impact Report ("EIR"). The Tribes enjoyed the opportunity to meet with the CVWD staff and discuss the numerous issues confronting our valley. Water is an important issue to the Tribes. Moreover, we appreciate CVWD's recognition of our water rights, to include our historic management of the water supply, which was discussed briefly in the literature that accompanied the announcement of the Plan to the general public. Consequently, it is our belief that is best to provide some initial insights and seek the assistance and expertise of other federal recognized governmental agencies and, where appropriate, the expertise of private industry, in order to address the concerns raised in the Plan.

At this time, our interests include:

1. Concerns with impacts to tribal water quality and quantity; including the proposed use of lower quality imported/degraded water recharge to high quality tribal groundwater, adverse

ENCLOSURE "B"

locations of spreading basins affecting tribal groundwater, greater sea-water intrusion beneath tribal lands. increased Salton Sea inundation of tribal lands, adverse changes to groundwater flow directions affecting quality/quantity of tribal groundwater, and negative impacts to tribal groundwater due to growth-induced release of adverse chemical additives, and pesticides from greater cropland acreage.

2. In the development of the DPEIR, provide analysis of the costs for all options.

3. Concerns with negative impacts and/or limitations to future land and resource uses/options for tribal growth.

4. Ensuring that this plan does not add to existing issues between the CVWD and Tribes regarding tribal land uses.

5. Concern that the Plan fails to address the water resources in a Watershed Management approach as opposed to the limited Basin scope of the CVWD effort.

6. Concerns with additional adverse effects to cultural resources.

Furthermore, in our preliminary review of the information supplied by CVWD, we noticed the large amount of water used for agricultural purposes. We are also aware that in past years the agricultural users obtained their water from the Coachella Canal which effectively started replenishing the receding ground water levels. This approach, as shown by CVWD's own data, had a significant impact of restoring the ground water tables. However, since 1981 and due to modern drip/sprinkler systems, the agriculture users have returned to irrigating their crops from well water with the attendant result of again lowering the ground water tables. Thus. it is our belief that the proposed EIR should review why the agriculture users have turned away from the abundant supply of canal water and what is needed to return them to this logical and inexpensive source.

As each Tribe individually stated to CVWD during the scoping meeting with your staff, it is our intention in the near future to use more of our priority water rights. Further, while we have financial and economic ability to "place another straw or straws in the soda" and drain the reservoir at a faster rate, such a result will only cause more problems. Besides the obvious water reduction. it will cause another problem that has occurred recently and that is the replenishment of the reservoir with inferior water from the Coachella Canal and other discharges. To us the replenishment of the reservoir with inferior water is an inappropriate solution.

While the matter of canal water and its use is but a single issue in the totality of the entire EIR, it offers a potential resolution to a problem that benefits all water users. Furthermore, we believe this issue was not adequately addressed in the preliminary background information provided by CVWD and. in our opinion, may offer a reasonable and inexpensive solution to the declining ground water tables throughout our valley. Therefore, we ask that this specific issue or option be

added to your "39 most viable options" and that adequate resources be made available to assess its potential.

Since the CVWD met most recently with the Twentynine Palms Band in a scoping session on April 2, 1996, we would appreciate knowing the DPEIR preparation schedule so our subsequent, more specific comments may be adequately addressed in the DPEIR.

Again, we felt it best to express some preliminary thoughts as we begin our review and data collection as well. Further, with the additional expertise we hope to obtain, it is our intent to provide such expertise to CVWD as it undertakes this difficult task. Further, if you need a point of contact, please contact the respective tribal representatives and/or Virgil Townsend, Superintendent at (909) 276-6624 and/or Dan Shillito, Field Solicitor at (619) 327-0959.

Sincerely,

Maryann Martin, Augustine Chairperson

Virgil Townsend, Superintendent

Richard Milanovich, Agua Caliente Chairperson

John James, Cabazon Chairperson

Mary Belardo, Torres Martinez Chairperson

Dean Mike, Twentynine Palms Chairperson

cc: Ronald Jaeger, Area Director, SAO
Dan Shillito, Field Solicitor
Terry Beckwith, Director, PSFO
Pam Williams, Office of the Solicitor

IN REPLY REFER TO:

Natural Resources
FY 99 Water
CVWD

UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF INDIAN AFFAIRS
SOUTHERN CALIFORNIA AGENCY
2038 IOWA AVENUE, SUITE 101
RIVERSIDE, CALIFORNIA 92507-2471
PHONE (909) 276-6624 FAX (909) 276-6641

DEC 9 1998

R. Gurney 9 Dec 98

Tellis Codekas, President, Board of Directors
Coachella Valley Water District
P. O. Box 1058
Coachella, CA 92236

Dear Mr. Codekas:

In 1996 we learned that the Coachella Valley Water District ("CVWD") initiated preparation of a draft Program Environmental Report ("DPEIR") and Water Management Plan ("Plan") for the service areas of CVWD and the Desert Water Agency ("DWA"). We, along with 5 Tribal Council Leaders of five Indian Reservations within the Coachella Valley, corresponded with CVWD regarding issues and concerns of the Bureau of Indian Affairs and the five Bands in April 1996 (Enclosure). To date, we have received no response from CVWD or DWA concerning that correspondence.

It has come to our attention that the CVWD and DWA DPEIR and Plan that was originally planned for release in Fall of 1996 is now re-scheduled for release for 45-day public review and comment as soon as August or September 1999, or later. In as much that the preparation of a water management plan is a complex and technical undertaking, and that over 4 years or more of preparation is being necessitated for its completion by CVWD, we suggest that the Bureau of Indian Affairs and the Bands be provided a significantly longer review time frame than 45 days once the DPEIR and Plan are released for public review.

Without the actual knowledge of the complexity and technical nature of the PDEIR and Plan, not to mention the vastness of the entire watershed in which your study is only a portion is proposed, we are unable to reasonably expect an adequate and technically sound review could be performed within 45 days. We understand that the Bands have been prohibited from receiving critical information from both CVWD and DWA in compiling information for their review.

We note that Federal programs of the U.S. EPA and the Bureau of Indian Affairs has partially funded some of the Band's work in an attempt at reviewing this critical information. Therefore, we are suggesting a much longer period of time for such review, including time for meetings with the Tribes, other Federal agencies, and with CVWD and DWA.

Because critical data has not been made available to the Bands, and because of lack of information from CVWD indicating water rights, water supply and water resource impacts have been addressed, we are recommending a minimum 180-day public review period or longer, once the

ENCLOSURE "A"

DPEIR is released for public review and comment. If you have questions, please contact Mr. Richard R. Gundry, Hydrologist, at telephone number (909) 276-6276, ext. 236, or Mr. John Rydzik, Natural Resources Officer, at telephone number (909) 276-6870, ext. 225.

Sincerely,

ACTING Virgil Townsend
Superintendent

Enclosure

cc: Honorable Mary Ann Andreas, Chairperson
Honorable Richard Milanovich, Chairman
Honorable Dean Mike, Chairman
Honorable Maryann Martin, Chairperson
Honorable Arthur R. Lopez, Chairperson
Honorable John James, Chairman
Dr. Susan Pantell, Mgr. Environmental Prgms.
Area Director, BIA Sacramento Area
BIA-SAO Natural Resources Officer
Daniel Shillito, DOI Field Solicitor
Tom Levy, CVWD

Desk File Copy Natural Resources
RGUNDRY:rrg 04 -Dec-98
CVWD993.wpd Water

ALEXANDER & KARSHMER
ATTORNEYS AT LAW
(A PARTNERSHIP INCLUDING A PROFESSIONAL CORPORATION)
2130 SHATTUCK AVENUE, SUITE 725
BERKELEY, CALIFORNIA 94704
PHONE: (510) 841-5056
FAX: (510) 841-6167
E-MAIL: ALEXKARS@AOL.CO

1018 16TH STREET, N.W., SUITE
WASHINGTON, D.C. 20009
PHONE: (202) 797-2518
FAX: (202) 797-2539
E-MAIL: AKWDC@AOL.COM

BARBARA E. KARSHMER* (CA)
PAUL ALEXANDER (D.C.)
JOHN R. SHORDIKE (CA)
CURTIS G. BERKEY (CA & D.C.)
SCOTT W. WILLIAMS (CA)

*A PROFESSIONAL CORPORATION

April 5, 2000

BY OVERNIGHT DELIVERY

Tom Levy
General Manager
Coachella Valley Water District
P.O. Box 1058
Coachella, CA 92236

Re: **SCOPING COMMENTS OF CONSORTIUM OF COACHELLA VALLEY TRIBES ON DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT FOR COACHELLA VALLEY WATER MANAGEMENT PLAN**

Dear Mr. Levy:

This office writes on behalf of the Consortium of Coachella Valley Tribes ("Consortium"), comprising the Morongo Band of Mission Indians, the Agua Caliente Band of Cahuilla Indians, the Augustine Band of Mission Indians, the Twenty-Nine Palms Band of Mission Indians, and the Torres Martinez Desert Cahuilla Indians. The Consortium submits this scoping letter in response to the Notice of Preparation ("NOP") on the Draft Program Environmental Impact Report for the Coachella Valley Water Management Plan. These comments are preliminary and are based on the information provided in the NOP, and our understanding of project issues. They are intended to supplement any other comments submitted by each tribe.

The Consortium is concerned that, despite repeated requests from the Tribes and the Bureau of Indian Affairs ("BIA"), CVWD has continued to fail to address Tribal interests and environmental concerns in its preparation of the Management Plan. The Consortium's concerns regarding its members' water supply and water quality has not been acknowledged in past CVWD water management activities. Further, the Consortium has experienced resistance on the part of CVWD in providing the tribes with necessary information to independently evaluate water management alternatives, activities, and environmental impacts. The Consortium hereby renews its request to be regularly and fully apprised of and consulted on CVWD's research, findings, and plans.

Under the CEQA process, CVWD is required to provide clearly supported analyses and conclusions. CEQA also requires that a range of reasonable alternatives be reviewed and assessed in the EIR. CEQA also requires objectivity and transparency. Under

CEQA, all data and assumptions used in developing conclusions of impact significance, evaluation of alternatives, and feasibility assessment (of both alternatives and mitigation measures) must be available to the public at the time of release of the Draft EIR. Therefore, the Consortium requests that the Draft EIR include technical appendices containing all data, models, assumptions, and projections used in consideration of alternative feasibility and impact significance.

Preparing a detailed response to the Notice of Preparation is hampered by the fact that the Notice of Preparation provides a very sketchy outline of this complex project. The NOP fails to provide the reader with either the goals or context of the project. It also fails to describe the relationship of the Management Plan with other recently-proposed water management activities and projects in the area, including but not limited to entitlement transfers with MWD, other groundwater storage projects, pipeline projects, and water wheeling projects.

The EIR should clearly spell out the goals of the project; without such a disclosure, it is not possible to fairly develop and consider the relative merits of each alternative. For example, is it intended to slow the decline in ground water levels, stabilize those levels, or restore them to pre-developed levels? Is it intended to improve or stabilize groundwater quality? Is it intended to restore water impermissibly taken from tribal lands? Is it intended to provide for growth in the Coachella Valley? Is water supply a limiting factor on such growth? What sort of development/growth plan is it designed to support? What growth/development assumptions does the Plan make for Tribal lands? What are the goals of the Plan with respect to Tribal water rights?

The EIR should include detailed background information on the history of the proposed project, history of water rights in the basin, and history of water use in the basin. It should describe all project components, and the operational interactions of the project components. The EIR project description should describe how much water will be allocated to each use from each proposed source. This discussion should include wet, average, and dry year projections. It should also describe the project's relationship to all other water transport, storage, and management activities in both the Basin and the overall watershed. It should identify all components of the water conservation program, the anticipated success of each component, and methods of enforcing the conservation program. Similar levels of descriptions should be provided for all other components of the Plan.

As described above, CEQA requires full transparency of all analyses. In this light, an "analysis" that is not verifiable or replicable will not meet CEQA requirements. The groundwater model developed by CVWD has been utilized to assess all alternatives. Therefore, as part of both the alternatives development/assessment and the hydrologic impacts assessment, the EIR should provide the following data required to verify the report's conclusions. All groundwater data requested below should be for past, present, and projected conditions:

* Groundwater model domain boundaries and assumptions;

* Groundwater aquifer characterization (previous studies, driller's logs, geophysical logs, groundwater levels, field investigations, etc.;

* Aquifer hydraulic parameters (values and spatial variations of hydraulic conductivity/transmissivity, specific yield/storage coefficients, thickness of aquifers/aquitards;

* All the data reviewed and used for model inflow and outflow terms;

* All the water level data reviewed and used for model calibration;

* All the well production data reviewed and used for model calibration; and

* All supporting data necessary to independently verify and replicate CVWD's groundwater model used int eh EIR alternatives analysis.

For project components involving construction (e.g. new delivery and recharge facilities including pipelines, canals, percolation basins, and pumping plants) sites should be identified and their existing and proposed uses described. The NOP notes that the environmental impacts of facilities will be assessed in future CEQA documents. Please note that the preparation of a Program EIR does not relieve the Lead Agency of its responsibility to address these impacts to the degree possible at this time. Therefore, the Consortium is requesting that, at a minimum, a program-level analysis of those impacts be included in this EIR.

The description of each alternative should include the same items as requested above for the project description. In particular, the sources and end uses of water should be described. The overall effects on the groundwater table should be addressed, both in the long- and short-term. For the project and all alternatives, model runs and model assumptions should be provided in an appendix so that the full transparency of analysis required under CEQA is available.

All alternative selection criteria should be clearly spelled out. Please provide a discussion of why and on what basis the original 93 management options considered by the District were culled down to 39 options, and how, from there, the four alternatives presented to the Consortium of Tribes were derived. The January 27, 1999 briefing handouts state that Alternatives 1, 2, and 3 were eliminated from further consideration, in part because of environmental impacts. Yet this was done prior to any publicly available Environmental Impact Report. With the exception of the "Preferred Alternative," the other so-called "alternatives" appear to be straw men intended to be set up simply for rejection; these alternatives do not appear to meet project goals and without explanation or support are deemed not feasible. Therefore the Consortium requests that the EIR's range of alternatives be substantially broadened.

The Consortium also requests that the EIR develop new alternative combinations of the various components included in the "Preferred Alternative," as well as some additional components. Please note that, because of the lack of detail on the alternatives in the NOP, it is not possible to determine which components are actually included in each alternative, and the degree to which a component is included and the effects of each component in the overall management scheme. Water shortages presumably will continue and worsen beyond the planning period for the EIR. How does each alternative address long-term water needs, shortages, and conservation measures? What conservation measures are included in "Conservation"? Are they required or just suggested? What enforcement mechanisms are included? How much water will be conserved? Which specific sources will be conserved?

The Consortium requests that the EIR address at least three additional alternatives, as identified and suggested previously to your District by the BIA. The first is the addition of pre-treatment of all Colorado River (Coachella Canal) and SWP water that is of lower quality than that already stored in the deeper Coachella Valley aquifer prior to infiltrating it into that aquifer. This component can and should be added to all

alternatives proposing recharge with imported water. This is necessary to protect groundwater quality from contaminants in these sources. The EIR also should include an alternative that returns groundwater levels and quality to pre-development/historical natural conditions.

In addition, the Consortium suggests one or more additional alternatives consisting of the following major components:

* Implementation of the most stringent and extensive set of urban use water conservation measures possible;

* Mandatory xeriscaping for all new residential; commercial; golf course; recreational; City; State; County; and other properties;

* Implementing a program of retrofitting existing landscaping and golf course to xeriscaping;

* Require the use of the best available (most efficient) irrigation technology, application measures, on-farm recycling, and reduced-evaporation storage measures for all agricultural users of CVWD water, including retrofitting;

* Mandatory use of recycled water by all Upper and Lower Coachella Valley golf course, recreational, homeowner association, agricultural, fish farming, and applicable State and municipal water uses.

* Coachella Canal water shall be supplied to agricultural groundwater users in Irrigation District No. 1.

* Supply only Coachella Canal water or recycled water to all golf courses, and other consumptive uses such as polo fields, recreation grounds, fish farms, schoolyards/fields, parks, and public landscaping.

* Supply domestic water users within Irrigation District No. 1 with treated Coachella Canal water.

* Supply treated SWP entitlement transfer Colorado River Aqueduct water to domestic users in the Upper Coachella Valley.

* Supply SWP entitlement transfer Colorado River Aqueduct water to all non-domestic users in the Upper Coachella Valley.

* Recycle the increase in irrigation return flows to the Salton Sea following treatment in balance with Salton Sea levels and salinity levels to be established by SSA-BuRec.

Please not that CEQA does not permit rejection of alternatives solely because the alternative would cost more than the proposed action.

In addition to the above comments, the Consortium also requests that CVWD include the following information in the following technical sections of the EIR:

Water Resources

The EIR should describe historic and existing hydrologic conditions and potential short- and long-term impacts to water resources and water quality including ground and surface water quality in all potentially affected aquifers and surface water bodies; groundwater levels and flow patterns in all potentially affected aquifers; surface runoff drainage patterns; Salton Sea water levels and quality; and flooding along the Salton Sea and other surface water bodies (including impacts to the Torres Martinez Reservation).

The existing and post-project water chemistry in the Valley should be addressed, including the Colorado River, Coachella Canal, and Salton Sea. How will the management plan ensure that the existing water quality will continue to be stable, and how will any proposed construction affect water quality? Will recycled water be treated before it re-enters the water system? Will there be monitoring and regulation of fertilizer and pesticide levels in recycled water, and how will this affect water quality upon re-entry into the system?

The EIR should describe the alternatives' interactions with potential use of the Coachella Valley Groundwater Basin as temporary storage for the Metropolitan Water District ("MWD"), on groundwater levels, and on water quality. It should explain the interrelationships of project hydrologic impacts with all other planned or proposed water management and transfer activities in the area or affecting the water supplies included in the Plan. For example, how does using the basin for MWD storage affect achieving the project's management goals? The hydrologic and water quality analyses should clearly spell out specific potential project impacts on Tribal water resources. Criteria of significance for hydrology and water quality should be determined on the basis of consultation and input by the Consortium Tribes.

For all alternatives involving Colorado River water, the EIR should include historic data on the Colorado River as related to past, present, and projected management plans and practices. How will the management plan affect the beneficiaries of Colorado River water, or their entitlements, or use patterns?

Land Use, Planning, Population, and Growth Inducement

The proposed project could substantially alter land uses in the Coachella Valley. Therefore, as required under CEQA Guidelines Section 15126(d), the EIR should address impacts associated with changes in growth and land use patterns that would occur with each alternative. This includes long-term growth inducement associated with the Management Plan alternatives compared with eventual groundwater supply restrictions associated with the No Project conditions (e.g. adjudication).

Consideration also should be given to changes in land use, population, and development patterns, specifically on Tribal lands, that would result from reduced water quality in alternatives that rely in part on recharge of groundwater with lower quality Colorado River or SWP supplies. The impacts of the proposed Plan on development potential of Tribal lands also should be assessed.

As required by CEQA Guidelines Section 15126.2(d), the impact assessment also should address secondary impacts to all resource topics (e.g. traffic, air quality, noise, biological resources, etc.) resulting from growth induced by the project. Please identify mitigation measures that would reduce or eliminate each identified impact.

Biological Resources

The EIR should characterize habitats and sensitive (special status) species in the Management Plan area and identify the potential impacts that could occur to sensitive habitats and species under each alternative. Please include analysis of effects on terrestrial and aquatic biological resources of raising or lowering groundwater levels, recharging areas, use of lower quality water, changes in Salton Sea level, changes in Colorado River flows or storage, construction of physical facilities, and changes in land uses resulting from each proposed alternative. Please describe effects to riparian/wetland habitat areas including the effect of return flow drains and on the Whitewater River drainway, and effects on federal trust lands, the Salton Sea shoreline and "Delta", and the SSA-BOR Salton Sea

Restoration Project North Habitat Area. Identify mitigation measures that would reduce or eliminate each identified impact.

Cultural Resources

Cultural (historic and prehistoric), and paleontological resources may be impacted by changes in Salton Sea levels, construction of facilities, establishment of new recharge areas, and land use changes resulting from the project. Please consult with all tribes in the Consortium to identify sensitive cultural resources and identify likely project impacts on these resources. As the tribes are those most directly affected by loss of cultural resources, please consult with the Consortium members to identify the significance of all cultural resources, and to identify mitigation measures that would reduce or eliminate each identified impact on a specific tribe's resources.

Noise and Air Quality

Please describe existing noise and air quality conditions in the affected area. Identify existing noise levels and sensitive noise receptors, and determine any construction-related noise impacts to sensitive receptors (houses, schools, etc.). For air quality, compare dust and criteria air pollutant generation under each of the various alternatives. Please include consideration of secondary impacts from growth induced by the project and identify mitigation measures that would reduce or eliminate each identified impact.

Traffic

Please describe existing traffic conditions including levels of service on major roadways. Describe project traffic impacts including both construction traffic and secondary traffic impacts resulting from changes in land use and growth induced by the project water supply. Identify mitigation measures that would reduce or eliminate each identified impact.

Aesthetics

Describe existing visual quality and aesthetic conditions of all areas that may be affected by project construction or operation, and identify the changes in visual quality that would occur from its implementation. Of specific concern are visual impacts of pipelines, pumping stations, spreading areas, and future development that may occur as a result of the project.

Socioeconomics

CEQA requires that secondary physical impacts resulting from project-induced socio-economic changes be addressed. For the project and all alternatives, please analyze socioeconomic impacts and any secondary physical effects to the environment.

Cumulative Impacts

The EIR's cumulative impacts assessment should address all other water supply and management projects planned or proposed in the overall Coachella Valley watershed. This includes all water reclamation, recharge, pumping, storage, and transfer projects and facilities. Cumulative impacts of these projects and the proposed Management Plan on each of the resources identified above should be assessed in the cumulative impacts section of the EIR. Of particular concern are cumulative impacts on Coachella Valley groundwater levels, flow,and quality, and cumulative effects on the Salton Sea an surrounding Tribal lands. Cumulative impacts of the project and other diversions on the Colorado River and SWP also should be addressed.

Please do not hesitate to contact me should you have any questions regarding this scoping letter. The Consortium looks forward to reviewing the Draft EIR.

Very truly yours,

ALEXANDER & KARSHMER

John R. Shordike

cc: Mary Ann Martin Andreas, Chair, Morongo
Richard M. Milanovich, Chair, Agua Caliente
Dean Mike, Chair, Twenty-Nine Palms
Maryann Martin, Chair, Augustine
Mary Belardo, Chair, Torres Martinez
Virgil Townsend, BIA
Art Bunce, Esq.
Les Ramirez, Esq.
Susan Pantell
Marta Burg, Esq.

MIKE KELLEY
SEAN MILANICK

ESTABLISHED IN 1918 AS A PUBLIC AGENCY

COACHELLA VALLEY WATER DISTRICT

POST OFFICE BOX 1058 • COACHELLA, CALIFORNIA 92236 • TELEPHONE (760) 398-2651

May 5, 2000

File: 0643.511

Susan Panteil
Consortium of Coachella Valley Tribes
11-581 Potrero Road
Banning, California 92220

Dear Ms. Pantell:

Subject: Coachella Valley Water Management Plan

This letter is in response to the letter from Alexander and Karshmer dated April 5, copy of letter enclosed.

The Consortium is concerned about the effect of the water management plan on Tribal water resources, specifically impacts on the Torres Martinez Reservation. The Bureau of Indian Affairs also concluded that there will be continued impacts to real property and natural resources trust assets on Indian reservations in the Coachella Valley.

In order to provide an evaluation of the effects on specific Tribal lands, we need a detailed ownership map of those Indian lands. Otherwise, Tribal lands will be discussed in general, in the same manner as all other lands within the Coachella Valley.

This letter shall serve as a formal request to the Consortium and the Bureau of Indian Affairs for an ownership map of current Indian or Tribal Authority held lands in the Coachella Valley. This information is required no later than May 22 in order to be incorporated into our water management plan.

If you have any questions or require additional information please call Robert Robinson at extension 424.

Yours very truly,

/s/ Owen McCook

Tom Levy
General Manager-Chief Engineer

Enclosure/1/as

cc: See attached list

RAR:jl\eng\resource\2000\pantellwmp

cc: Mary Ann Martin Andreas, Chairperson (with enclosure)
Attention: Susan Pantell
Morongo Band of Mission Indians
11581 Potrero Road
Banning, California 92059

Mr. Richard M. Milanovich, Chairman (with enclosure)
Attention: Michael Kellner
Agua Caliente Band of Cahuilla Indians
600 East Tahquitz Canyon Way
Palm Springs, California 92262

Dean Mike, Chairman (with enclosure)
Twenty-Nine Palms Band of Mission Indians
46-200 Harrion Street
Coachella, California 92236

Ms. Maryann Martin, Chairperson (with enclosure)
Augustine Band of Mission Indians
1185 North Hargrave Street
Banning, California 92220

Mr. Arthur R. Lopez, Chairperson (with enclosure)
Torres-Martinez Desert Cahuilla Indians
66-725 Marinez Road
Thermal, California 92274

Mr. John A. James, Chairman (with enclosure)
Cabazon Band of Mission Indians
84-245 Indio Springs Drive
Indio, California 92201

Virgil Townsend, Superintendent (with enclosure)
Bureau of Indian Affairs
Southern California Agency
2038 Iowa Avenue, Suite 101
Riverside, California 92507

RAR:jl\eng\resource\2000\pantellwmp

LAW OFFICES OF ART BUNCE

ART BUNCE
KATHRYN CLENNEY
ATTORNEYS AT LAW

August 8, 2002

Mr. Steve Robbins, Assistant General Manager
Coachella Valley Water District
P.O. Box 105
Coachella Valley, CA 92236

Subject: **Agua Caliente Band of Cahuilla Indians' Comments for CVWD Water Management Plan – Water Quality Perspectives**

These comments are submitted on behalf of the Agua Caliente Band of Cahuilla Indians (ACBCI) regarding our review of the Coachella Valley Water District (CVWD) Water Management Plan (Plan). We, the Agua Caliente Band of Cahuilla Indians, have lived in the Coachella Valley since long before European settlers arrived, and we shall continue living here long after this Plan is ancient history As long term residents of the desert, we understand the importance of water. Palm Springs was founded because a freshwater spring exists at the current location of the Spa Hotel, and reliable surface water emanates from the San Jacinto Mountains. Our ancestors made this their home and have relied on these water resources for many generations. We know that groundwater in the Coachella Valley has been used for most of the last 100 years at rates that exceed natural recharge, and we realize that a water management plan is needed to provide for the long-term viability of our groundwater resources. We have been eagerly awaiting receipt of this Plan since 1994, when we were first told in it was being prepared.

First, we would like to applaud the efforts of the CVWD. We appreciate that you, the CVWD are taking this process seriously, devoting considerable thought and effort to prepare this Plan. We agree with much of what the Plan calls for, such as increased water conservation and source substitution. However, we are concerned that your approach focuses on quantity, with little regard for maintaining the current high quality of the groundwater. This appears to be a change from what we were initially told when you began preparing this Plan. As late as 1999, the CVWD stated that you were "currently preparing a water management plan for the Coachella Valley. Our goal is to ensure a dependable long-term supply of ***high quality*** water for all valley water users" (emphasis added) (CVWD Engineers Report, April 1999, pg. 19, as well as other references). The Plan does not include the phrase "high quality" in the statement of objectives, substituting the less rigorous term "safe." This appears to be an intentional change in philosophy.

430 NORTH CEDAR STREET, SUITE H, ESCONDIDO, CA 92025
MAILING ADDRESS: P.O. BOX 1416, ESCONDIDO, CA 92033-1416
TELEPHONE: 760-489-0329 FAX: 760-489-1671

The four stated objectives of the Plan are: 1) eliminate overdraft and associated adverse impacts; 2) maximize future conjunctive use opportunities; 3) minimize economic impact of the Plan on Coachella Valley water users; and 4) minimize environmental impacts. Water quality is stated as one of the lesser consequences of the effects of overdrafting the basin, but the goal is only to achieve a zero net change in "freshwater" storage. The Plan defines "freshwater" as water with a Total Dissolved Solids (TDS) content of 1,000 mg/l or less. This level of TDS is substantially worse than that of the current high-quality groundwater in the main production aquifers, as is discussed in greater detail below. Over a relatively short period of time, the Plan would result in the loss of most high-quality groundwater, and replace it with poor quality water that barely meets current drinking water standards. We find this unacceptable.

The following sections contain additional specific comments to the Plan, which are organized by topic. Your Plan shows that the Upper and Lower Valley affect each other, and therefore both are discussed in these comments.

WATER QUANTITY

- The Plan does not emphasize the seriousness of our current water use and supply imbalance. The 1999 overdraft was 73,600 acre-feet per year, and the overdraft of "freshwater" storage was 136,700 acre-feet per year. The aggregate loss of water from storage totals 1,421,400 acre-feet of water, and 4,684,000 acre-feet of "freshwater." This is 15 percent of the estimated 30,000,000 acre-foot storage capacity of the basin.

- The Plan relies on unspecified "interruptible" water supplies to be obtained from currently unidentified sources. The quantity of this water is quite large (40,000 acre-feet per year). Given the general shortage of water throughout California, we are concerned that obtaining this water will be difficult.

- The Plan seeks to arrest the continued decline of groundwater levels in the Upper Valley, but does not appear to seek to return groundwater to its previous levels.

- The Plan uses infiltration basins as the means of recharging groundwater. The main problem with recharge basins is that the recharge water is slow to move to other portions of the basin, merely displacing the existing groundwater to increase water levels elsewhere. That displacement process is generally not controlled. This leads to two problems: (1) adverse effects of excessive withdrawal and excessive recharge can occur simultaneously in different portions of the basin; and (2) water quality impacts from recharging poor quality water are focused in the area of recharge, rather than being borne by the areas withdrawing the most groundwater. We believe it would be appropriate also to use injection wells more evenly to place the recharge water in areas where the overdraft is greatest. This would also allow high quality water to be placed below poor quality water, creating an upward hydraulic gradient that would help remove salts from the basin. We are aware of several areas where deep injection would be possible at a rate of 1,000 gallons a minute using only the natural difference in head between the ground surface and the piezometric surface in the lower aquifer. Thirty such wells could inject 40,000 acre-feet of water per year directly into the areas with the most significant overdraft.

- The discussion of Salton Sea impacts is confusing. The amount of water flowing to the Sea will increase, but the salt content will also increase. The Plan points out that the rate of increase is less than would occur with the Quantification Settlement Agreement (QSA), but the QSA has not been finalized nor approved, and the environmental affects of the QSA may be quite severe. The effect on the Sea should be compared to current or future baseline conditions rather than to the QSA.

WATER QUALITY

We believe it is imperative that the quality of the groundwater be maintained. The following comments address elements of the plan that do not maintain the high quality of our groundwater.

- The Plan defines "freshwater" as water with a TDS of 1,000 mg/l or less, and bases the calculations of freshwater storage on whether water of this quality is being added at a rate equal to the rate at which groundwater is being withdrawn. However: (A) the groundwater being withdrawn from most of the basin has a TDS of around 250 mg/l; (B) the secondary drinking water standard is 500 mg/l, which is based on taste, odor, and other aesthetic qualities; and, (C) 1,000 mg/l is the primary drinking water standard, which is based on health affects. It is misleading to use the classification of "freshwater" for such a broad range of water types. For the purposes of this discussion, we will use the following terms: "high quality" water has a TDS of 300 mg/l or less, "moderate quality" water has a TDS of 300 to 500 mg/l, and "poor quality" water has a TDS of 500 to 1,000 mg/l. Water with a TDS in excess of 1,000 mg/l is not suitable for drinking water and is referred to as "brackish" water.

- The Plan proposes to use poor quality water to replace the high quality groundwater currently being withdrawn from the aquifer. This is unacceptable. Under the Plan:

  1. Current (1999) groundwater usage is stated as 376,100 acre-feet per year;

  2. Current recharge of high quality water (natural recharge and inflows, not returns) averages 60,500 acre-feet per year;

  3. The proposed recharge of poor quality water will be 183,000 acre-feet per year (103,000 in the Upper Valley and 80,000 in the Lower Valley); and,

  4. The remainder will be made up by return flows of water that will generally be brackish and unusable.

  The basin is estimated to have a total storage capacity of about 30,000,000 acre-feet, of which 4,684,000 acre-feet of freshwater have already been drained. Groundwater removal exceeds high quality water recharge by 315,600 acre-feet per year. At this rate, the high quality groundwater will be completely withdrawn in 80 years. Adverse affects of this withdrawal will occur much sooner. Under the Plan, the high quality water will be replaced by poor quality water, resulting in a significant decrease in water quality over time. The high quality water will last a little longer under the Plan due to conservation efforts, but all high quality water will ultimately be removed before the end of the century.

- The salt balance calculation looks at total salt leaving the basin verses total salt entering the basin. However, the salt leaves the basin through either the drain system or by direct discharge to the Salton Sea, both of which remove water only from the "Semi-perched" aquifer. The salt entering the basin will be added to both the Semi-perched aquifer and the deeper aquifers, resulting in a redistribution of salt in the basin, with increased concentrations in the lower (drinking water) aquifers. Thus, the salt balance presented in the Plan is misleading, and doesn't discuss the true "cost" of the plan in terms of lost resources. To avoid this false impression, the salt balance calculation should be performed on each aquifer in the Lower Valley.

- The modeling of the chemical impact of recharging the groundwater with poor quality water used a particle-tracking method that is not capable of calculating water concentrations. This appears to be an intentional avoidance of identifying "bad news" rather than a necessity of the modeling process. The distribution of TDS concentrations should be modeled for each aquifer so that the change in concentration can be predicted in each part of each aquifer throughout the basin.

LEGAL ISSUES REGARDING WATER QUALITY

The water rights of the Agua Caliente Band of Cahuilla Indians are primarily federally-reserved rights under the doctrine of *Winters v. U.S.* While any inquiry regarding such tribal rights is usually framed in terms of rights to the *quantity* of water needed to fulfill the purposes of a federal Indian reservation, the federal courts recognize that such rights also include a critical water *quality* aspect. For example, in *U.S. v. Gila Valley Irrigation District,* 920 F.Supp. 1444, 1448-1456 (D. Ariz., 1996), the federal district court considered various claims brought by the United States and the Gila River Indian Community against several parties who were engaged in practices upstream, off the reservation, which significantly degraded the quality of the Gila River as it entered the downstream San Carlos Apache Indian Reservation. The federal court held that, upon a proper showing, the court would issue an injunction prohibiting the non-Indian defendants from engaging in certain off-reservation practices which significantly degraded the quality of that downstream tribe's water.

Therefore, the CVWD needs to consider explicitly our federally-reserved water rights regarding water quality in its Plan and other actions. The CVWD clearly demonstrates that, although there will be wide-ranging benefits throughout the Coachella Valley in terms of water quantity from the spreading of the proposed additional water at the Windy Point spreading basins, the corresponding detriment, in terms of salt build-up and other undesirable effects, will be concentrated immediately down-gradient from the basins. The concentration of these detrimental effects at the Agua Caliente Indian Reservation for the years up to 2035 is dramatically and graphically shown in Figure 8-2 of the Plan. As stated on p. 11-1 of the Plan,

> The Proposed Project will increase the TDS concentrations of the potable groundwater aquifer in the vicinity of the recharge basins and could be considered to degrade local groundwater quality. However, most of the direct water quality impact will occur near the recharge basin sites. In these areas, groundwater TDS could

increase to as much as the TDS concentration of the Colorado River water.

Furthermore, and closely related to the above point, the Plan must address the Tribal regulatory issue. Under 1987 amendments to the Clean Water Act, 33 U.S.C. §1377, any tribe may apply to the EPA for treatment as a state ("TAS"). The Agua Caliente Band has already started that process, but has not yet achieved it, although it expects to achieve TAS in the near future. When such treatment is accorded to a tribe, that tribe may then promulgate and enforce its own water quality standards within its reservation. Therefore, it is entirely possible that the Tribe will set a water quality standard more stringent than the CVWD could meet, especially in that portion of the Agua Caliente Indian Reservation immediately down gradient from the point where the CVWD proposes to spread poor quality water. The Draft Program EIR itself is the best evidence of the kind of direct effects on Reservation water quality, as administered by the Agua Caliente Band, needed to uphold the Tribe's regulatory jurisdiction in this context. See *Montana v. U.S.E.P.A.*, 141 F.Supp.2d 1259, 1262 (D. Mont., 1998). Therefore, the Draft Program EIR should address the tribal regulatory issue.

OPTIONS

Criticizing a plan without offering alternatives is not very constructive. Therefore, we not only present comments on the Plan's alternatives, we also identify several ways these options can be improved, plus an additional option that you have not considered. These comments are presented below, first focusing on the Plan's listed alternatives, and then offering our suggestion as Option 3.

Option 1 – Pipeline for State Water Project Water

The first Plan option was to build a pipeline to bring State Water Project (SWP) water into the basin for use as recharge water. The Coachella Valley has a current entitlement of 61,200 acre-feet of water per year. The Plan intends to increase that by 100,000 acre-feet of water per year (expecting to receive 50,000), with an additional 40,000 acre-feet to be obtained through purchases of "interruptible" water from areas with excess water. Under the Plan, all of this water would be traded to Metropolitan for Colorado River water delivered to the Coachella Valley either through the Colorado River Aqueduct at the Whitewater River turnout and spreading grounds, or through the Coachella Valley Branch of the All American Canal (Canal water). This is necessary due to the lack of delivery facilities capable of bringing SWP water directly into the Valley.

The first option considered the construction of a pipeline to bring SWP water into the Valley to offset the water quality impacts that would result from recharging the basin with poor quality water. This is needed because Colorado River water has a TDS of about 530 to 750, while SWP water has a TDS of about 250 to 300. The Plan notes that in 1979 two pipeline routes were evaluated by the Department of Water Resources (DWR), a route through the San Gorgonio Pass and a "high desert" route through Lucerne Valley and Yucca Valley. The Plan then proceeds only to evaluate the San Gorgonio pass route, without explaining why the high desert route was dropped from consideration. We believe this limited evaluation is flawed for several reasons:

- The San Gorgonio pass route was identified as the favorable route in the 1979 evaluation, but times have changed; the Plan's route has become more urbanized, and power costs have increased. These factors would increase the cost of the San Gorgonio pass route relative to the high desert route, both for construction and operation. The high desert route is still predominantly rural or undeveloped, and does not have a large up-hill segment to lift water over the pass. A pipeline has already been installed to Yucca Valley that established right-of-ways for pipelines. Yucca Valley is at about the same elevation as Silverwood Lake, so that pumping costs are generally limited to overcoming energy losses in route. Yucca Valley is twice as high as the San Gorgonio Pass, and this should double the value of the energy recovered in the downhill leg of the pipeline. For these reasons, we believe building a pipeline through the desert route should be formally and rigorously considered as an alternative.

The high desert pipeline route would involve building a new pipeline along the same alignment as the existing Morongo Basin pipeline through Lucerne Valley. The existing Morongo Basin pipeline was built in two years in the mid 1990's at a total cost of $52 million, including environmental evaluations, engineering, right-of-way acquisition, etc. This is significantly less that the projected cost of a pipeline through San Gorgonio Pass, even though the total length of the Morongo Basin pipeline was 82 miles. The Morongo Basin pipeline is smaller than what is needed for the Coachella Valley, at only 30 inches in diameter and a capacity of 44 acre-feet per day. It is currently operating at about ¼ capacity, with pumping occurring at night when electric rates are low. Water is stored at the top to the route, then released into the energy-recovery portion of the route during the day when the value of the produced electricity it highest. (It is a shame that the CVWD did not participate in the construction of that pipeline, making it large enough to meet both basin's needs. Now we face duplicating their effort.)

The unused capacity of the Morongo Basin pipeline is too small to meet the needs of the Coachella Valley, but a larger pipeline could be installed parallel to it, along the same rights-of-way. Most of the operating costs from the San Gorgonio Pass pipeline were due to pumping water uphill from the Devil's Canyon Afterbay to the top of San Gorgonio pass. By using the high desert route, the water is obtained from Silverwood Lake at an elevation of about 3,000 feet. Yucca Valley is at a similar elevation, so pumping is primarily needed to overcome friction losses. This significantly reduces operating costs. In addition, the drop in elevation from Yucca Valley to the Whitewater River spreading grounds is approximately double the drop from San Gorgonio pass. Therefore, the energy recovered should be worth twice as much as recovered from Option 1. In fact, we suspect the energy recovered will exceed the pumping costs, making it a net income producer once the capital costs are paid off. At the very least, a close balance between pumping costs and energy recovery will make this option less susceptible to changes in the cost of energy, which is also a plus.

We believe the high desert pipeline is an attractive alternative for bringing high quality water into the Coachella Valley, and a more rigorous evaluation of the costs of this option should be performed.

- Colorado River water was considered to be equivalent in water quality to SWP water because of the presence of "trihalomethanes" in the SWP water verses TDS in Colorado River water. This misstates the situation. Trihalomethanes are not present in SWP water. Instead, only the organic compounds that are precursors to trihalomethanes are present. The trihalomethanes are formed when water with organic compounds is chlorinated, which is part of the disinfection process that is required prior to using surface water in a public water supply system. Since Metropolitan uses SWP water directly in the water distribution system, the presence of the organic compounds is detrimental to Metropolitan's use of this water. However, SWP water would be used to recharge groundwater in the Coachella Valley, eliminating both the need for chlorinating the water and the potential for the creation of trihalomethanes. The organic compounds in SWP water would degrade or be filtered out of the water as it is recharged into the ground. This eliminates trihalomethanes as an issue of concern for using SWP water in the Coachella Valley. On the other hand, the TDS concentrations remain after infiltration into the ground, decreasing water quality in the drinking water aquifers. Thus, Colorado River water is inherently inferior to SWP water for the purposes of groundwater recharge. The CVWD should stop treating these waters as equal. As far as the Coachella Valley is concerned, water from the SWP is clearly superior to Colorado River water.

- The Plan concluded that Option 1 was undesirable for several reasons, namely: (1) high cost, (2) it would disrupt existing habitats, and (3) it did not alleviate salt build-up in the Lower Valley. With respect to these issues, we have the following comments:

  1. The cost for the largest pipeline was $322 per acre-foot of water. This is equivalent to about $0.001 per gallon, well below the price of bottled drinking water, and only about double the current cost of tap water delivered by the CVWD. This is not a high price to pay for maintaining the current high quality of our drinking water. The CVWD cost comparison indicates that this cost would "increase the costs of the Water Management Plan by more than 50 percent." The cost of the Plan is not discussed elsewhere, and is totally useless as a point of comparison since a plan that does not protect water quality is worth nothing to begin with. A better comparison might be the $495 per acre-foot that San Diego will be paying for water transferred to it through the California Aqueduct. We believe the people of the Coachella Valley would be willing to pay an additional $0.001 per gallon to maintain the current high quality of their water.

  2. The "existing habitat" that would be disrupted by installing a pipeline is not identified. Much of the route in question is primarily urban. Any disruption would be temporary in any case. Therefore, this rationale seems to be a fabricated excuse to make this option seem less desirable.

  3. The lack of benefit to the Lower Valley is cited as a shortcoming of the pipeline option, in that it would not deliver SWP water to the Lower Valley. Obviously, that would require building a pipeline extension to the Lower Valley. Identifying this as a shortcoming of the Option just means that the Option was not properly scoped out. The cost of building such a pipeline should be estimated so that the cost-benefit analysis of this option can be properly evaluated.

Option 2 – Desalination of Canal Water

This option involved building desalination facilities to treat canal water before use. The goal was to lower TDS concentrations to 300 mg/l. The quantity of water so treated varied based on the projected uses of the water. None of the versions appeared to focus on water quality improvement in areas of greatest sensitivity (the recharge areas), and all included assumptions that appeared to use high quality water unnecessarily. As such, the sizes of the proposed desalination facilities were larger than necessary, driving up overall costs. We believe the quantity of water needed to fulfill the needs of the Coachella Valley can be met with less water than proposed in this option by using the following criteria:

1. Only high quality water (desalinated or SWP water) should be used for direct recharge of aquifers that contain high quality water. The desalinated water could also be used for direct distribution in the municipal water supply system, if desired.

2. Poor quality Colorado River water (not desalinated) can continue to be used for direct application to farm fields or golf courses. In the Lower Valley, this water would percolate into the Semi-perched aquifer after use (which currently contains non-potable water), but would not migrate into the lower aquifers if the lower aquifers were being properly recharged. Such a use would not threaten the quality of the deeper aquifers because the upper portion of the groundwater will be skimmed off via the drains. This would significantly reduce the amount of water needing to be desalinated, thereby reducing the size of the area needed to handle the produced brines.

Cost was the primary factor in dismissing this option, and was again in the range of $184 to $330 per acre-foot. The costs would be lower, but higher per acre-foot, for versions that focus desalination efforts on critical uses, such as groundwater recharge. As stated above, we do not believe this is a high cost for maintaining the current high quality of the groundwater. Encouraging use of canal water would be simple; the fee for using canal water could be maintained at the current low rate while users of groundwater would bear the cost of desalination (up to $330 per acre-foot). Farmers would not have to pay a higher price for water quality they don't need, while the quality of the groundwater would be maintained for domestic use.

Option 3 – Dual Use of the Colorado River Aquaduct

We recognize that criticizing a plan is easy but accomplishes little without a constructive alternative. We offer the following additional alternative that we believe may provide an even more cost effective means of bringing high quality SWP water into the Coachella Valley. We have neither the time nor the resources to evaluate this option in the rigorous manner it deserves, and therefore we request that it be more thoroughly reviewed by CVWD in response to our comments.

The existing Colorado River Aqueduct crosses the Coachella Valley, bringing water from the Colorado River to Lake Matthews, south of Riverside, California. A pipeline that is an extension of the California Aqueduct System is under construction to carry SWP water to the new Domenigoni (East Side) Reservoir, and crosses the Colorado River Aqueduct in the vicinity of San Jacinto. Option 3 involves using the Colorado River Aqueduct to bring SWP water into the

Coachella Valley by temporarily/periodically reversing the flow in the Colorado River Aqueduct between San Jacinto and the Whitewater River turnout. This would involve the following:

- Constructing a water transfer facility where the Colorado River Aqueduct and California Aqueduct pipeline cross, including a pumping plant and temporary water storage facility. The purpose of this facility would be to transfer water from the pipeline into the Colorado River Aqueduct, and provide the power needed to pump this water to the Whitewater River outlet of the Aqueduct. The Whitewater River turnout is at about the same elevation as the San Jacinto end of the pipeline, so the power costs should be minimal.

- Since the Aqueduct normally delivers water westward, operation of this Option would be intermittent, when the Aqueduct is not otherwise in use. Intermittent use would require higher flow rates than continuous use, and therefore the structure at the Whitewater River turnout of the Aqueduct would probably need to be enlarged to handle the increased rate of flow. The spreading grounds may also need to be enlarged.

- A pipeline to convey this water to the Lower Valley should also be scoped-out.

The advantages of this option include:

1. Delivery of high-quality SWP water to the Coachella Valley.

2. No new pipelines are necessary to convey the water into the Coachella Valley (though a new pipeline from Whitewater to the Lower Valley may be a cost-effective means of conveying high quality water to the Lower Valley).

Disadvantages of this option include:

1. Some re-engineering of the Aqueduct and new pipeline would be needed.

2. The flow at the Whitewater River turnout would be increased and intermittent, and may require enlargement of these structures.

We do not have the means of evaluating the costs of this Option, but we believe it could be the least expensive and least disruptive of the options. This option should be rigorously evaluated.

SUMMARY

The Agua Caliente Band of Cahuilla Indians has serious concerns about both this Water Management Plan, and the current overdraft situation in the Coachella Valley. We are the largest landowner in the Valley, and our future, like that of many others, is tied to the availability of good quality drinking water. We believe it is imperative that the high quality of the groundwater be maintained, and that the current overdraft situation be corrected. The current Plan has a poor focus on water quality. Both of the considered options were dismissed because high quality water would cost $0.001 per gallon. You underestimate the value of high quality

water. As permanent desert residents, we know that high quality water cannot be taken for granted.

We believe that the Plan, as presented, would not be acceptable to the general public if its adverse affect on water quality were known. It is certainly not acceptable to us. The options presented in the Plan were not that expensive, and did not include several alternatives that could make them even less expensive. We suspect that a combination of the options discussed above would be the most cost-effective means of protecting the quality of groundwater in the Coachella Valley, probably consisting of the dual use of the Aqueduct combined with a smaller desalination facility for the Lower Valley. If the Aqueduct cannot be modified for dual use, then a pipeline may be necessary. The cost of a pipeline to the Lower Valley should be evaluated to properly assess the need for a desalination facility. In any event, recharging the drinking water aquifers with poor quality water from the Colorado River is not acceptable.

In addition to the comments presented above, the Agua Caliente Band of Cahuilla Indians would like to be more involved as an active partner in protecting groundwater quality in the Valley. We would like to obtain an electronic copy of the computer model of the Coachella Valley so that we can do our own predictive modeling of our Reservation. We would like to more fully share data with both the CVWD and the DWA. We would also like to discuss other significant issues affecting our water supply, such as well-head protection.

Thank you for providing the Tribe with this opportunity for comment. Questions regarding this letter or requests for further elaboration on any of the above comments, or to establish further coordination on these issues, should be directed to Michael Kellner, Environmental Resources Manager. He can be reached at (760) 325-3400, ext. 204.

Sincerely,

Art Bunce, Tribal Attorney

cc: Richard M. Milanovich, Chairman

Tom Davis, Chief Planning Officer

Margaret Park, Principal Planner

Michael Kellner, Environmental Resources Manager

15. Response to: **Art Bunce**
Tribal Attorney
Agua Caliente Band of Cahuilla Indians

15-1 The District appreciates the tribe's concerns about water quantity and quality. The project goals concerning high water quality are unchanged. As stated in PEIR Section 3.1.1.1, reduction of groundwater overdraft will improve the water quality by preventing the percolation of poor quality agricultural return flows into the groundwater basin. The District considers Colorado River water as having satisfactory quality for groundwater recharge, irrigation and domestic uses as it meets applicable State and federal standards. The District respectfully disagrees that the plan would result in a loss of most higher quality groundwater.

15-2 The District respectfully disagrees with the commentor that "the Plan does not emphasize the seriousness of our current water use and supply imbalance." As stated in the Water Management Plan (CVWD, 2000b):

> The goal of the Water Management Plan is to assure adequate quantities of safe, high-quality water at the lowest cost to Coachella Valley Water users. To meet this goal, four objectives have been identified:
>
> 1. eliminate groundwater overdraft and its associated adverse impacts, including:
>   - groundwater storage reductions,
>   - declining groundwater levels, land subsidence, and
>   - water quality degradation
> 2. maximize conjunctive use opportunities
> 3. minimize adverse economic impacts to Coachella Valley water users, and
> 4. minimize environmental impacts

This goal and the associated objectives are unchanged. The seriousness of the current overdraft condition is discussed throughout the Draft PEIR and the Water Management Plan itself.

15-3 The District agrees with the commenter. The first step is to identify need and the second step is to obtain the water. The Plan has identified the need for an average supply of 40,000 acre-ft/yr of additional firm water. CVWD intends to obtain firm entitlements to additional water supplies that will provide this amount of water needed under average conditions.

15-4 The four stated objectives of the Proposed Project are to: 1) eliminate groundwater overdraft and its associated adverse impacts, including groundwater storage reduction, declining groundwater levels, land subsidence and water quality degradation; 2) maximize future conjunctive use opportunities; 3) minimize adverse economic impacts to Coachella Valley water users; and 4) minimize adverse environmental impacts (Draft

PEIR Section 1.3). The stated objectives do not include returning the basin to previous levels. The purpose of the project is to arrest the future continuing decline of the groundwater basin. Returning the basin to previous levels would not only be infeasible, but in some areas may not even be desirable, where artesian and other high groundwater conditions occurred formerly.

15-5 The District recognizes that excessive withdrawal and recharge can occur simultaneously in different portions of the basins, which is why the Water Management Plan (WMP) proposed in-lieu (replacement water) deliveries to groundwater users as well as groundwater recharge. This approach is taken in the central portion of Valley (Rancho Mirage to Indio) where the distance from the recharge sites is great. Delivery of imported water to golf courses and other non-potable uses allows groundwater extraction rates to be reduced and the water table to recover.

Injection wells may be technically feasible in the Lower Valley. Typical injection rates are about one-half to two-thirds of groundwater extraction rates and depend on the local water level and well conditions. Many of the wells in the Lower Valley are agricultural wells, which may not be suitable for injection due to their construction methods and materials. The District is not aware of areas where injection may be possible at a rate of 1,000 gpm using only natural static head.

A critical factor in the operation of injection wells is the quality of the injected water. Untreated Colorado River water contains sediment (fine particulate matter) that would rapidly clog the wells unless filtration is provided before injection. The cost of treatment and injection in the quantities needed is estimated to be 3 to 4 times greater than the cost of spreading basins (see Appendix B of the Water Management Plan (CVWD, 2000) due to the need for treatment (either centralized or on-site) and the likely need to construct new wells for injection purposes. Therefore, injection is not as economically feasible as spreading or in-lieu. If groundwater recharge by spreading cannot be implemented at the rates anticipated in the WMP and the PEIR, injection may be considered in future updates of the WMP.

15-6 The water transfer from Imperial Irrigation District (IID) to CVWD is part of the Quantification Settlement Agreement (QSA) and an integral part of the Proposed Project analysis. The Draft PEIR did compare the effect of the Proposed Project including the water transfer from IID under the QSA to current and future baseline conditions (See PEIR Section 2.7).

15-7 The District respectfully disagrees with the water quality categories proposed in this comment. The definition of freshwater as having a TDS of 1,000 mg/L as defined in the Water Management Plan is based on federal and state drinking water regulations. The guidelines are based on decades of research in public health. The federal secondary drinking water standard for TDS is 500 mg/L, and is described as an unenforceable standard related to aesthetics (USEPA, 2000b). The USEPA website states:

"National Secondary Drinking Water Regulations (NSDWRs or secondary standards) are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply. However, states may choose to adopt them as enforceable standards (USEPA, 2002).

The State of California secondary drinking water standards consist of three MCL levels as presented in Table 64449-B of the Title 22, California Code of Regulations shown below:

Table 64449-B
Secondary Maximum Contaminant Levels - Ranges

Constituent, Units	*Maximum Contaminant Level Ranges*		
	Recommended	*Upper*	*Short Term*
Total Dissolved Solids, mg/L or	500	1,000	1,500
Specific Conductance, micromhos	900	1,600	2,200
Chloride, mg/L	250	500	600
Sulfate, mg/L	250	500	600

Section 64449 of the Title 22 of the California Code of Regulations states:

Section 64449 (f) For the constituents shown on Table 64449-B, no fixed consumer acceptance contaminant level has been established.

(1) Constituent concentrations lower than the Recommended contaminant level are desirable for a higher degree of consumer acceptance.

(2) Constituent concentrations ranging to the Upper contaminant level are acceptable if it is neither reasonable nor feasible to provide more suitable waters.

(3) Constituent concentrations ranging to the Short Term contaminant level are acceptable only for existing systems on a temporary basis pending construction of treatment facilities or development of acceptable new water sources.

Thus, California allows the long-term use of water with up to 1,000 mg/L TDS. The 1,000 mg/L figure is not a primary drinking water standard; there is no established health standard for TDS.

Many metropolitan areas including Las Vegas, Tucson, Phoenix, and many southern California communities use Colorado River water as their primary water source. Las Vegas Valley Water District uses filtered Colorado River water and reports a water supply TDS of 614 mg/L in its 2001 water analysis (LVVWD, 2002). The City of Phoenix, Arizona also uses filtered Colorado River water and other surface water sources along with local groundwater as its supplies. Phoenix reported the TDS of its supply ranging from 278 to 886 mg/L (Phoenix, 2002). The City of Tucson, Arizona uses

Colorado River water from the Central Arizona Project to recharge its groundwater basins. Over time, the groundwater will contain an increasing percentage of recharge CAP water (Tucson, 2002). The cities of the Imperial Valley all use filtered Colorado River water as their source of drinking water. The Metropolitan Water District of Southern California supplies a blend of SWP and Colorado River water to coastal southern California.

15-8 As set forth in comment 15-7, the District respectfully disagrees with the categories proposed and the conclusions in the comment letter. The District does not believe that Colorado River water is "poor quality" because, based upon applicable State and federal standards, it has satisfactory quality for groundwater recharge, irrigation and domestic uses.

15-9 CVWD agrees that without the Proposed Project, high quality groundwater will be removed from the Basin. However, as stated in Response 15-7, CVWD respectfully disagrees with the conclusion that poor quality water is anything with a TDS of 500-1000 mg/L based on the State Secondary Drinking Water Standards. CVWD's conclusion is that the freshwater overdraft is currently (1999) 136,700 acre-ft/yr and would increase to 254,700 acre-ft/yr by 2035 as shown in Table 6-7 of the Draft PEIR. This table shows that by 2035 the total "freshwater" lost from the basin will be 11,866,500 acre-ft. This leaves a remaining freshwater volume of 18,133,500 acre-ft (30,000,000 – 11,866,500). If the freshwater loss continues at the 2035 rate, the fresh water in the basin will last at least an additional 71 years (until 2106). Implementation of the Proposed Project will eliminate the overdraft in 2035 and limit the loss of fresh water to a total of 5,349,400 acre-ft and would ensure the continuing availability of this water source.

15-10 Any groundwater discharge from the system will carry dissolved salts with it. Drains ultimately discharge to the Salton Sea. Salt from groundwater ET discharges will accumulate in the plants and in the root zone. Wells will discharge groundwater with various TDS concentrations. The source of these discharges is not limited to the Semi-perched aquifer. Increased heads in recharge areas and decreased heads in discharge areas provide the potential for flow within and through the aquifers from the recharge to discharge areas. Where it is not captured by wells, groundwater from recharge areas will ultimately discharge to the water table, drains, or Sea-bed discharge areas. The groundwater model results (heads and flows) automatically take into account the flow of water throughout the basin.

It is difficult to analyze impacts on an individual aquifer basis for several reasons. The salt loading to a particular aquifer varies based on the flow from or to adjacent aquifers. While the groundwater model can track the water flow, it does not track the actual movement of salt. As discussed in Response 15-11, a particle tracking model was used to estimate the flow of recharge water in the basin. Some areas of the basin are more impacted by salt applied to the ground (through water application or use of fertilizers). These areas tend to be those not having a confining clay layer underneath them. This is evidenced by the groundwater quality variations shown in Figure 6-12 of the Draft PEIR. The western portions of the Lower Valley and the Palm Desert area tend to have higher

salinity due to a combination of local geology and the historical use of Colorado River water for irrigation. The approach taken in the Draft PEIR to perform a combined salt balance on all aquifers is a conservative approach in that it assumes complete mixing of the groundwater in the Upper and Lower Valleys (which does not physically occur).

The level of salt applied to the basin from Colorado River water use will not render the resource useless, even in the areas near the recharge basins where salinity may approach Colorado River concentrations. As stated in Response 15-7, many southwestern cities use water having similar qualities. The effects on pumped water quality will be significantly less in wells located farther from the recharge areas. The affected areas shown in Figure 6-30 of the Draft PEIR are based on a conservative estimate from particle tracking modeling (see Response 15-11). These areas are presumed to have ultimate TDS concentrations roughly equivalent to that of Colorado River water. Due to the groundwater flow paths in the basin, most of the basin would be less impacted than the salt balance indicates. The combination of identifying the areas impacted by recharge and the basinwide salt balance result in a conservative estimate of the water quality impact of the Proposed Project.

15-11 Two main processes account for the transport of solutes (such as dissolved salts) in groundwater: advection and dispersion. Advection is the movement of a solute caused by the actual flow of the water. Advection is the primary process by which a solute moves in the subsurface (Maidment, 1993). Dispersion is the spreading and mixing caused by variations in the velocity of the water. Dispersion tends to reduce the concentration of a solute due to mixing with adjacent water. Other mechanisms (such as diffusion, sorption, and chemical reactions) tend to retard and reduce the concentration of a solute in groundwater. Particle tracking relies solely on advection as the solute transport process.

Particle tracking was performed to identify the flow paths and travel times of water from the artificial recharge areas to their discharge areas, which is in itself useful information. The purpose was not to avoid computing TDS concentrations at various locations over time. Particle tracking is used as a precursor to solute transport modeling, not generally in place of it. Solute transport modeling often requires some re-parameterization of the existing model, and can be quite computationally intensive for a model the size of the Coachella Valley. Transport models are also often difficult to calibrate; thus, the insights gained by particle tracking invariably justify its use.

Since TDS is a relatively conservative solute, particle tracking offers a conservative view of its transport in the basin. This is considered equivalent to a worst-case scenario.

15-12 CVWD is aware of the Tribe's claims of water rights.

15-13 CVWD is aware of the scope of authority conferred by Treatment as State (TAS) status under the Clean Water Act. However, the Tribe has not received TAS status and has not adopted any water quality standards that could be considered in the Plan or PEIR.

15-14 Based upon the comments received, CVWD has reassessed the alternatives for reducing salinity in the recharge water by either direct importation of SWP water or through desalination of Colorado River water. These assessments are presented in the revised Appendix I of the Final PEIR.

15-15 The revised Appendix I of the Final PEIR presents an evaluation of the "Desert" Route for SWP importation to the Coachella Valley. This approach requires the construction of approximately 103 miles of large diameter (84-inch and 90-inch) pipeline from the California Aqueduct near the Mojave River to Windy Point. The facility requires a 33,000 horsepower pumping station to lift water to the Landers area and three power recovery stations to reduce 2,400 ft of pressure head. The estimated cost of this alternative is $603 million. The high cost of this pipeline is primarily a function of its large diameter, high pressure class and current pipeline construction costs. Although it generally utilizes the route of the Mojave

15-16 The commenter's point is noted. In terms of salinity, SWP water is clearly superior to Colorado River water. The statements in Section 10 (page 10-10) and Appendix I (page I-5) of the Draft PEIR were worded incorrectly and have been revised to state:

> However, the organic precursors for disinfection byproduct (DBP) formation, principally dissolved humic acids measured as total organic carbon (TOC), are substantially higher in SWP water than in Colorado River water. SWP water also contains higher concentrations of bromide (an inorganic ion) compared to Colorado River water. These organic compounds and bromide can form DBPs (trihalomethanes and haloacetic acids) when the water is disinfected by chlorination.

Although public water systems are required to disinfect any surface water sources prior to delivery, groundwater is also susceptible to microbial contamination. As a result many water agencies, including CVWD and DWA disinfect their groundwater supplies prior to delivery. This is necessary not only to eliminate any potential pathogens from the source water and to ensure that the microbial quality of the water does not degrade in the distribution system. Thus, the potential for formation of trihalomethanes and other disinfection byproducts (DBPs) exists with any public water system. Typically, groundwater has a very low concentration of the DBP precursors, therefore the DBP formation potential in groundwater is relatively low. Surface waters have higher concentrations of these organic compounds and, hence, have higher DBP formation potential. In SWP water, the organic precursors for trihalomethane formation are substantially higher than in Colorado River water, which can result in the formation of DBPs when the water is disinfected by chlorination.

When SWP water is used for recharge, a portion of these organic compounds may potentially be removed during percolation through the soil column. Little data is available to demonstrate this removal. However, removal depends on the type of soils and the ability of the soils to adsorb these dissolved organic compounds. Generally, adsorption occurs on fine-grained materials such as silts and clays. At the Whitewater

Spreading Facility, the soils tend by be relatively coarse with little silt or clay. Therefore, the removal of the organic precursors for DBPs is expected to be low. In addition, SWP water has higher concentrations of bromide, which also reacts with the organics and chlorine to form DBPs. Bromide enters the SWP during its conveyance through the Sacramento Delta and tends to be higher in low runoff years. In comparison, Colorado River water has a very low bromide concentration.

15-17 The proposed SWP importation project described in the comment may increase the cost by $0.001 per gallon, however, this additional cost actually represents a doubling of existing water costs. The actual effect on domestic users would be a doubling of the water rate from approximately $25 to $30 per month to $50 to $60 per month for this element alone. However, this would not be the only cost of implementing the Water Management Plan that would affect water costs to users. The potential cost of the Plan is included in the revised Appendix I of the Final PEIR. Implementation of the Proposed Project will increase water costs for the Coachella Valley by an average of $40 million per year over the next 32 years. This in itself will result in a 54 percent increase in total expenditures for irrigation, domestic and general services (which includes the current replenishment assessment). If treatment of recharge water or direct importation of SWP water were added on top of these costs, the water costs for the Valley would need to increase by . CVWD believes that such an increase in costs would not be acceptable to the public.

15-18 There would be disruption of both the urban environment and desert habitat by installing the pipeline. Of the 55 miles of pipeline alignment for the San Gorgonio Pass route, approximately 35 miles is urban environment and 20 miles is desert scrub habitat. This disruption of desert habitat might be further reduced if more of the pipeline could be constructed in roadways. However, some desert habitat loss would still occur. Use of the Desert route is expected to involve primarily disruption of the desert habitat because much of the pipeline would be constructed in open desert, parallel to the existing MWA Morongo Pipeline. Although this pipeline alignment was disrupted for the MWA pipeline construction, additional right-of-way would be required for construction of a large diameter pipeline. The disruption of habitat created by a large open cut pipeline trench would be permanent, not temporary, for many terrestrial species, especially in desert areas which have extremely low growth rates. If listed or candidate species were potentially taken, the CDFG and/or USFWS would require extensive mitigation as well as incidental take authorization.

15-19 The commenter pointed out that the SWP alternative was viewed as less favorable because of the lack of a facility to convey water to the middle portion of the Coachella Valley. As pointed out on page I-2 of the Draft PEIR, two of the options considered conveyance to the golf courses in the Palm Desert area. Table I-1of the Draft PEIR (page I-6) indicates that 15 miles of 48-inch diameter pipeline would be required to convey SWP water to these golf courses. The cost for this facility is included in SWP Options 2 and 3 in Table I-2 (page I-8 of the Draft PEIR).

The statement in the Draft PEIR (page I-7) that "No water quality benefit would be achieved in the Lower Valley" is correct. The SWP entitlement is not adequate to supply water to both the Upper Valley (recharge and in-lieu uses) and the Lower Valley. The WMP envisions conveyance of up to 37,000 acre-ft/yr of Exchange water through the Coachella Canal for in-lieu delivery to the Palm Desert area in addition to use for groundwater recharge at the Whitewater facility. This approach avoids the construction of a 15 mile pipeline from MWD turnout to the Palm Desert area. Water requirements in the Lower Valley (principally the ID-1 service area) would be met through the Coachella Canal. The only viable method for achieving water quality benefits for the Lower Valley is through desalination of Colorado River water. This desalination option is evaluated in Appendix I of the Draft PEIR.

15-20 The desalination options evaluated in Appendix I of the Draft PEIR were based on the fact that Colorado River water delivered for groundwater recharge and irrigation has the potential for impacting groundwater quality in those portions of the Lower Valley where the Semi-perched aquifer and the aquitard are not present. Desalination Option 5 (see Table I-3 of the Draft PEIR) included delivery of water for both the incremental recharge and deliveries to golf courses and agriculture that overlies unconfined aquifers.

CVWD has considered several additional options involving desalination of Colorado River Water. In response to the comments, CVWD has evaluated an alternative that includes desalination of only water used for recharge. As described in the revised Appendix I, this option involves desalinating an average of 183,000 acre-ft/yr of Colorado River water. Because the size of this facility is similar to that evaluated, the costs are roughly comparable to those of Option 5. However, additional desalting capacity was added to account for the interruptible nature of Exchange water deliveries from Metropolitan and the need to recharge the Lower Valley during the low demands months when Colorado River water is available for recharge.

In reviewing the desalination costs, an error was discovered that resulted in a significant underestimate of the cost of desalination. This error has been corrected in the revised Appendix I of the Final PEIR.

15-21 The commenter provided an interesting option for conveying SWP water to the Coachella Valley by dual use of the Metropolitan's Colorado River Aqueduct (CRA). Under this concept, a pipeline and pumping station would be constructed to convey SWP water from Lake Perris to the CRA near the western portal of the San Jacinto Tunnel. During periods when the CRA is not in use, SWP water would be pumped into the CRA to flow in the reverse direction to the Coachella Valley.

Evaluation of this option based on several considerations. The CRA is always in use for conveying Colorado River water to Southern California (except for short periods when maintenance is performed). The design flowrate of the CRA is 1,800 cfs (about 1.3 million acre-ft/yr) toward the west. Metropolitan is currently delivering approximately 1.25 million acre-ft/yr of Colorado River water. Although Metropolitan's current firm deliveries from the Colorado River are about 660,000 acre-ft/yr, Metropolitan is

developing and implementing plans to maintain as close to full deliveries as possible. These projects include the water transfers under the QSA, Palo Verde land fallowing, several interstate and desert storage projects and surplus Colorado River water for the next 15 years.

To deliver an average annual SWP flow of 103,000 acre-ft/yr (174,200 acre-ft/yr maximum annual) to CVWD and DWA, several factors must be considered including the SWP contractual limitations and spreading ground capacity. The SWP contract limits peak month flow to 1.32 times the average annual flow. This effectively limits the maximum supply from the SWP to 318 cfs as described in Section I.1. At this maximum contractual flowrate, 164 days of operation would be required to make average annual deliveries. This would restrict Metropolitan's use of its own aqueduct to 201 days per year and limit deliveries to 718,000 acre-ft/yr (57 percent of current). Delivery of the maximum amount of water to CVWD and DWA would limit Metropolitan to 89 days per year or 317,000 acre-ft/yr (25 percent of current). Clearly, this approach would not be acceptable to Metropolitan.

If the SWP contractual peaking limitation can be waived, a higher flowrate may be possible. The next capacity limitation is the Whitewater Spreading Facility which has a maximum recharge capacity of 300,000 acre-ft in a single year (based on operational experience) or a continuous flowrate of 415 cfs. This flowrate does not include any allowance for recharge basin maintenance. Delivery of the average CVWD and DWA SWP recharge water supply at the maximum recharge rate of 415 cfs requires a 126 day operating period. Reversal of flow for this period of time would effectively limit Metropolitan's operations to 239 days per year. This would limit Metropolitan to a maximum annual delivery of 854,000 acre-ft/yr (68 percent of current capabilities). During years of maximum supply, the CVWD-DWA would require delivery for 212 days. This would limit Metropolitan's use to 153 days or 546,000 acre-ft/yr (43 percent of current). While expansion of the recharge basins may be possible, historical operation in the mid-1980s indicated that water levels would rise close to the ground surface at these high rates. Thus, expansion may be limited by hydrogeologic constraints. In addition, environmental impacts from construction of new recharge basins, such as loss of dune sand replenishment for fringe-toed lizard habitat, may be difficult to resolve.

The SWP Santa Ana Pipeline was designed to convey 444 cfs from the Devil Canyon Afterbay in San Bernardino to Lake Perris. The capacity of this pipeline is insufficient to meet Metropolitan's needs in Riverside and San Diego counties. Metropolitan is currently constructing the Inland Feeder, which will have a capacity of 1,000 cfs when it is completed in 2007. The Inland Feeder will allow Metropolitan to make full use of its capacity in the East Branch of the California Aqueduct. CVWD and DWA do not have capacity rights in either of these pipelines and obtaining such capacity would be difficult.

Finally, the existing CRA pipeline probably cannot take the added pressure required for reverse flow. The CRA was designed in the 1930s for falling hydraulic gradient. This means that the CRA was designed with a hydraulic gradeline that closely approximates the ground surface elevation. Little allowance was provided for pressurization. In

addition, the San Jacinto Tunnel, which accounts about 14 miles of the distance to the Whitewater turnout leaks significant amounts of water and may not have the structural integrity to handle the additional pressure (over 100 ft) required to force water to the Coachella Valley. Since it is the sole source of Colorado River water for Southern California, shutting down the tunnel for extended periods of time to accomplish structural modifications would present significant operational problems for Metropolitan.

Based upon these considerations, there are significant technical and operation issues associated with this alternative. Discussion of this approach with the management of Metropolitan has indicated to CVWD that they would not consider such a proposal.

15-22 Comments are noted and have been discussed above.

15-23 The Coachella Valley Groundwater Model was prepared on behalf of Redwine and Sherrill, CVWD's general counsel. As such, it is exempt from disclosure pursuant to the Public Records Act (Government Code Section 6254(k)) and the attorney work product privilege under California Code of Civil Procedure Section 2018. The Coachella Valley Groundwater Model has not been made available to the public. The Model is therefore a confidential document, the proprietary information of Redwine and Sherrill and protected by the attorney work product privilege. Accordingly, CVWD will not be releasing the Model. The Peer Review Report will be added to Appendix D of the Final PEIR. In addition, the report entitled "Groundwater Flow Model of Coachella Valley, California: An Overview" (hereinafter the "Model Overview"), prepared by Graham E. Fogg, Gerald T. O'Neill, Eric M. LaBolle and David J. Ringel, will also be added to Appendix D.

The Peer Review Report includes an extensive review of several different aspects of the Model, including the conceptual model, the numerical model, model calibration and review of scenario simulations. The conclusion of the Peer Review Report was that the Model had excellent calibration (most of the Model groundwater level predictions are within 10 or 20 feet of measured levels) and that the "model is suitable to aid in making management decisions concerning water development in the Coachella Valley." (See Peer Review Report, p. 17) The Model Overview discusses the Model's construction in great detail, including such aspects as finite difference mesh, boundary conditions, parameters and land subsidence. Furthermore, the Model Overview also analyzes calibration and historical simulation results. Thus, these documents will provide you with the information necessary to understand the Model and its conclusions.

Finally, this approach is supported by State CEQA Guidelines, Section 15147, which states: "The information contained in an EIR shall include *summarized* technical data, maps, plot plans, diagrams and similar relevant information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public. Placement of highly technical and specialized analysis and data in the body of an EIR should be avoided . . . " (Emphasis added.) Thus, inclusion of the Peer Review and the Model Overview, rather than the Model itself, in the Final PEIR is not only sufficient but also the recommended course pursuant to CEQA.

salinity due to a combination of local geology and the historical use of Colorado River water for irrigation. The approach taken in the Draft PEIR to perform a combined salt balance on all aquifers is a conservative approach in that it assumes complete mixing of the groundwater in the Upper and Lower Valleys (which does not physically occur).

The level of salt applied to the basin from Colorado River water use will not render the resource useless, even in the areas near the recharge basins where salinity may approach Colorado River concentrations. As stated in Response 15-7, many southwestern cities use water having similar qualities. The effects on pumped water quality will be significantly less in wells located farther from the recharge areas. The affected areas shown in Figure 6-30 of the Draft PEIR are based on a conservative estimate from particle tracking modeling (see Response 15-11). These areas are presumed to have ultimate TDS concentrations roughly equivalent to that of Colorado River water. Due to the groundwater flow paths in the basin, most of the basin would be less impacted than the salt balance indicates. The combination of identifying the areas impacted by recharge and the basinwide salt balance result in a conservative estimate of the water quality impact of the Proposed Project.

15-11 Two main processes account for the transport of solutes (such as dissolved salts) in groundwater: advection and dispersion. Advection is the movement of a solute caused by the actual flow of the water. Advection is the primary process by which a solute moves in the subsurface (Maidment, 1993). Dispersion is the spreading and mixing caused by variations in the velocity of the water. Dispersion tends to reduce the concentration of a solute due to mixing with adjacent water. Other mechanisms (such as diffusion, sorption, and chemical reactions) tend to retard and reduce the concentration of a solute in groundwater. Particle tracking relies solely on advection as the solute transport process.

Particle tracking was performed to identify the flow paths and travel times of water from the artificial recharge areas to their discharge areas, which is in itself useful information. The purpose was not to avoid computing TDS concentrations at various locations over time. Particle tracking is used as a precursor to solute transport modeling, not generally in place of it. Solute transport modeling often requires some re-parameterization of the existing model, and can be quite computationally intensive for a model the size of the Coachella Valley. Transport models are also often difficult to calibrate; thus, the insights gained by particle tracking invariably justify its use.

Since TDS is a relatively conservative solute, particle tracking offers a conservative view of its transport in the basin. This is considered equivalent to a worst-case scenario.

15-12 CVWD is aware of the Tribe's claims of water rights.

15-13 CVWD is aware of the scope of authority conferred by Treatment as State (TAS) status under the Clean Water Act. However, the Tribe has not received TAS status and has not adopted any water quality standards that could be considered in the Plan or PEIR.

15-14 Based upon the comments received, CVWD has reassessed the alternatives for reducing salinity in the recharge water by either direct importation of SWP water or through desalination of Colorado River water. These assessments are presented in the revised Appendix I of the Final PEIR.

15-15 The revised Appendix I of the Final PEIR presents an evaluation of the "Desert" Route for SWP importation to the Coachella Valley. This approach requires the construction of approximately 103 miles of large diameter (84-inch and 90-inch) pipeline from the California Aqueduct near the Mojave River to Windy Point. The facility requires a 33,000 horsepower pumping station to lift water to the Landers area and three power recovery stations to reduce 2,400 ft of pressure head. The estimated cost of this alternative is $603 million. The high cost of this pipeline is primarily a function of its large diameter, high pressure class and current pipeline construction costs. Although it generally utilizes the route of the Mojave

15-16 The commenter's point is noted. In terms of salinity, SWP water is clearly superior to Colorado River water. The statements in Section 10 (page 10-10) and Appendix I (page I-5) of the Draft PEIR were worded incorrectly and have been revised to state:

> However, the organic precursors for disinfection byproduct (DBP) formation, principally dissolved humic acids measured as total organic carbon (TOC), are substantially higher in SWP water than in Colorado River water. SWP water also contains higher concentrations of bromide (an inorganic ion) compared to Colorado River water. These organic compounds and bromide can form DBPs (trihalomethanes and haloacetic acids) when the water is disinfected by chlorination.

Although public water systems are required to disinfect any surface water sources prior to delivery, groundwater is also susceptible to microbial contamination. As a result many water agencies, including CVWD and DWA disinfect their groundwater supplies prior to delivery. This is necessary not only to eliminate any potential pathogens from the source water and to ensure that the microbial quality of the water does not degrade in the distribution system. Thus, the potential for formation of trihalomethanes and other disinfection byproducts (DBPs) exists with any public water system. Typically, groundwater has a very low concentration of the DBP precursors, therefore the DBP formation potential in groundwater is relatively low. Surface waters have higher concentrations of these organic compounds and, hence, have higher DBP formation potential. In SWP water, the organic precursors for trihalomethane formation are substantially higher than in Colorado River water, which can result in the formation of DBPs when the water is disinfected by chlorination.

When SWP water is used for recharge, a portion of these organic compounds may potentially be removed during percolation through the soil column. Little data is available to demonstrate this removal. However, removal depends on the type of soils and the ability of the soils to adsorb these dissolved organic compounds. Generally, adsorption occurs on fine-grained materials such as silts and clays. At the Whitewater

Spreading Facility, the soils tend by be relatively coarse with little silt or clay. Therefore, the removal of the organic precursors for DBPs is expected to be low. In addition, SWP water has higher concentrations of bromide, which also reacts with the organics and chlorine to form DBPs. Bromide enters the SWP during its conveyance through the Sacramento Delta and tends to be higher in low runoff years. In comparison, Colorado River water has a very low bromide concentration.

15-17 The proposed SWP importation project described in the comment may increase the cost by $0.001 per gallon, however, this additional cost actually represents a doubling of existing water costs. The actual effect on domestic users would be a doubling of the water rate from approximately $25 to $30 per month to $50 to $60 per month for this element alone. However, this would not be the only cost of implementing the Water Management Plan that would affect water costs to users. The potential cost of the Plan is included in the revised Appendix I of the Final PEIR. Implementation of the Proposed Project will increase water costs for the Coachella Valley by an average of $40 million per year over the next 32 years. This in itself will result in a 54 percent increase in total expenditures for irrigation, domestic and general services (which includes the current replenishment assessment). If treatment of recharge water or direct importation of SWP water were added on top of these costs, the water costs for the Valley would need to increase by . CVWD believes that such an increase in costs would not be acceptable to the public.

15-18 There would be disruption of both the urban environment and desert habitat by installing the pipeline. Of the 55 miles of pipeline alignment for the San Gorgonio Pass route, approximately 35 miles is urban environment and 20 miles is desert scrub habitat. This disruption of desert habitat might be further reduced if more of the pipeline could be constructed in roadways. However, some desert habitat loss would still occur. Use of the Desert route is expected to involve primarily disruption of the desert habitat because much of the pipeline would be constructed in open desert, parallel to the existing MWA Morongo Pipeline. Although this pipeline alignment was disrupted for the MWA pipeline construction, additional right-of-way would be required for construction of a large diameter pipeline. The disruption of habitat created by a large open cut pipeline trench would be permanent, not temporary, for many terrestrial species, especially in desert areas which have extremely low growth rates. If listed or candidate species were potentially taken, the CDFG and/or USFWS would require extensive mitigation as well as incidental take authorization.

15-19 The commenter pointed out that the SWP alternative was viewed as less favorable because of the lack of a facility to convey water to the middle portion of the Coachella Valley. As pointed out on page I-2 of the Draft PEIR, two of the options considered conveyance to the golf courses in the Palm Desert area. Table I-1of the Draft PEIR (page I-6) indicates that 15 miles of 48-inch diameter pipeline would be required to convey SWP water to these golf courses. The cost for this facility is included in SWP Options 2 and 3 in Table I-2 (page I-8 of the Draft PEIR).

The statement in the Draft PEIR (page I-7) that "No water quality benefit would be achieved in the Lower Valley" is correct. The SWP entitlement is not adequate to supply water to both the Upper Valley (recharge and in-lieu uses) and the Lower Valley. The WMP envisions conveyance of up to 37,000 acre-ft/yr of Exchange water through the Coachella Canal for in-lieu delivery to the Palm Desert area in addition to use for groundwater recharge at the Whitewater facility. This approach avoids the construction of a 15 mile pipeline from MWD turnout to the Palm Desert area. Water requirements in the Lower Valley (principally the ID-1 service area) would be met through the Coachella Canal. The only viable method for achieving water quality benefits for the Lower Valley is through desalination of Colorado River water. This desalination option is evaluated in Appendix I of the Draft PEIR.

15-20 The desalination options evaluated in Appendix I of the Draft PEIR were based on the fact that Colorado River water delivered for groundwater recharge and irrigation has the potential for impacting groundwater quality in those portions of the Lower Valley where the Semi-perched aquifer and the aquitard are not present. Desalination Option 5 (see Table I-3 of the Draft PEIR) included delivery of water for both the incremental recharge and deliveries to golf courses and agriculture that overlies unconfined aquifers.

CVWD has considered several additional options involving desalination of Colorado River Water. In response to the comments, CVWD has evaluated an alternative that includes desalination of only water used for recharge. As described in the revised Appendix I, this option involves desalinating an average of 183,000 acre-ft/yr of Colorado River water. Because the size of this facility is similar to that evaluated, the costs are roughly comparable to those of Option 5. However, additional desalting capacity was added to account for the interruptible nature of Exchange water deliveries from Metropolitan and the need to recharge the Lower Valley during the low demands months when Colorado River water is available for recharge.

In reviewing the desalination costs, an error was discovered that resulted in a significant underestimate of the cost of desalination. This error has been corrected in the revised Appendix I of the Final PEIR.

15-21 The commenter provided an interesting option for conveying SWP water to the Coachella Valley by dual use of the Metropolitan's Colorado River Aqueduct (CRA) Under this concept, a pipeline and pumping station would be constructed to convey SWP water from Lake Perris to the CRA near the western portal of the San Jacinto Tunnel. During periods when the CRA is not in use, SWP water would be pumped into the CRA to flow in the reverse direction to the Coachella Valley.

Evaluation of this option based on several considerations. The CRA is always in use for conveying Colorado River water to Southern California (except for short periods when maintenance is performed). The design flowrate of the CRA is 1,800 cfs (about 1.3 million acre-ft/yr) toward the west. Metropolitan is currently delivering approximately 1.25 million acre-ft/yr of Colorado River water. Although Metropolitan's current firm deliveries from the Colorado River are about 660,000 acre-ft/yr, Metropolitan is

developing and implementing plans to maintain as close to full deliveries as possible. These projects include the water transfers under the QSA, Palo Verde land fallowing, several interstate and desert storage projects and surplus Colorado River water for the next 15 years.

To deliver an average annual SWP flow of 103,000 acre-ft/yr (174,200 acre-ft/yr maximum annual) to CVWD and DWA, several factors must be considered including the SWP contractual limitations and spreading ground capacity. The SWP contract limits peak month flow to 1.32 times the average annual flow. This effectively limits the maximum supply from the SWP to 318 cfs as described in Section I.1. At this maximum contractual flowrate, 164 days of operation would be required to make average annual deliveries. This would restrict Metropolitan's use of its own aqueduct to 201 days per year and limit deliveries to 718,000 acre-ft/yr (57 percent of current). Delivery of the maximum amount of water to CVWD and DWA would limit Metropolitan to 89 days per year or 317,000 acre-ft/yr (25 percent of current). Clearly, this approach would not be acceptable to Metropolitan.

If the SWP contractual peaking limitation can be waived, a higher flowrate may be possible. The next capacity limitation is the Whitewater Spreading Facility which has a maximum recharge capacity of 300,000 acre-ft in a single year (based on operational experience) or a continuous flowrate of 415 cfs. This flowrate does not include any allowance for recharge basin maintenance. Delivery of the average CVWD and DWA SWP recharge water supply at the maximum recharge rate of 415 cfs requires a 126 day operating period. Reversal of flow for this period of time would effectively limit Metropolitan's operations to 239 days per year. This would limit Metropolitan to a maximum annual delivery of 854,000 acre-ft/yr (68 percent of current capabilities). During years of maximum supply, the CVWD-DWA would require delivery for 212 days. This would limit Metropolitan's use to 153 days or 546,000 acre-ft/yr (43 percent of current). While expansion of the recharge basins may be possible, historical operation in the mid-1980s indicated that water levels would rise close to the ground surface at these high rates. Thus, expansion may be limited by hydrogeologic constraints. In addition, environmental impacts from construction of new recharge basins, such as loss of dune sand replenishment for fringe-toed lizard habitat, may be difficult to resolve.

The SWP Santa Ana Pipeline was designed to convey 444 cfs from the Devil Canyon Afterbay in San Bernardino to Lake Perris. The capacity of this pipeline is insufficient to meet Metropolitan's needs in Riverside and San Diego counties. Metropolitan is currently constructing the Inland Feeder, which will have a capacity of 1,000 cfs when it is completed in 2007. The Inland Feeder will allow Metropolitan to make full use of its capacity in the East Branch of the California Aqueduct. CVWD and DWA do not have capacity rights in either of these pipelines and obtaining such capacity would be difficult.

Finally, the existing CRA pipeline probably cannot take the added pressure required for reverse flow. The CRA was designed in the 1930s for falling hydraulic gradient. This means that the CRA was designed with a hydraulic gradeline that closely approximates the ground surface elevation. Little allowance was provided for pressurization. In

addition, the San Jacinto Tunnel, which accounts about 14 miles of the distance to the Whitewater turnout leaks significant amounts of water and may not have the structural integrity to handle the additional pressure (over 100 ft) required to force water to the Coachella Valley. Since it is the sole source of Colorado River water for Southern California, shutting down the tunnel for extended periods of time to accomplish structural modifications would present significant operational problems for Metropolitan.

Based upon these considerations, there are significant technical and operation issues associated with this alternative. Discussion of this approach with the management of Metropolitan has indicated to CVWD that they would not consider such a proposal.

15-22 Comments are noted and have been discussed above.

15-23 The Coachella Valley Groundwater Model was prepared on behalf of Redwine and Sherrill, CVWD's general counsel. As such, it is exempt from disclosure pursuant to the Public Records Act (Government Code Section 6254(k)) and the attorney work product privilege under California Code of Civil Procedure Section 2018. The Coachella Valley Groundwater Model has not been made available to the public. The Model is therefore a confidential document, the proprietary information of Redwine and Sherrill and protected by the attorney work product privilege. Accordingly, CVWD will not be releasing the Model. The Peer Review Report will be added to Appendix D of the Final PEIR. In addition, the report entitled "Groundwater Flow Model of Coachella Valley, California: An Overview" (hereinafter the "Model Overview"), prepared by Graham E. Fogg, Gerald T. O'Neill, Eric M. LaBolle and David J. Ringel, will also be added to Appendix D.

The Peer Review Report includes an extensive review of several different aspects of the Model, including the conceptual model, the numerical model, model calibration and review of scenario simulations. The conclusion of the Peer Review Report was that the Model had excellent calibration (most of the Model groundwater level predictions are within 10 or 20 feet of measured levels) and that the "model is suitable to aid in making management decisions concerning water development in the Coachella Valley." (See Peer Review Report, p. 17) The Model Overview discusses the Model's construction in great detail, including such aspects as finite difference mesh, boundary conditions, parameters and land subsidence. Furthermore, the Model Overview also analyzes calibration and historical simulation results. Thus, these documents will provide you with the information necessary to understand the Model and its conclusions.

Finally, this approach is supported by State CEQA Guidelines, Section 15147, which states: "The information contained in an EIR shall include *summarized* technical data, maps, plot plans, diagrams and similar relevant information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public. Placement of highly technical and specialized analysis and data in the body of an EIR should be avoided . . . " (Emphasis added.) Thus, inclusion of the Peer Review and the Model Overview, rather than the Model itself, in the Final PEIR is not only sufficient but also the recommended course pursuant to CEQA.

December 16, 2003

VIA FACSIMILE (760) 398-3711

Dan Parks
Coachella Valley Water District
85-995 Avenue 52
Coachella, California 92236

Re: **Initial Environmental Study/Negative Declaration for the Tulare Lake Basin Water Transfer**

Dear Mr. Parks,

Thank you for the opportunity to review the above referenced document and offer the following comments:

The Tribe has the same basic objections to this water transfer project as it did to the CVWD Coachella Valley Water Management Plan based on the same reasons and, therefore offers the same comments and recommendations. It is understood that this proposed transfer will increase the volume of Colorado River water reaching the Whitewater spreading facility by slightly less than 10,000 acre feet per year. The Plan will result in the loss of high-quality groundwater, and replace it with lower quality water that barely meets current drinking water standards. The Tribe finds this unacceptable.

The Colorado River water has a much higher TDS concentration than that of our local aquifer. Increased TDS of the Colorado River water is only one of the many factors that cause concern over the introduction of this low quality water being introduced to our pristine aquifer. It is common knowledge that the Colorado River water being used in the infiltration basins contains Perchlorate concentrations of 4 to 6 parts per million. Perchlorate is an endocrine disrupter, has been linked to lower IQ's in infants, and has been reported to contribute to many additional adverse health effects. The Tribe finds this unacceptable.

The Agua Caliente Band of Cahuilla Indians has serious concerns about both this additional volume of water which will increase the effect and rate of water quality decline in our local aquifer. The Tribe believes it is imperative that the high quality of the groundwater be maintained, and that the current overdraft situation is corrected.

The Tribe believes that this Negative Declaration and prior Coachella Valley Water Management Plan, as presented, would not be acceptable to the general public if its adverse affect on water quality were known. It is certainly not acceptable to recharge the drinking water aquifers with lower quality water from the Colorado River.

600 E. Tahquitz Canyon Way • Palm Springs, CA 92262 • (760) 325-3400 • Fax (760) 325-0593

Please contact Clifford Batten, Tribal Hydrogeologist at 883-1342 or myself at 883-1322 if you have any questions or require additional information.

Very truly yours,

Thomas J. Davis, AICP
Chief Planning Officer
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

TJD/mep

C: Tribal Council
Margaret Park, Director of Planning
Art Bunce, Tribal Attorney
Clifford Batten, Tribal Hydrogeologist

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
Southern California Agency
1451 Research Park Drive, Suite 100
Riverside, California 92507-2154
Telephone (951) 276-6624 Telefax (951) 276-6641

IN REPLY REFER TO:
Natural Resources

FEB 26 2009

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

27-02-09P01:57 RCVD

C. Tom Davis
Margaret Park
Clifford Botkin

Attention: Mr. Steve Robbins, General Manager, Chief Engineer

Subject: Well 6711-1 Project

Dear Mr. Robbins,

We are in receipt of your responses to our comments regarding Coachella Valley Water District's Notice of Intent to adopt a Mitigated Negative Declaration for Well No. 6711-1 (MND) project located in La Quinta California, Riverside County. We would like to thank you for responding and voicing your opinion to our comments. We look forward to a continued open forum with the district, the six Coachella Valley governments that reside on federally reserved reservations in the areas of concern as well as the other state and federal regulatory agencies.

Tribal Governments and the United States Bureau of Indian Affairs raised a number of issues and concerns during the comment period for your Final Program Environmental Impact Report (PEIR) for Coachella Valley Water Management Plan (CVWMP) and State Water Project Entitlement Transfer, dated September 2002. Those same issues are reflected in our comments under this Mitigated Negative Declaration (MND) for Well No. 6711-1. We are disappointed to see that your opinions as presented within your responses to our comments both in the past 2002 planning comment period and our letter faxed to your office on December 3, 2008 have changed from the CVWMP. The Primary changes are as follows:

1. Diminishment of storage capacity.
2. Land subsidence caused from groundwater overdraft.
3. Water quality of the basins, and;
4. Increased water production with unsubstantiated mitigated measures.

The Bureau of Indian Affairs (BIA) would like to clarify our position and CVWD'S responses to our comments. We believe that utilizing negative declarations for these individual wells is inappropriate. Negative declaration for individual well construction improperly segments consideration of environmental impacts, furthermore; it avoids consideration of the cumulative impacts of your groundwater development program. It is not the intent of the BIA to enter into useless responses but rather to move forward to address concerns critical to all.

The following rebuttal to CVWD Comments is presented for further thought:

- **CVWD Response no. 1:** *"Impacts to the groundwater basin from additional pumping were thoroughly analyzed in the Program Environmental Impact Report (PEIR) for the Coachella Valley Water Management Plan (CVWMP) and State Water Project Entitlement Transfer that was approved in 2003. These documents were not challenged; therefore, are considered to fully comply with applicable laws. These documents are available at CVWD and upon request. The Mitigated Negative Declaration (MND) for the Well No. 6711-1 project is consistent with the FPEIR and the CVWMP as referenced on page 21 of the MND and does not substantially alter or increase any potential environmental effects. Absent any new significant environmental impacts or a substantial increase in the severity of these environmental effects, a Negative Declaration is the appropriate document pursuant to CEQA (see California Code of Regulations, Title 14, 15162, 15165). The programs developed in the CVWMP will raise and/or stabilize current water levels throughout the planning period using water conservation, additional water supplies, source substitution and groundwater recharge as described in Alternative 4 of the CVWMP. Therefore, groundwater pumping from Well No. 6711-1 project will not negatively affect groundwater availability on Tribal Trust Lands."*

BIA Rebuttal Response No. 1:

The BIA applauds CVWD for coming up with the FPEIR and CVWMP and believes that this is the first step to solving concerns for both state and federal water reserves. We are unclear what CVWD means by saying these documents were not challenged? We are enclosing documents provided to CVWD and incorporated into the FPEIR during the public review period that were never adequately addressed for your further consideration.

Furthermore; provided within the FPEIR Comment section, CVWD explains in section 13 Response 9-5 to the Twenty-Nine Palms Band of Mission Indian Tribal Government Comment Letter dated August 8, 2002 that:

"The *Lower Valley has in the past and for a period of time in the future will continue to lose freshwater storage. This Storage loss is permanent, principally because the imported water required to eliminate this overdraft will not reach its maximum until 2033. There is not sufficient water available to eliminate this overdraft and to replace the historical overdraft. The goal of the Water Management plan is to eliminate the overdraft, not to replace historical overdraft."*

Therefore; it is the BIA position at this time Well 6711-1, is not in compliance with CVWD FPEIR or CVWMP. Specifically, Construction of Well 6711-1 is planned to be located in close proximity to tribal trust lands where chronic groundwater overdraft and related land subsidence have been documented by experts including CVWD over the past 10 years while developing the above referenced plans. Construction of well 6711-1 enhances conditions already present in this area. Well 6711-1 will contribute to overdraft by approximately 2,903.4 acre feet per year according to estimates outlined within the MND.

- **CVWD Response No. 2:** *"The proposed Well No. 6711-1 is located within the Lower Whitewater Subbasin and will provide domestic water to development in the Lower Coachella Valley. Well No. 6711-1 will satisfy current domestic water service demands and is consistent with approved local planning and the CVWMP/PIER.*

  "The CVWMP/PEIR included a suite of water management approaches for the Coachella Valley. Plan elements included water conservation, additional water supplies, source substitution, and groundwater recharge. The objective or the groundwater recharge portion of the Plan is to reduce

or eliminate the adverse effects of aquifer overdraft (see Section 3.2.3.2 Groundwater Recharge on page 3-15 of the Draft PEIR)."

"One element of the CVWMP/PEIR provides for groundwater recharge of the lower portion of the Whitewater River Subbasin to address groundwater basin overdraft. CVWD has constructed pilot groundwater recharge facilities at Dike No. 4 and Martinez Canyon and is currently recharging approximately 3,000 acre-feet per year at the Dike 4 Pilot Groundwater Recharge Facility and 1,000 acre-feet per Year at the Martinez Canyon Pilot Groundwater Recharge Facility. A full-scale groundwater recharge facility is currently under construction at Dike No. 4 with a completion date of May 2009. A full-scale recharge facility is also planned for Martinez Canyon. Each facility will have a capacity of 40,000 acre-feet per year for a total groundwater recharge capacity of 80,000 acre-feet per year. Well No. 6711-1 is located in the lower portion of the Whitewater River Subbasin and will benefit from the groundwater recharge program. Groundwater recharge in the lower valley is discussed in the CVWMP on pages 5-14 and 5-15. Groundwater recharge from the full-scale Dike 4 Recharge Facility, combined with water conservation, additional water supplies and source substitution as described in Alternative 4 of the CVWMP, will ensure groundwater pumping from Well No. 6711-1 project will not negatively affect groundwater availability on Tribal Trust Lands."

BIA Rebuttal Response No. 2:

The Coachella Valley along with the rest of Southern California is currently experiencing a slow down in development. It is also noted at this time that during and substantially after the study period of the above mentioned plans the Coachella Valley experience a tremendous growth spurt. It is BIA opinion that development as it stands today should not require additional well installation to meet current demands. Water availability is a condition of approval from any given community prior to development of individual projects. It is BIA contention that communities look to CVWD for direction on water capacity, quality, pressure and availability prior to individual project development approval. We cannot see the necessity of Well 6711-1 from CVWD's reasoning in the comment letter or the MND.

Based on the CVWMP, FPEIR, the BIA and tribal government letters submitted in 2002, which are documented within these reports, CVWD has stated that tribal water rights have been taken into consideration. It is our contention that Well 6711-1 is dangerously close to trust resources and is not in compliance with CVWD's CVWMP/FPEIR or federal law as presently presented.

As stated in your comments the purpose of CVWD's CVWMP and FPEIR is to address groundwater overdraft which the BIA agrees with in concept; however; these reports do not address the reality of continued well construction which will accelerate water mining in the valley. These plans do not support the MND.

The current recharge pilot test at Dike No. 4 and Martinez Canyon do not support at this time the construction of Well 6711-1. The estimated maximum recharge volumes lined out in CVWD's comments are not proven. According to the CVWMP and PEIR, continued overdraft will be permanent. Construction of Well 6711-1 will exacerbate this current condition by additional pumping not anticipated in the CVWMP/PEIR.

- **CVWD Response No. 3:** *"CVWD has worked cooperatively with the USGS to study land subsidence in the Coachella Valley since 1996. These studies to date have not confirmed the relationship between land subsidence and declining water levels. The USGS scientific investigation report 2007-5251 states, "Although the localized character of the subsidence signals is typical of the*

type of subsidence characteristically caused by localized groundwater pumping, the subsidence may also be related to tectonic activity in the valley." This report also concludes additional monitoring is needed to permit meaningful interpretations of the aquifer-system response to water level changes. CVWD's Board of Directors have approved additional funding to continue monitoring designed to evaluate the potential relationship between declining water levels and mitigation measures described in the CVWDP/PEIR (see Table 1-4 Summary of Project Impacts and Mitigation Measures in Section 1.7 on page 1-17 of Draft PEIR)."

BIA Rebuttal Response No. 3:

Again the BIA Congratulates CVWD for working with the USGS and other agencies to study land subsidence. While these studies as explained within CVWD comment letter do not confirm the relationship between declining water levels and subsidence, conversely they do not support the common sense factor that groundwater pumping causing extreme overdraft conditions is not a concern. These comments do not support the MND.

- **CVWD Response No. 4:** *"The Dike 4 Recharge Facility is located approximately 5 miles southeast of the proposed well No. 6711-1 project and the Martinez Canyon Pilot Groundwater Recharge Facility is located approximately 7.5 miles south of the proposed Well No. 6711-1 project. The Dike 4 Recharge facility is located at a sufficient distance and elevation to provide benificial recharge to the subject area. In the vicinity of Well No. 6711-1, the geological formations form a confined or artesian aquifer. The ground profile is made of alternating layers of clay formations (aquitards) and sand formations. Water introduced at Dike 4 Recharge Facility and/or the Martinez Canyon Recharge Facility will have an immediate and beneficial influence on the aquifer in the vicinity of Well No. 6711-1 due to artesian conditions.*

BIA Rebuttal Response No. 4:

As stated above and in our original comment letter groundwater extraction causing overdraft conditions increases depression zones that in turn inhibit the natural flow of water to areas lower in the valley including tribal trust resources. According to CVWD's CVWMP/PEIR overdraft will be permanent, maximum imported water will not reach capacity until 2033. Installation of well 6711-1 will only increase overdraft thereby limiting future capacity of the lower White Water River Subbasin which supports both state and federal water resources.

- **CVWD Response No. 5:** *"Colorado River water is the source of potable drinking water to about 22 million people in Arizona, Nevada and California. Colorado River water has influenced the aquifer-system in the Coachella Valley for centuries and is an integral component of this aquifer-system. The salts found in Colorado River water are not foreign to this aquifer-system. Initial Aquifer-system studies performed in the Coachella Valley revealed areas with naturally high concentrations of salt exceeding that currently found in Colorado River Water. Colorado River water also contains very low levels of nitrate and naturally occurring arsenic which, when mixed with local aquifers containing elevated levels of nitrate and naturally occurring arsenic exceeding drinking water standards, provide beneficial results to the overall water quality. Groundwater replenishment with Colorado River water also reduces the amount of naturally perched groundwater containing salinity levels exceeding drinking water standards from intruding into the high quality*

aquifer-system below. Based on these facts, replenishment with Colorado River Water ensures the highest quality consistent with the maximum benefit to the people of the State will be maintained.

BIA Rebuttal Response No. 5:

The BIA agrees that the Colorado River is the source of potable drinking water to millions of people after the water has been treated by local water municipalities. We also agree that the Colorado River is influencing the aquifer-system in the Coachella Valley. In our comment letter we never address salts found in the Colorado River; however; salts are addressed within CVWD's CVWMP and PEIR in several areas. One of the most notable comments is within the CVWD's CVWMP executive summary Page 31 discussing conversion of groundwater to canal water for existing lower valley agriculture.

"Since Canal water has a higher salinity than ground water, periodic soil leaching is required to flush out accumulated salt. The additional demand for leaching is incorporated into the water demand estimates. CVWD has prepared a manual to guide farmers in the conversion from groundwater to Canal water (Olsen, 1996)".

CVWD Response to BIA Comment Letter dated August 2, 2002 and documented within the PEIR, section 13 comment sections 3-4, the district agreed with our letter, stating that Colorado River water did contain higher levels of total dissolved solids (TDS) than native groundwater.

It is our opinion that CVWD comments letter is inconsistent with CVWD's CVWMP and PEIR. The BIA wishes to have a more concerted dialogue with CVWD in an effort to review and comment on issues of concern to both state and federal governments. CVWD's replenishment assessment does not address the quality of the water being introduced in to the Lower White Water River Aquifer and therefore from our perspective can not serve as justification for the construction of Well 6711-1.

As stated above in CVWD comments, Colorado River water contains very low levels of nitrates and naturally occurring arsenic. It is unclear whether these statements are true. To date CVWD has been unwilling to share information, analytical data or studies with the BIA and/or tribal governments. In CVWD's Comments to Twenty- Nine Palms letter dated August 9, 2002 and Agua Caliente dated August 8, 2002 in section 13 paragraph 9-14 and paragraph 15-23, respectively, the district sites attorney privilege under California Code of Civil procedure Section 2018 as a basis for not sharing information developed to support the groundwater model, which is the basis for the CVWMP/ PEIR.

The BIA wishes to have open dialogue that helps all parties understand how to achieve a desired balance with the Lower White Water River Aquifer that will protect both state and federal water resources for generations to come. Again it is the opinion of the BIA that the MND does not address these concerns rather it addresses immediate mitigation for CVWD's current issues with development. The BIA is not anti-growth in the valley; nevertheless, the purpose of the MND is to demonstrate mitigation methods that will alleviate the strain produce by a project upon natural resources. The MND dose not support mitigation measures that are necessary to preserve the Lower White River Aquifer's present volume and quality.

It is our opinion while the effort to meet and discuss differences is the first step to solutions, in order to move forward with realistic decisions, conflicting ideas and opinions should be sought and implemented both from the scientific community and diversified groups using the Lower White Water River basin for water resources. We therefore present this letter as food for thought and as the first step to a more honest and progressive approach for the concerns of all peoples of the valley.

It is the intent of the Bureau of Indian Affairs to be proactive with the Coachella tribal governments to voice concerns regarding this MND as it relates to continued neglect from the district in addressing federally reserved water rights both from a quantitative and qualitative perspective.

If there any questions or clarification needed regarding the content of this letter, please do not hesitate to contact Ms. Christina Mokhtarzadeh, Hydrologist Southern California Agency at (951) 276-6624 ext. 257 or Mr. James Fletcher, Superintendent at (951) 276-6624.

Sincerely;

James J. Fletcher
Superintendent

Enclosures:

Cc: Chief of Division of Environmental, Cultural Resources Management & Safety
Regional Geo-Hydrologist, Pacific Region, Bureau of Indian Affairs
Chairperson, Agua Caliente Band of Cahuilla Indians
Chairperson, Augustine Band of Cahuilla Indians
Chairperson, Torres Martinez Desert Cahuilla Indians
Chairperson, Cabazon Band of Mission Indians
Regional Solicitor, U.S. Department of the Interior
Superintendent, Palms Springs Agency, Bureau of Indian Affairs
California Department of Water Resources
U.S. E.P.A., Tribal Water Protection Enforcement Manager

3

IN REPLY REFER TO:

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Pacific Regional Office
2800 Cottage Way
Sacramento, California 95825

AUG 0 2 2002

Mr. Steve Robbins
Assistant General Manager
Coachella Valley Water District
Post Office Box 1058
Coachella, CA 92236

Dear Mr. Robbins:

The U.S. Bureau of Indian Affairs, Pacific Regional Office, as trustee on behalf of several Indian Reservations within the Salton Sea Watershed, submits the following comments on the Coachella Valley Water District's (CVWD) Draft Environmental Impact Report for Coachella Valley Water Management Plan and State Water Project Entitlement Transfer (DEIR). You should be congratulated on producing a competent document for a plan of such sweeping scope. We have frequently noted in correspondence that the Coachella Valley Water Management Plan and related actions taken by CVWD have the potential for adverse and serious effects on tribal trust resources in the Coachella Valley. We are particularly pleased that your document recognizes the significant controversy surrounding the potential effects to those Indian trust assets and resources.

We are primarily concerned regarding three main issues: (1) the nature and extent of groundwater overdraft throughout the Coachella Valley; (2) impacts to groundwater quality beneath tribal lands from proposed groundwater recharge/groundwater storage of Colorado River water; and, (3) impacts to surface water quality of the Salton Sea and related localized effects to groundwater quality beneath Torres Martinez Reservation lands. 3-1

First, we are in agreement that groundwater overdraft is chronic and prevalent in the Coachella Valley. However, quantification of the extent of groundwater overdraft is more contentious. Other federal agencies and tribal representatives have requested groundwater data from CVWD on numerous occasions. These requests have consistently been ignored. The lack of data compromises independent evaluation of overdraft scenarios under this DEIR. 3-2

Additionally, we note reliance on the Coachella Valley Groundwater Model to evaluate present and future management options. It appears that significant time and effort was expended toward construction and calibration of the model. However, you indicated in 3-3

Appendix D, page D-7, that ".....historical pumpage and return flows used in the model were largely estimated in this study". Pumpage data are a primary need in order to properly interpret groundwater discharge in a basin. Mass balancing in instances where a single parameter is estimated is notoriously unreliable. This brings the model results, rather than the model itself, into question.

Secondly, as you note, groundwater currently being extracted from the various sub-basins in the Coachella Valley is of very good quality, low in TDS, and generally free of hazardous constituents. Colorado River water on the other hand is much higher in TDS and nitrates and contains significantly increased pesticide residues and other contaminants. Additionally, the DEIR documents overdraft of fresh groundwater. There appears to be something conceptually wrong with reacting to a fresh water overdraft by making available potentially non-potable water. 3-4

We note that although the DEIR documents significant impacts to groundwater quality under the plan that "no feasible measures are available" for Total Dissolved Solids (TDS) mitigation. The DEIR must adequately describe options for mitigation of those impacts to federal Trust Assets of Indian Reservation water supplies that may become unusable due to the result of groundwater degradation from imported Colorado River water. 3-5

Perchlorate is a particular concern, since the action level on this contaminant has been set at 1μgm/l although the detection limit is 4μgm/l. While we are pleased that CVWD has agreed to provide Torres Martinez and/or Agua Caliente with drinking water or treat the water on extraction; we have two concerns. First, no comparison of the costs of treating Colorado River Water prior to its utilization for recharge, as opposed to subsequent to its later extraction, is provided. No information is provided concerning the potential for increasing the size of the proposed desalinization plant (the agricultural drainage desalter) or any other pretreatment method. Secondly, we are concerned that groundwater extracted later may contain perchlorate at a detectable level. A treatment alternative that might be utilized would be to provide dilution water to reduce the concentration below the action level and/or detection limit. Such an approach would still subject the Indian population of the two reservations to contaminants and potential adverse health effects. 3-6 3-7 3-8

Finally, we are also concerned that the impacts of the plan on the Salton Sea are unclear. Page 1-15 of the summary indicates that the proposed project will provide an increase in freshwater flows to the sea to partially offset the flow reductions. Since, implementation of the plan is expected to result in a 100,000 acre-ft/yr reduction in Salton Sea inflow from the north and an increase of an unspecified quantity from the south; we are interested in reviewing the mass balancing calculations that indicated no mitigation for this adverse effect is required. Additionally, we note that page 4-46 of the document indicates that an effect of the project would be an average water level decrease. Accordingly, it would appear that some mitigation should be required. 3-9

If you have any questions concerning our comments, please contact William Allan, Regional Environmental Protection Specialist at (916) 978-6043, or Christopher Reeves, Regional Geohydrologist at (916) 978-5040.

Sincerely,

Regional Director

cc: Dean Mike, Spokesman, Twenty-Nine Palms Band of Mission Indians
Anthony Madrigal, Environmental Counsel, Twenty-Nine Palms Band of Mission Indians
Marshall K. Cheung, Environmental Coordinator, Twenty-Nine Palms Band of Mission Indians
Richard Milanovich, Chairman, Agua Caliente Band of Cahuilla Indians
Mike Kellner, Environmental Resources Manager, Agua Caliente Band of Cahuilla Indians
Mary Belardo, Chairperson, Torres Martinez Desert Cahuilla Indians
Alberto Ramirez, Tribal EPA Director, Torres Martinez Desert Cahuilla Indians
Maryann Martin, Chairperson, Augustine Band of Mission Indians
John James, Chairman, Cabazon Band of Mission Indians
Rue Doolin, Environmental Director, Cabazon Band of Mission Indians
Superintendent, BIA, Southern California Agency
Director, BIA, Palm Springs Field Office
Jim Fletcher, U.S. EPA, Region IX

3. **Response to:** **Gracie Murillo**
Regional Director
U.S. Bureau of Indian Affairs
Sacramento, CA

3-1 Comment noted. The environmental issues identified in this paragraph are discussed in the following responses.

3-2 CVWD has always been proactive in recognizing the needs and responsibilities of the tribes. CVWD has held eight meetings specifically with the Coachella Valley tribes as shown in Table 2-1 of the Draft Program Environmental Impact Report (Draft PEIR). CVWD has provided information on its wells to the tribes. Logs for private wells are confidential data and cannot legally be provided without the permission of the well owners. At the request of the Consortium of Coachella Valley Tribes, water level data for CVWD wells was provided to Mark Anderson of Springer and Anderson on December 5, 2000. In addition, well logs, depth to water data and water quality data were previously furnished to Mark Anderson for a number of representative District wells in 1997. The District met with each tribe and BIA to request information on existing and projected water use and uses to include in the Water Management Plan; however, no specific information has been received from the tribes.

3-3 Groundwater models are typically developed where a number of parameters must be estimated. Confirmation of the accuracy of the estimates is accomplished through the calibration process. Historical agricultural groundwater pumping is calculated from water use associated with semiannual crop production records, evapotranspiration, and irrigation efficiency less the actual Canal water deliveries to each section of land in the Coachella Valley. Municipal groundwater usage has been estimated by others and by using historical population data. The model and its assumptions were peer-reviewed by three experts (Steve Larson, Professional Hydrologist, S. S. Papadopolos and Associates, Inc.; Jim Mercer, Ph.D., Professional Geologist, HSI Geotrans Inc.; Irwin Remson, Professor Emeritus in Geology, Stanford University, Ph.D.). The Peer Review report states "The Peer Review Panel believes the model is suitable to aid in making management decisions concerning water development in the Coachella Valley" (Larson, et al., 1998) (See Appendix D of the FEIR)

3-4 The District disagrees that Colorado River water is "potentially non-potable." It is safely supplied for potable purposes to millions of people in southern California. Although Colorado River water does contain higher levels of total dissolved solids than groundwater, there are no detectable pesticide residues in Colorado River water. Nitrate concentrations in Colorado River water are significantly lower than local groundwater (average less than 1 mg/L). Perchlorate has been identified as a constituent of concern in Colorado River water. See the Master Response on Perchlorate.

3-5 PEIR Section 8 considers mitigation measures for potential impacts on tribal water supplies. The commenter provides no evidence for the statement that the water may

become unusable. Colorado River water meets all existing health standards for potable use as well as irrigation standards.

3-6 See the Master Response on Perchlorate.

3-7 Cost comparisons for treating Colorado River before recharge and certain direct uses were provided in Appendix I of the Draft PEIR. This Appendix identified the range of costs for desalting all new Colorado River water coming into the Valley as well as desalting all Colorado River water. In the Master Response on Perchlorate, the costs of pre-recharge treatment versus post-extraction treatment for perchlorate are set forth and show that pre-recharge treatment would treatment for perchlorate prior to recharge is not economically feasible and may not be necessary due to the on-going source control efforts at Las Vegas Wash.

3-8 Certainly, dilution with an alternate water source could reduce the perchlorate concentration to less than the detection level. CVWD expects that dilution will occur in the groundwater basin through advection and dispersion. The historical perchlorate concentration is not a valid predictor of future conditions due to remediation activities in Las Vegas Wash. Based on human health data available, it is unlikely that any adverse health effects occur with the current perchlorate concentration in Colorado River water. See also the Master Response for Perchlorate.

3-9 The comment is incorrect. Implementation of the Water Management Plan is expected to result in an 85,000 acre-ft/yr inflow increase, not a reduction, to the Salton Sea from the north (CVWD area), and up to a 100,000 acre-ft/yr reduction from the south (IID area). The 1 ft water level decline and 2,900 acres of exposed seabed compared to the future baseline conditions reflects this difference. This change in inflows represents the maximum direct impact of the IID – CVWD transfer on the Salton Sea if that Transfer were implemented by itself. However, the IID project includes the transfer of up to 300,000 acre-ft/yr of conserved water, which includes 100,000 acre-ft/yr to CVWD. Mitigation for the entire transfer is included the IID Final EIR-EIS. CVWD's use of 100,000 acre-ft/yr of this transferred water from IID partially offsets the inflow reductions from IID as stated in Section 5.6.3 of the Draft PEIR and may reduce IID's mitigation obligations. In that mitigation for reductions in Sea levels and increasing salinity are covered under IID's EIR-EIS, no additional mitigation by CVWD is required.

9

RECEIVED

AUG 9 2002

C.V.W.D

TWENTY-NINE PALMS BAND OF MISSION INDIANS

August 8, 2002

Steve Robbins
Assistant General Manager
Coachella Valley Water District
P.O. Box 1058
Coachella, CA 92236

Dear Mr. Robbins,

The 29 Palms Band of Mission Indians welcomes the opportunity to comment on the DPEIR of CVWD's Water Management Plan and the proposed transfer of SWP entitlement from the MWD to CVWD and DWA. This federally recognized tribe, which is located in the heart of the lower Coachella Valley, places a high priority on the protection of its sovereignty and traditional cultural resources. The traditional cultural properties of the tribe are found over an area in the valley that is much greater than the borders of the present day Twenty-Nine Palms Reservation. The Proposed Project will potentially impact these resources in areas of construction, establishment of recharge areas and changing land uses. In order to address and mitigate these impacts, we recommend the development of a formal ongoing consultative process between tribes and CVWD where information and concerns can be exchanged on a regular basis. 9-1

The tribe also places a high priority on protecting and preserving its natural resources, especially water, on the 29 Palms Reservation. Water resources are not only important to the tribe, but it is also the life-blood of the Coachella Valley. This ambitious 35-year Plan will impact all water users, which include not only CVWD's customers, but also private well owners and all Indian tribes in the CVWD service area. Twenty-Nine Palms and other Indian tribes have a sovereign right to protect the quantity and quality of Tribal water resources. We would also like to point out that CVWD is not the only water provider in the Proposed Project area. In the lower valley, the cities of Coachella and Indio provide water services to users within the CVWD service area. It is not clear from the DPEIR whether any of these other water providers were consulted concerning the Plan and whether their current and projected water requirements were incorporated into the CVWD groundwater model, the DPEIR, and the Water Management Plan. It would 9-2

46-200 HARRISON PLACE, COACHELLA, CALIFORNIA 92236
760-775-5566 · FAX 760-775-4639

be especially important for CVWD to consult with cities, county, and tribes to effectively implement the water conservation element of the DPEIR for the lower Coachella Valley. Furthermore, we believe that more stringent water conservation measures and source substitution requirements are needed in order to meet the objectives of the Water Management Plan. 9-3

The 29 Palms Tribe wishes to exercise its sovereign right to protect the quantity and quality of its water resources on the Reservation. In 1996, during the scoping phase of CVWD preparation for this DPEIR, the BIA provided input stating that the Coachella Valley tribes "--have significant concerns with the potential for adverse impacts associated with the Plan and DPEIR development in respect to tribal resources" (Appendix C, DPEIR, NOP on PEIR for Water Management Plan, 1995). It was also stated at that time that the tribes, including 29 Palms Band of Mission Indians, were especially concerned about potential adverse impacts concerning tribal water quality and quantity. The BIA informed CVWD, "To us the replenishment of the reservoir with inferior water is an inappropriate solution". After reviewing the 2002 DPEIR, this is still the sentiment of the 29 Palms Tribe. In apparent agreement, the CVWD engineering report of 1999 concluded that the goal should be "To ensure a dependable long-term supply of high quality water for all valley water users". However, the current DPEIR only stated that the primary goal of the Plan was "elimination of groundwater basin overdraft" (Section 3.1.1.1, DPEIR, p. 3-3). Maintaining and protecting groundwater quality should be incorporated into the primary objective of all CVWD water management programs. 9-4

With regards to the goal of eliminating groundwater basin overdraft, the lower valley has experienced a total loss of ~3.7 million acre-ft of aggregate freshwater storage from 1936 to 1999 (Table 6-2, DPEIR, p. 6-15). This translates into a loss of ~1.2 million acre-ft every 20 years. During the first 20 years of the Proposed Project there will be further reduction of ~1.4 million acre-ft (Figure 6-21, DPEIR, p. 6-53) from the aquifer. The aggregate loss of groundwater storage in the lower Coachella Valley would be ~5 million acre-ft by 2020. This loss appears to be permanent since there are no indications that the water will be replaced during the Proposed Project. This is especially true when one incorporates water quality into the groundwater budget analysis. Table 6-2 of the DPEIR contains a summary of the 1999 water budget for the Coachella Valley. In this budget, the DPEIR (Section 6.3.1.1.2, p. 6-16) stated that agricultural return waters are unsuitable for beneficial use (Section 6.3.1.1.2, DPEIR, p. 6-16). Return waters should therefore not be considered for the freshwater budget. Similarly, wastewater and exchange water are also unsuitable for beneficial use without further treatment. After removing these components from the water budget, natural recharge and possibly inflows from outside the study area would be the only inflows that have beneficial uses. For the lower valley, inflows from the upper valley may also provide usable water. Table 1 represents a revised fresh water budget for the upper and lower valley. The overdraft of good quality fresh water is over 400,000 acre-ft per year for the entire valley. At this rate, over 14 million acre-ft will be lost during the Proposed Project period. Combining 9-5

the loss up to 1999, there will be an aggregate loss of over 19 million acre-ft by the year 2035. If 5.8 million acre-ft represents 20% of the total basin volume (Section 6.5.1.3, DPEIR, p. 6-48), then the maximum holding capacity of the basin is ~30 million acre-ft. By the end of the Proposed Project, ~65% of freshwater will be permanently lost from the aquifer and usable groundwater will be completely depleted within the next 63 years.

Table I - Summary of 1999 Freshwater Budget for the Coachella Valley

Inflows *(acre-ft/year)*	*Upper Valley*	*Lower Valley*
Natural Recharge	15,400	1,400
Returns	0	0
Waste Water Percolation	0	0
Exchange Water Recharge	0	0
From outside study area	11,300	200
From Upper Valley	0	29,400
Total Inflows	26,700	31,000
Outflows *(acre-ft/year)*	*Upper Valley*	*Lower Valley*
Groundwater Pumpage	207,800	168,300
Flows to Drains	0	55,800
Evapotranspiration	0	4,900
Net flow to Salton Sea	0	-400
To Lower Valley	29,400	0
Total Outflows	237,200	228,600
Balance	**-210,500**	**-197,600**

None of the proposed alternatives adequately address this tremendous overdraft of high quality groundwater. In terms of freshwater in the lower Coachella Valley, the Proposed Project does not succeed in eliminating groundwater overdraft, the primary goal of the Plan. Furthermore, mitigation measures were not provided for replenishing freshwater with lower quality canal and SWP waters. We encourage the CVWD to reevaluate the efficacy and cost of pretreating any water that will be used for recharge. Although such an analysis was reported in Appendix I of the DPEIR, there were no options offered for only treating water that are being considered for recharge (~80,000

9-6

acre-ft for the two proposed lower valley sites and ~103,000 for the existing upper valley site). Because the needs of the upper and lower valleys are different, the cost should be broken down between the two portions of the water basin.

The groundwater model developed by CVWD was utilized to evaluate alternatives to the Proposed Project. Furthermore, data from the groundwater model had been used to evaluate environmental impacts of the Proposed Project and its alternatives (CVWD DPEIR, Section 1, Project Background, p. 1-1, 2002). In response to the NOP on the DPEIR in 2000, the Consortium of Coachella Valley Tribes requested "All supporting data necessary to independently verify and replicate CVWD's groundwater model used in the EIR alternatives analysis". Although CVWD responded to this issue by stating that "Additional technical information will be available for view at CVWD offices", all information should be made available in electronic format due to the complexities of the Proposed Project and the computer generated groundwater model. In addition, it was not clear how long the technical information would remain available and whether the public would be provided with timely updates as they become available. 9-7

The DPEIR cited a report entitled "*Groundwater Flow Model of Coachella Valley, California: An Overview*" by Fogg et al. (2000), which contained information concerning the CVWD groundwater model. After reviewing this model report, we found a number of sections that need further clarification.

- *Section 3.4.1 – the 2nd paragraph*

  In the 3rd paragraph of Section 3.1, it states that "Top and bottom elevations of the four model layers are placed mainly to represent the multiple aquifer zones present in the lower valley and were derived from USGS digital elevation models (DEM), and hydrogeologic characterization from DWR (1964; 1979)." However, the aquifer thickness used in the model appears quite different from that of the generalized stratigraphic column in lower Coachella Valley (see Table II). Also note that the ranges of thickness for Upper aquifer and the aquitard are the same. Is this just coincident or is it a typo in the report? 9-8

  Based on the information in the groundwater model report, it appears that the conceptual model of the Coachella Valley aquifer system was replicated from a DWR study that was performed over 40 years ago in 1964. This DWR report was the best geologic data available at that time. However, technology has greatly advanced since then. Due to the fact that the structure of the aquifer system is the foundation of the CVWD groundwater model, we need to make every effort to gather more up-to-date lithological information in order to produce a more accurate and usable model for decision-making under the Water Management Plan. New pilot boring wells with continuous coring may be required to generate geophysical logging data at strategic locations across the entire valley, especially the lower valley because of its complex system. 9-9

Table II

Groundwater Zones		Model Report	DWR (1964)
Semi-perched zone	Layer 1	100 ft	0-100 feet
Upper aquifer	Layer 2	80 to more than 240 feet	150-300 feet
The aquitard	Layer 3	80 to more than 240 feet	100-200 feet
Lower aquifer	Layer 4	1,000 feet	>1,000 ft

- *Section 3.2.1.3 - the 2nd paragraph*

  "Except for the Whitewater River watershed, 90 percent of the estimated runoff was attributed to streamflow infiltration, and 10 percent of the estimated runoff was attributed to mountain-front recharge". The question is that out of the 90 percent of the estimated runoff, what percentage was put into the model for infiltration? In other words, was the evaporation loss in the path from the mountain front to the valley considered? **9-10**

- *Section 3.2.3 – the 3rd paragraph*

  "Key years are those...." Were the years 1942 and 1951 included as key years? Based on the hydrograph of the well 6S/7E-22B1 (Figure 12), it appears necessary that these two years be included as controls for pumpage interpolation. **9-11**

We also noted that for the groundwater model that the following assumptions were made in developing the model boundary conditions for the planning period 1997-2035:

⇒ Average recharge rates from infiltration of streamflow and mountain runoff over the 61-year history-matching period from 1936-1996 are applicable to the simulation period 1997-2035.

⇒ Actual Salton Sea elevation was used in 1997-1999 and held constant at 1999 levels for 2000-2035.

⇒ Minimum SWP inflows were assumed to be 50,000 acre-ft per year.

⇒ No additional drains were installed after 1996.

One would assume that if any of these assumptions failed, and then the model must be recalibrated and rerun with new or revised assumptions. It also follows that the Proposed Project and its alternatives must be reevaluated using the updated model. For example, the current and projected drought conditions in the Western United States and in this region may preclude using the average recharge rates calculated from 1936-1996. Drought conditions may also impact the availability of SWP for purchase. If the Quantification Settlement Agreement (QSA) were approved, the elevation of the Salton Sea would not be expected to remain constant from 1999-2035. What adjustments must be made to the model if the SWP water transfer deals (DPEIR, Section 3.3.2.2.3, p.3-30) fall through and result in inflows becoming significantly less than 50,000 acre-ft?

9-12

9-13

We'd like to emphasize again that information concerning any proposed water projects for the CVWD service area and the Salton Sea Watershed must be provided in a complete and timely manner for public review and peer assessment. With regard to the groundwater model, we feel strongly that all the input data for model shall be provided to the Tribe and the public, including:

9-14

1. Top and bottom elevations of all model layers;
2. Distribution of hydraulic conductivity in all model layers;
3. Distribution of specific yield and specific storage in all model layers;
4. Model input data:
    a. Inflow from San Gorgonio Pass Area
    b. Inflow across Banning and San Andreas Faults
    c. Infiltration of mountain runoff
    d. Artificial recharge
    e. Pumpage
    f. Returned flows
    g. Evapotranspiration
    h. Drain flows
5. Historical water level data for all target wells
6. Geophysical logs and driller's logs for all target wells

In the future, we request that CVWD provide timely and complete information to the public, other agencies, and Indian Tribes on any major changes in the assumptions and data associated with the CVWD groundwater model. CVWD should provide any and all data in a format that would enable reconstruction of the revised groundwater models by anyone who wished to do so.

9-15

In conclusion, we commend CVWD for attempting to undertake the complicated and difficult task of managing water resources in the Coachella Valley for the next 35 years. Nevertheless, we feel that the Proposed Project falls far short of its stated objectives and needs further analysis prior to implementation. This is especially true when one considers the cumulative impacts of many other water projects that are being considered but not finalized at this time. Until the ever-changing water climate stabilizes,

it seems premature for us to be locked into a relatively fixed Water Management Plan for the next 35 years. Based on the information provided in the DPEIR, the amount of "fresh" groundwater would not be able to support the anticipated growth in this region over the Proposed Project period. CVWD needs to reevaluate the feasibility of constructing water treatment systems with sufficient capacity to meet the demands of growth. Otherwise, some mechanism would be required to curtail future growth, which was not an alternative in the DPEIR. Due to the importance of the Water Management Plan and the significant concerns we presented, the 29 Palms Band of Mission Indians recommends that CVWD prepare another revised version of the DPEIR and redistribute it for further comments.

9-16

9-17

9-18

Sincerely Yours,

Dean Mike

Dean Mike, Tribal Chairman

9. Response to: Dean Mike
Tribal Chairman
Twenty-Nine Palms Band of Mission Indians

9-1 The District is appreciative of and encouraged by your offer to develop a formal on-going consultative process between the Coachella Valley tribes and the District. The District wholeheartedly endorses this approach and looks forward to a forum where information and concerns can be openly exchanged.

9-2 CVWD is aware of the tribes' water rights claims, and in the preparation of the Water Management Plan consulted with all of the tribes.

The cities of Coachella and Indio were sent Notices of Preparation, Notices of Availability of the Draft Program Environmental Impact Report (PEIR), invitations to the public meetings and copies of the PEIR. Neither of these cities would be adversely affected by the Proposed Project. The current and projected water requirements of all of the Coachella Valley cities, including Coachella and Indio, were incorporated into the groundwater model, the Draft PEIR and the Water Management Plan.

9-3 The District appreciates the suggestion; however, the commenter does not provide detailed information on what "more stringent" measures are being suggested. CVWD did analyze a wide range of conservation measures as described in Section 3.3.1 of the Draft PEIR. CVWD has identified and proposes to implement essentially all viable source substitution options in the Lower Valley reserving groundwater primarily for potable (drinking) purposes and supply to those areas outside the Improvement District No. 1 (ID-1) service area, which is the area that is contractually allowed to use Canal Water.

9-4 The District appreciates the tribe's concerns about water quantity and quality. The project goals concerning high water quality are unchanged. As stated in Section 3.1.1.1 of the Draft PEIR, reduction of groundwater overdraft will improve the water quality by preventing the percolation of poor quality agricultural return flows into the groundwater basin. The District considers Colorado River water as having satisfactory quality for irrigation, potable and groundwater recharge uses as it meets applicable State and federal standards.

9-5 The comment is correct that the Lower Valley has in the past and for a period of time in the future will continue to lose freshwater storage. This storage loss is permanent principally because the imported water required to eliminate this overdraft will not reach its maximum until 2033. There is not sufficient water available to eliminate this overdraft and to replace the historical overdraft. The goal of the Water Management Plan is to eliminate the overdraft, not to replace historical overdraft.

The groundwater budget must include all basin waters including agricultural return water, exchange water and treated wastewater to accurately depict the total change in groundwater storage. Water quality was considered in evaluating the change in

freshwater storage. Return waters having a total dissolved solids (TDS) of 1,000 mg/L or higher were specifically excluded from the freshwater balance as they are unsuitable for beneficial use without further treatment (see page 6-20 of the Draft PEIR). Table 6-2 of the Draft PEIR presents the total groundwater balance, which includes all inflows and outflows from the basin. In addition, this table presents the total change in freshwater storage that is derived by excluding the return flows from irrigation with Colorado River water. In 1999, because very little Colorado River water was supplied for irrigation in the Upper Valley, most of the returns occur from the use of groundwater which is considered a beneficial return to basin as its TDS is less than 1,000 mg/L. Exclusion of the returns from Colorado river use in the Upper Valley accounts for the small difference (500 acre-ft/yr) between the total groundwater balance and the freshwater balance. For the Lower Valley, there is a much larger use of Colorado River water for irrigation. Because the irrigation return flows from Colorado River use have a TDS in excess of 2,000 mg/L, these returns were excluded from the freshwater balance. Table 6-2 of the Draft PEIR reflects this exclusion in the 1999 annual change in freshwater storage value. The 62,600 acre-ft/yr difference between the 1999 annual change in storage (-41,700 acre-ft/yr) and the annual change in freshwater storage (-104,300 acre-ft/yr) is the result of excluding golf course and agricultural returns from irrigation with Colorado River water.

Recycled wastewater and Exchange water are suitable for specified uses without further treatment according to state regulations. The Water Quality Control Plan for the Colorado River Basin Region (Regional Board, 2001c) specifically includes groundwater recharge and municipal and domestic supply as designated existing or potential beneficial uses for Coachella Canal and Colorado River Aqueduct waters. The State Department of Health Services (DHS) allows the use of recycled municipal wastewater for a variety of uses including irrigation of food and other crops, landscape irrigation, recreational and landscape impoundments, industrial or commercial cooling and other uses such as toilet flushing and commercial car washes (California Code of Regulations, Title 22, Section 60303 - 60307). Recycled water can also be used for groundwater recharge subject to DHS and Regional Board approval (California Code of Regulations, Title 22, Section 60320).

The source of the statement that the overdraft of "good quality fresh water is over 400,000 acre-ft per year for the entire valley" is unknown to the District and appears to be incorrect in that it presumes that the use of groundwater cannot result in beneficial returns to the groundwater basin. The only way for this proposed water balance to be reasonable is to eliminate all groundwater pumping for any purpose from the Valley. This is clearly impractical given the current level of development in the Coachella Valley.

9-6 The District respectfully disagrees that none of the proposed alternatives address the overdraft of high quality groundwater. The purpose of the Proposed Project is to eliminate the groundwater overdraft. As shown in Figure 6-20 (page 6-22), the Proposed Project achieves a balance in the annual change in freshwater storage by about the year 2030. The anticipated build-up schedule for obtaining additional imported water supplies prevents a more rapid elimination of overdraft.

Pre-treating water for recharge was evaluated in the Draft PEIR as described in Appendix I and in the revised Appendix I of the Final PEIR. In fact, the Desalination Option 5 as presented in Appendix I, evaluates desalination of 193,000 acre-ft/yr of imported water for both recharge and direct delivery. This option treats 10,000 acre-ft/yr more than the option proposed by the commenter. The differences in costs between these options is expected to be minimal because the size of the facilities are essentially the same. The costs are broken down by Upper and Lower Valley elements. Although Appendix I of the Draft PEIR did not present the separate costs for the Upper and Lower Valley, these costs were analyzed and are now presented in the revised Appendix I of the Final PEIR.

9-7 CVWD has always been proactive in recognizing the needs and responsibilities of the tribes. CVWD has held eight meetings specifically with the Coachella Valley tribes as shown in Table 2-1 of the Draft Program Environmental Impact Report (Draft PEIR). CVWD has provided information on its wells to the tribes. Logs for private wells are confidential data and cannot legally be provided without the permission of the well owners. At the request of the Consortium of Coachella Valley Tribes, water level data for CVWD wells was provided to Mark Anderson of Springer and Anderson on December 5, 2000. In addition, well logs, depth to water data and water quality data were previously furnished to Mark Anderson for a number of representative District wells in 1997. The District met with each tribe and BIA to request information on existing and projected water uses to include in the Water Management Plan; however, no specific information has been received from the tribes. Any updated information will be made available to the public in electronic format when feasible, as appropriate under relevant law.

9-8 The Overview Report is correct in stating that hydrostratigraphic characterization of the Coachella Valley is based on the 1964 and 1979 DWR reports. The ranges of thicknesses given in the DWR report (1964) in the generalized stratigraphic column for the aquifer units represent literally just that, a possible range of thicknesses for each unit – not exact measurements. In the model, the range of layer thicknesses (corresponding to the aquifer units) is approximately within the range of thicknesses suggested by DWR (1964).

The layer elevations were constructed for the model by using DEM data and top of lower aquifer elevations from DWR (1964). Thus, layer thicknesses in the Lower Valley were controlled by these data. In addition, to resolve issues associated with the drying and subsequent rewetting of model nodes in the upper layers, the bottom of layer 1 was set as deep as possible because the water table was relatively deep in the Upper Valley and the unconfined areas of the Lower Valley. Thus, the thickness of the Semi-perched zone (layer 1) was set to the high end of its range, or 100 ft. This imposed an additional constraint on the thicknesses of layers 2 and 3, which were set to equal thicknesses by placing the bottom of layer 2 (top of layer 3) elevations midway between the top of layer 2 (bottom of layer 1) and the top of layer 4 (as digitized from DWR, 1964). Thus, the similar thicknesses of layers 2 and 3 correctly represents what was modeled. The District believes the ranges used in the model are substantially the same as those presented by DWR.

Drillers' logs and geophysical logs reviewed by DWR, USGS, and the groundwater modeling team show complex heterogeneity in subsurface materials, which could never be modeled exactly. Available lithologic and geophysical logs were reviewed and their data incorporated into the model geometry and model hydrogeologic parameters. However, the model results, based on a sound conceptual model and robust calibration, explain quite well the historical variations in water levels and flows throughout the valley.

9-9 The conceptual model and its numerical representation are based, in part, on hydrogeologic analyses in the DWR report (1964, 1979) and others, including more recent USGS modeling studies in the upper valley (e.g., Reichard and Meadows, 1992). In addition, information from well logs and geophysical logs throughout the valley were reviewed in the CVWD study to confirm the DWR and USGS interpretations, and to improve the understanding of the subsurface stratigraphy. For example, over 50 geophysical (resistivity) logs were analyzed in conjunction with the corresponding drillers' logs at locations throughout the Coachella Valley. The results of the hydrostratigraphic analysis were incorporated in the model in the hydraulic conductivity and storage coefficient estimates, the parameters that control the rate of movement and storage of water in the system. Thus, the understanding of the hydrostratigraphy was improved relative to previous studies.

The dates of the DWR (1964, 1979) reports should not be construed as indicative of the quality and current relevance of the work. The data used in the DWR reports was relatively voluminous even by today's standards, and, in fact, the most comprehensive characterizations of California groundwater basins were performed in the 1960s and 1970s. Furthermore, the hydrostratigraphic characterization through joint interpretation of geologic and hydrologic data was comprehensive and carefully analyzed. The CVWD modeling team's review of existing data repeatedly validated the hydrostratigraphic and conceptual hydrogeologic model originally put forth by DWR in 1964 and 1979.

9-10 Evaporation was considered in the evaluation. Ninety percent of the estimated base-of-the-mountain streamflow was assumed to flow onto the Valley floor. Of this amount, 5 percent was ascribed to evaporation losses and the remaining 95 percent (adjusted for surface flows to the Salton Sea in extremely wet years) was assumed to infiltrate to the groundwater basin. This assumption is reasonable given the relatively steep stream channels and very coarse sediments that allow rapid infiltration. It should be noted that 10 percent of the previous five-year average streamflow was attributed to subsurface recharge from the mountain-front.

9-11 The years 1942 and 1951 were not key years because the necessary data to determine the crop patterns at the section scale for those years was not available. In addition, 1942 would not really qualify because it does not represent a major change in trend in water levels throughout the Lower Valley. However, total annual groundwater pumpage and returns were calculated by the consumptive use method for all years in the period 1937-57, and these totals were used to control the interpolation. Better than average estimates

of total crop evapotranspiration (ET) were developed for these years; these estimates were used in the calculations. Thus, the observed trends in water levels in the period 1937-57 were included in the pumpage and return estimates via the total measured Canal water deliveries and total crop ET estimates. Crop type and acreage by section data in 1936 and 1958 were used to distribute the pumpage and return estimates in the model in this period.

9-12 The data used for simulation during the planning period must of necessity be estimated because there is no fore-knowledge of future hydrologic conditions. The modeling team believed that use of the long-term (61 years) hydrologic average was a reasonable representation of future conditions as it reflected a wide range of both wet, normal and dry cycles. The use of the expected value (i.e., average) based on historical data is a common approach used to represent the availability of long-term water.

CVWD and DWA have existing entitlements to 61,200 acre-ft/yr from the State Water Project (SWP). The availability of SWP Exchange water for recharge was estimated to average 50,000 acre-ft/yr over a 73-yr (1922 through 1994) range of historical hydrologic conditions using DWR hydrologic and operational modeling results available at the time of the analysis. Droughts are a fact of life in California and the DWR modeling considered the severe historical droughts that occurred from 1928-1934, 1976-1977 and 1987-1991.

The use of a constant Salton Sea elevation during the 2000-2035 planning period and thereafter through 2077 slightly overestimates the inflows from the Sea into the shallow aquifer. However, drain flows and phreatophyte ET were slightly underestimated. The net effect is slightly more total outflow from the groundwater basin (up to about 240 acre-ft/yr). This difference is less than 0.5 percent of the total change in storage and is well within the accuracy range of the water balance. Therefore, no significant change in the Draft PEIR conclusions would result.

Although no additional drains are assumed beyond 1996, it is anticipated that the construction of additional drains for new agricultural lands would result in higher drain flows and reduced phreatophyte evapotranspiration if the drains are installed in Semi-perched zone areas where the water table is shallow. Consequently, it is believed that additional drains would have little effect on the overall groundwater balance (because the acreage of additional lands would be small) except in slightly higher drain flows, which discharge to the Salton Sea.

The model was calibrated for the 1936 through 1996 period and thus any changes in measured water levels or flows after 1996 do not necessitate recalibration of the model. The model would only need to be re-calibrated to more recent data if the more recent data reflect conditions (mainly stresses; i.e., pumpage, recharge, sea level) that did not occur during the calibration period. Any changes in measured water levels or flows in the predictive simulation period after 1996 could be included in the model to improve future predictions. Any local information from new wells (geophysical, core) could also be used to improve the model locally; however, it is very unlikely that the overall model

results would significantly change due to any local improvements. There is no need to recalibrate the model as the planning assumptions do not affect the historic results, which are used for model calibration. The differences between alternatives are the important analyses.

9-13 No adjustments need to be made if the proposed SWP entitlement transfer does not take place because this condition was analyzed in the future baseline (No Project) case. The 50,000 acre-ft/yr is the current average supply, and will not change should the SWP water transfer "deal falls through." The Proposed Project looks at the impacts of implementing this transfer along with the rest of the Water Management Plan actions.

9-14 CVWD considers your request for detailed data related to the Coachella Valley Groundwater Model (Model) to be, in essence, a request for the Model. The Model was prepared on behalf of Redwine and Sherrill, CVWD's general counsel. As such, it is exempt from disclosure pursuant to the Public Records Act, Government Code Section 6254(k), and the attorney work product privilege under California Code of Civil Procedure Section 2018. The Model is therefore a confidential document, the proprietary information of Redwine and Sherrill and is protected by the attorney work product privilege. Accordingly, CVWD will not be releasing the Model.

CVWD has previously offered to enter into a government-to-government agreement with the tribes in the Coachella Valley wherein the Model and other related data might be shared. If the tribes are interested in such an agreement, CVWD would welcome the opportunity to pursue this option.

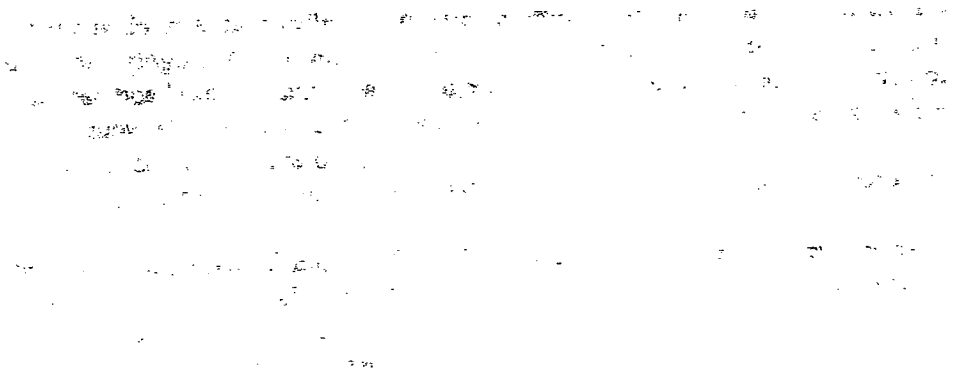
9-15 The Tribe's request is noted. Please refer to Responses 9-7 and 9-14.

9-16 Because the water climate constantly changes, the Water Management Plan is not a fixed blueprint, but an adaptable approach to water management that the District plans to revisit approximately every five years. CVWD will coordinate with the tribes on revisions and subsequent environmental reviews as they occur.

9-17 Alternative 2 in the Water Management Plan and PEIR, involving adjudication of the basin, would curtail growth by limiting groundwater production to the safe yield and imported supplies to current levels. CVWD does not control growth, and has no control over land use decisions in the Coachella Valley.

9-18 CEQA requires recirculation of a draft EIR when significant new information is added (CEQA Guidelines Section 15088.5). New information added to an EIR is not significant, unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modification in an adequate EIR. No "significant new information" has

been added to the Draft PEIR for the Proposed Project and thus recirculation is not required by CEQA.



AUG 1 2 2002

10

C.V.W.D

AUGUSTINE BAND OF CAHUILLA MISSION INDIANS
84481 Avenue 54 • P.O. Box 846 • Coachella, CA 92236 • (760) 369-7171 • Fax: (760) 369-7161
Chairperson: MaryAnn Martin

August 8, 2002

Steve Robbins
Assistant General Manager
Coachella Valley Water District
P.O. Box 1058
Coachella, CA 92236

Dear Mr. Robbins:

The Augustine Band of Cahuilla Mission Indians appreciates the opportunity to comment on the DPEIR of CVWD's Water Management Plan and the proposed transfer of SWP entitlement from the MWD to CVWD and DWA. The Augustine Band is one of the federally recognized tribes, situated in the heart of the lower Coachella Valley, which has been occupied by the Cahuilla Indians for over 1,000 years. As indicated in the history of the Cahuilla, the traditional cultural properties of the tribe are found over an area in the valley that is much greater than the borders of the present day Augustine Reservation. We highly value the protection and preservation of our sovereignty, traditional, cultural and natural resources, especially water, on the Tribal Land. We are pleased that your documents recognize that the Proposed Project will potentially impact these resources and that you initiate the consultation with tribes in the region.

However, we believe that the DPEIR of CVWD's Water Management Plan and the proposed transfer of SWP entitlement from the MWD to CVWD and DWA does not fully address many significant potential impacts. After reviewing your documents, the Augustine Band would like to express our concern on the following issues:

10-1

- The Tribe's sovereign right to protect the quantity and quality of our water resources on the Reservation,
- The nature and extent of groundwater overdraft throughout the Coachella Valley,
- The potential impact of any construction on the tribal traditional cultural and natural resources,
- The cumulative impacts of this Proposed Project and the other water projects on the whole basin and the impacts to groundwater quality beneath Augustine Reservation from the proposed ground water recharge/groundwater storage of Colorado River water.

10-2

The Augustine Band wishes to exercise our sovereign right to protect the quantity and quality of our water resources on the Augustine Reservation. In 1996, during the scoping phase of CVWD preparation for this DPEIR, the BIA provided input stating that the Coachella Valley tribes "--have significant concerns with the potential for adverse impacts associated with the Plan and DPEIR development in respect to tribal resources" (Appendix C, DPEIR, NOP on PEIR for Water Management Plan, 1995). It was also stated at that time that the tribes, including Augustine Band of Cahuilla Mission Indians, were especially concerned about potential adverse impacts concerning tribal water quality and quantity. The BIA informed CVWD, "To us the replenishment of the reservoir with inferior water is an inappropriate solution". After reviewing the 2002 DPEIR, this is still the sentiment of the Augustine Tribe. In apparent agreement, the CVWD engineering report of 1999 concluded that the goal should be "To ensure a dependable long-term supply of high quality water for all valley water users". However, the current DPEIR only stated that the primary goal of the Plan was "elimination of groundwater basin overdraft". Maintaining and protecting groundwater quality should be incorporated into the primary objective of all CVWD water management programs.

10-3

CVWD's groundwater overdraft theory is established for the evaluation of present and future management options relies mainly on the agency's Coachella Valley Groundwater Model. Based on the information in the groundwater model report, it appears that the conceptual model of the Coachella Valley aquifer system was replicated from a DWR study that was performed over 40 years. New up-to-date lithological and geological information need to be incorporated in the model in order to produce a more accurate and usable model for decision-making under the Water Management Plan. We request that CVWD provide groundwater data for federal agencies, tribes, and public to be used to independently replicate and evaluate the overdraft scenarios undertaken by this DPEIR.

10-4

The Proposed Project also will potentially impact the tribal traditional cultural and natural resources in areas of construction, establishment of recharge areas, and changing land uses. The Augustine Band of Cahuilla Mission Indians is part of the Cahuilla Indians groups who live in south-central California. Our ancestors' lands extend beyond the present tribal properties. Even though the Proposed Project is not located within the boundary of the Augustine Reservation, there are possibilities that the development might impact properties of traditional religious and cultural significance to the Augustine Band. In order to address and mitigate these impacts, we recommend the development of a formal ongoing consultative process between tribes and CVWD where information and concerns can be exchanged on a regular basis.

10-5

Cumulative impacts on the entry watershed need to be addressed. This DPEIR analyzes only the potential impacts of this specific Proposed Project. The many

other water projects that are being considered but not finalized at this time should also be factored in the calculation so that the cumulative impacts are being studied as a whole instant of being considered as individual projects. These documents discussed the potential impacts of the water recharged to the quality of the nearby tribes' wells only. The study needs to envision the long-term bearings of recharging Colorado River water under this Proposed Project to the water quality of the whole basin, including other tribes' water supply located within it. The study suggests the provision of domestic water or wellhead treatment to the two affected tribes as mitigation measures. It does not mention the assistance that CVWD or DWA to other tribes and the fiscal responsibility for this type mitigation. Considering the irreversible adverse impacts of contamination to the existing high quality freshwater supply of the whole watershed, we recommend that CVWD reevaluate other mitigation measures such as the feasibility of water pretreatment installation before recharge or replenishment of freshwater. 10-6

In conclusion, the immediate concern of the Tribe is the protection and preservation of the quality and quantity of our groundwater, which is our only source of drinking water. Due to the importance of the Water Management Plan and the significant concerns we presented above, the Augustine Band of Cahuilla Mission Indians recommends that CVWD prepare another revised version of the DPEIR and redistribute it for further comments and that the Tribe continue to be consulted. The Tribe would like to be notified and be involved in actions and decisions that have been taken, and will be planned, for the mitigation of any impact. 10-7

If you have any questions concerning our comments, please do not hesitate to contact Karen Kupcha, Tribal Administrator, or Sirirat Chullakorn, Tribal Environmental Coordinator at (760) 365-1373.

Sincerely Yours,

MaryAnn Martin, Tribal Chairperson

MM/sc
cc : The U.S. Bureau of Indian Affairs, Pacific Regional Office

10. Response to: Mary Ann Martin
Tribal Chairperson
Augustine Band of Cahuilla Mission Indians

10-1 The comments are noted and discussed in detail in the following responses on each issue.

10-2 The District appreciates the tribe's concerns about water quantity and quality. The project goals concerning high quality water are unchanged. As stated in Section 3.1.1.1 of the Draft PEIR, reduction of groundwater overdraft will improve the water quality by preventing the percolation of poor quality agricultural return flows into the groundwater basin. The District considers Colorado River water as having satisfactory quality for groundwater recharge, irrigation and domestic uses as it meets applicable State and federal standards.

10-3 In developing any groundwater model, it is always necessary to make simplifications to ensure a mathematically stable model that reasonably reflects the conditions of the basin. Geophysical data were considered in the development of the model. The model used not only the California Department of Water Resources (DWR) report, but also all subsequent data available to the District through present times. The inclusion of this information did not change the conclusions or the analysis. Early in the model development process, the District requested well log and existing and projected water use information from the tribes, but none was made available.

CVWD has previously provided substantial information on its wells to the tribes. Logs for private wells are confidential data and cannot legally be provided without the permission of the well owners. At the request of the Consortium of Coachella Valley Tribes, water level data for CVWD wells were provided to Mark Anderson of Springer and Anderson on December 5, 2000. In addition, well logs, depth to water data and water quality data were previously furnished to Mark Anderson for a number of representative District wells in 1997.

The conceptual model and its numerical representation are based, in part, on hydrogeologic analyses in the DWR report (1964, 1979) and others, including more recent USGS modeling studies in the upper valley (e.g., Reichard and Meadows, 1992). In addition, information from well logs and geophysical logs throughout the valley were reviewed in the CVWD study to confirm the DWR and USGS interpretations, and to improve the understanding of the subsurface stratigraphy. For example, over 50 geophysical (resistivity) logs were analyzed in conjunction with the corresponding drillers' logs at locations throughout the Coachella Valley. The results of the hydrostratigraphic analysis were incorporated in the model in the hydraulic conductivity and storage coefficient estimates, the parameters that control the rate of movement and storage of water in the system. Thus, the understanding of the hydrostratigraphy was improved relative to previous studies.

The dates of the DWR (1964, 1979) reports should not be construed as indicative of the quality and current relevance of the work. The data used in the DWR reports was relatively voluminous even by today's standards, and, in fact, the most comprehensive characterizations of California groundwater basins were performed in the 1960s and 1970s. Furthermore, the hydrostratigraphic characterization through joint interpretation of geologic and hydrologic data was comprehensive and carefully analyzed. The CVWD modeling team's review of existing data repeatedly validated the hydrostratigraphic and conceptual hydrogeologic model originally put forth by DWR in 1964 and 1979.

10-4 The siting of future facilities will consider, as is required by law, the potential for impacts on cultural resources in areas of construction, recharge areas and land uses. The future analyses will be performed in compliance with the requirements of CEQA, the State Historic Preservation Officer and the Native American Heritage Program. The comment recognizes that the Proposed Project is not within the boundary of the Augustine Reservation. In addition, no water quality impact is projected on any wells owned by the Augustine Tribe. For the future facilities analyses, the tribe will be invited to provide information on other properties of significance.

The District is appreciative of and encouraged by your offer to develop a formal on-going consultative process between the Coachella Valley tribes and the District. The District wholeheartedly endorses this approach and looks forward to a forum where information and concerns can be openly exchanged. CVWD has previously offered to enter into a government-to-government agreement with the tribes in the Coachella Valley wherein information and concerns can be exchanged and addressed on a regular basis. If the Cabazon Band of Mission Indians is interested in such an agreement, the District would welcome the opportunity to pursue this option.

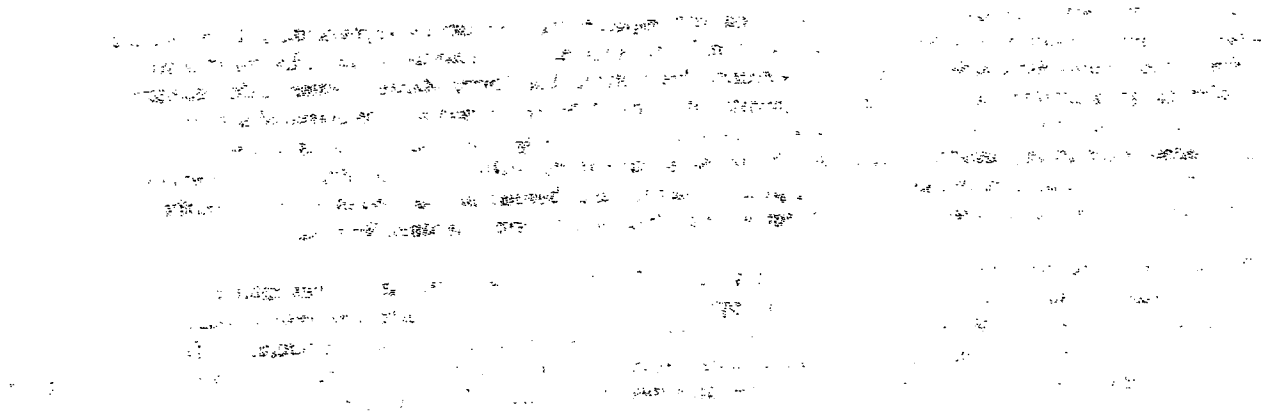
10-5 The District believes the comment must mean the "entire" not the "entry" watershed. The Cumulative Impact analysis in Section 9 of the Draft PEIR considers all of the related water projects with cumulative impacts of which the District is aware as required by the State CEQA Guidelines Section 15130.

10-6. The Draft PEIR does consider the potential impact on all the tribes; there are no potential water quality impacts projected to any tribes other than the Torres Martinez and Agua Caliente (Draft PEIR Sections 6 and 8). Concerning other mitigation methods, including pretreatment before recharge, please refer to the revised Appendix I in the Final PEIR. This Appendix considers the feasibility of pre-treatment and concludes that pre-treatment by desalination is economically infeasible for the Coachella Valley. CVWD's proposed mitigation for any potential health impacts for all well owners would be at CVWD's and Desert Water Agency's expense.

10-7. CEQA requires recirculation of a draft EIR when significant new information is added (CEQA Guidelines Section 15088.5). New information added to an EIR is not significant, unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative)

that the project's proponents have declined to implement. Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modification in an adequate EIR. No "significant new information" has been added to the Draft PEIR for the Proposed Project and thus recirculation is not required by CEQA.

The District will continue to notify the tribes of actions related to the Water Management Plan and the PEIR.



12

TORRES MARTINEZ
DESERT CAHUILLA

MAU-WAL-MAH
SU-KOTT MENYIL

THE TORRES MARTINEZ DESERT CAHUILLA INDIANS
P.O. Box 1160 – 66-725 Martinez Road
Thermal, CA 92274
(760) 397-0300 • FAX (760) 397-1019

August 8, 2002

Steve Robbins, Assistant General Manager
Coachella Valley Water District
P.O. Box 1058
Coachella, California 92236

RE: Proposed Water Management Plan for the Coachella Valley

Dear Mr. Robbins:

This letter is written to inform the Coachella Valley Water District of a Tribal Council determination by the Torres Martinez Desert Cahuilla Indians in response to the C.V.W.D.'s proposed water management plan as described in the June 2002 document entitled *Draft Program Environmental Impact Report for Coachella Valley Water Management Plan and State Water Project Entitlement Transfer.*

The aforementioned proposed plan has been reviewed with respect to the potential for degradation of Tribal surface water and ground water quality for the Torres Martinez Reservation lands as protected in the Tribally-approved Tribal Water Quality Standards for the Torres Martinez Reservation. The Torres Martinez water quality standards classify the upper aquifer and lower aquifer underlying the Torres Martinez Reservation as outstanding waters. As described in *Chapter 3 – Water Quality Objectives, Section V. Outstanding Waters* of the Torres Martinez Reservation water quality standards, there shall be no degradation of the quality of outstanding waters caused by a point or non-point source discharge (including ground water recharge basins) and no exemption is allowed for managers having jurisdiction over areas upstream or up gradient of the Torres Martinez Reservation.

The use of recharge water having lower water quality (especially total dissolved solids and perchlorate) in recharge basins located up gradient of the lower aquifer and upper aquifer for the Torres Martinez Reservation would constitute a violation of the Water Quality Standards for the Torres Martinez Reservation. Therefore, the Tribal Council for the Torres Martinez Desert Cahuilla Indians denies approval of the Proposed Water Management Plan for the Coachella Valley. Please direct questions regarding this letter to me at (760) 397-0300

12-1

Sincerely,
Tribal Council

Mary E. Belardo
Tribal Chairwoman

C: Wayne Nastri, U.S. EPA Regional Administrator (Region IX)
Virgil Townsend, BIA Superintendent (Southern California Agency)
Alberto Ramirez, Torres Martinez Tribal Environmental Protection Agency Director

12. Response to: Mary E. Belardo
Tribal Chairwoman
The Torres Martinez Desert Cahuilla Indians

12-1. CVWD has not been furnished a copy of the tribe's water quality standards. In response to a request for a copy, CVWD was advised the standards were not available to the public because they had not been finalized and were still undergoing review and revision (see attached letter). Accordingly, the PEIR cannot present any analysis regarding those draft standards.

As a general rule, a tribe does not have authority to regulate non-members. The Tribe has not been granted Treatment as State (TAS) status under the federal Clean Water Act, which would only confer authority to establish water quality standards for surface waters that are tribal trust assets. Authority to establish groundwater quality standards is not conferred by TAS status.

TORRES MARTINEZ DESERT CAHUILLA

MAU-WAL-MAN NU-EETT MENVIL

THE TORRES MARTINEZ DESERT CAHUILLA INDIANS
P.O. Box 1160 – 66-725 Martinez Road
Thermal, CA 92274
(760) 397-0300 • FAX (760) 397-1019

August 21, 2002

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

RE: Your fax dated 8/19/02 in response to our Water Quality Standards

Dear Mr. Levy:

At this time we are unable to supply you with the documentation that you have requested in your fax. Our Water Quality Standards documentation is currently under legal review in house and with U.S. EPA.

Documentation will be made public when we have finalized the revisions that we are currently under going and the document is out for public comment.

Sincerely,
Tribal Council, and;

Mary E. Belardo
Tribal Chairwoman

C: Wayne Nastri, U.S. EPA Regional Administrator (Region IX) Sent via fax
Virgil Townsend, BIA Superintendent (Southern California Agency) Sent via fax
Alberto Ramirez, Torres Martinez Tribal Environmental Protection Agency Director

13

August 9, 2002

Mr. Steve Robbins
Assistant General Manager
Coachella Valley Water District
Post Office Box 1058
Coachella, California 92236
Fax: 760-398-2651
E-Mail: cvwdmail@cvwd.org
Transmitted via Fax and E-Mail

Re: Draft Program Environmental Impact Report for the Coachella Valley Water Management Plan

Dear Mr. Robbins:

Please accept the following comments on the Coachella Valley Water District's ("CVWD") Draft Program Environmental Impact Report ("DPEIR") for the Coachella Valley Water Management Plan ("CVWMP"). These comments are submitted on behalf of the Torres Martinez Band of Desert Cahuilla Indians ("Tribe"). The Torres Martinez Desert Cahuilla Indians have inhabited the Coachella valley and environs as a functioning and organized society since time immemorial. In 1876, the United States recognized the Torres Martinez Tribe as a sovereign government and concurrently recognized the Torres Martinez Indian Reservation ("Reservation"), as the Tribe's permanent homeland.[1] The Tribe owns and enjoys the full use and benefit of the Reservation. The Reservation is located on the northwest side of the Salton Sea and includes nearly 12,000 acres of land that has been inundated by inflows of Colorado River water into the Salton Sea. It includes significant land, habitat and wildlife alongside and underlying the Salton Sea.[2]

Segmentation

The CVWMP is truly a component of a larger water management plan currently being implemented in southern California, which includes the approval of the Colorado

[1] In 1876, President Benjamin Harrison recognized a 640-acre section of land in the Coachella Valley at the northern end of the Salton Sink as the Torres-Martinez Indian Reservation. The Reservation was expanded in 1891 by another 12,000 acres.

[2] In 1909 an additional 12,000 acres of land were added to the Torres-Martinez Reservation, 9,000 of which were then submerged under the Salton Sea. To this day over 11,000 acres of the Reservation remain under the Salton Sea. The 13,800 acres of the Torres-Martinez Reservation that are adjacent to the Salton Sea are checker-boarded with the Tribe's major villages and some of the most productive agricultural land in the country.

River Water Quantification Settlement Agreement, the Imperial Irrigation District's Water Conservation and Transfer Project, the Salton Sea Habitat Conservation Plan, and the Salton Sea Restoration Project. The process for public review of the overall water management plan required under the National Environmental Policy Act has been so severely segmented that it is impossible to conduct informed and meaningful assessments of potential environmental impacts. 13-1

The Tribe has already reviewed separate and sometimes contradictory environmental analysis documents for the Implementation Agreement and Inadvertent Overrun and Payback Policy, for the implementation of the Colorado River Water Quantification Settlement Agreement, and for the Imperial Irrigation District's Water Conservation and Transfer Project Draft Habitat Conservation Plan. All of these elements are undeniably interrelated and the fragmentation of the environmental analysis not only renders public scrutiny impossible, it improperly diffuses the responsibility for the foreseeable environmental impacts. 13-2

The need to combine the environmental review of these interrelated water management actions is illustrated by the recent announcement that the Imperial Irrigation District will fallow additional agricultural lands to supplement flows into the Salton Sea. This information alters many of the assumptions underlying the DPEIR and requires that it be reframed to accommodate this new information.

Surface Water Quantity

Both the CVWD and the Metropolitan Water District ("MWD") have asserted appropriative rights to the agricultural return flows that run through the Coachella Valley Stormwater Canal ("CVSC"), through the Reservation, to the Salton Sea. CVWD and MWD have both indicated their intent to re-use the CVSC agricultural return flows. The Tribe understands CVWD is evaluating the feasibility of diverting these return flows for treatment and replenishment of the Coachella Canal. This could significantly reduce the level of the Salton Sea and negatively affect the Tribe's water resources and critical wetland habitat. More importantly, the water districts' claims to the flows of the CVSC may eventually be superceded by the Tribe's water rights claims. Until the Coachella Valley Basin is fully adjudicated any assertion of ownership of the CVSC flows is at best speculative. 13-3

Water Quality

The DPEIR currently ignores is the ongoing development of beneficial use criteria, water quality standards and TMDLs by the Tribe and other members of the Coachella Valley Tribal Consortium for application to Indian lands in the Coachella Valley. 13-4

The Tribe has adopted Tribal Water Quality Standards for the Reservation. The DPEIR has been reviewed with respect to the potential for degradation of Tribal surface water and groundwater quality for the Reservation as protected in the Tribally-approved Tribal Water Quality Standards. The Tribe's Water Quality Standards classify the upper and lower aquifer underlying the Reservation as outstanding waters. As described in *Chapter 3 – Water Quality Objectives, Section V. Outstanding Waters* of the Tribe's

Water Quality Standards, there shall be no degradation of the quality of the outstanding waters caused by a point or non-point source discharge (including groundwater recharge basins) and no exemption is allowed for managers having jurisdiction over areas upstream or up gradient of the Reservation.

The DPEIR recognizes that Proposed Project will create significant and unavoidable impacts due to increases in selenium concentrations in the CVWD drains. While the DPEIR discusses various methods for mitigating selenium impacts, it omits any meaningful discussion of the potential to utilize anaerobic, microalgal, or chemical selenium removal, or potential methods of alternative drainage management to control selenium locally until source control proves effective. 13-5

Groundwater

Groundwater is of vital concern to the Tribe. It has historically been the sole source of meaningful water supply and is perhaps the most valuable Tribal resource. While the groundwater recharge element of the CVWMP is likely to contribute to an increase in groundwater levels, the conservation of agricultural water in the Imperial Irrigation District and the lining of the Coachella Canal will decrease the current level of groundwater recharge in the lower Coachella Valley. Therefore, the Tribe has not been provided with adequate data to determine with any accuracy whether groundwater levels under the Torres-Martinez Reservation will rise or fall with the contemplated changes in water management. 13-6

Of greater concern, CVWD is proposing to build a groundwater recharge facility less than one-mile up gradient from the Tribe's main domestic drinking water well, the Tribe's only source of drinking water. That facility would recharge the Tribe's aquifer with Colorado River water, water that the U.S. Environmental Protection Agency has identified as containing dangerous levels of perchlorate. Indeed, according to the U.S. EPA, there is no known safe level for perchlorate in drinking water. 13-7

The effects of recharging the high-quality aquifer with much low quality Colorado River water must be thoroughly assessed. Although increased groundwater recharge efforts may have a positive impact on the quantities of water contained in the Coachella Valley aquifers, as currently proposed such recharge activities will significantly impair the quality of the receiving groundwater and with it, the Tribe's sole water supply. It cannot be assumed that aquifer recharge by itself is a positive environmental or resource management action. 13-8

Introduction of perchlorate into the Tribe groundwater drinking supplies is completely unacceptable. The DPEIR recognizes that perchlorate in water is highly mobile and persists for decades. The Tribe's current position is that perchlorate levels above 1 µg/L in drinking water supplies is unsafe, especially for pregnant women or young children. 13-9

The perchlorate mitigation plan contained in the DPEIR is offensive to the Tribe as it includes only post-impact remediation measures. This is in direct contradiction with the 13-10

Regional Board's Coachella Valley Basin Plan, which has the goal of maintaining the water quality of all non-degraded groundwater basins. CVWD must provide methods of avoiding perchlorate contamination of Tribal groundwater supplies, rather than irresponsibly waiting until the Tribe's only water supply has been contaminated. Moreover, the mitigation measures (provision of water through non-Indian domestic water systems or a CVWD operated well-head treatment program) inappropriately assume that CVWD has some form of jurisdiction on Tribal lands. 13-11

The DPEIR states that the alternatives to the proposed project that would reduce significant groundwater quality impacts have been disposed of because they are economically unfeasible. However, the DPEIR does not provide the actual economic analysis. A review of the economic analysis by the Tribe is essential, as contamination of the Tribe's groundwater will require an extremely expensive long-term remediation program that will most likely have to be funded by the Tribe and the federal government. The DPEIR should also acknowledge that mitigation will be required not only if contaminant levels exceed State action levels, but also if contaminant levels exceed Tribal water quality standards. 13-12 13-13

While the Tribe looks forward to working with the Coachella Valley Water District and the other action agencies in addressing this issue, it is imperative that adequate analysis be performed, and that appropriate pre-recharge remediation and local protection measures be implemented prior to allowing groundwater recharge with Colorado River water to move forward.

Salton Sea

The exposure of 2,900 acres of shoreline will cause irreparable damage to the bird populations that currently rely on the Salton Sea, displacing hundreds of thousands of birds due to the loss of shoreline habitat and the exposure of land bridges to island rookeries. The Salton Sea has replaced the critical link in the Pacific Flyway for waterfowl, marsh and shore birds that has been lost by the over development of the Californian coastal plains, where the Flyway was previously located. 25 to 40% of the U.S. Yuma clapper rail population, half of the California population of snowy plover, 80 to 90% of the entire population of American white pelicans, and the second largest population of wintering white-faced ibis utilize the Salton Sea. Of the 400 bird species, 27 mammal species, and five reptile and amphibian species that rely on the Sea, the federal government has already classified 58 as sensitive. 13-14

As the level of the Salton Sea lowers, the agricultural drains that enter the Sea on Tribal lands will have a longer path to travel to reach the Sea. The DPEIR contemplates that this may create increased riparian and wetland habitat. The DPEIR should also consider the likelihood that the waters traveling towards the Sea will have higher concentrations of contaminated sediments and will be subject to increased evaporation and evapotranspiration before reaching the Sea, further impacting the level and quality of the Sea. 13-15

The air quality at the Salton Sea already exceeds both national and state ambient air quality standards. Therefore the finding of the DPEIR that the air quality impacts predicted to arise from exposure of up to 5 square miles of shoreline would be a significant impact is correct. The quantity of air quality impacts is not approximated by the DPEIR, apparently because the soils have not yet been exposed. The DPEIR relies on the assumption that a saline crust covering would form over newly exposed lands, minimizing fugitive air emissions, an assumption that is not supported by any study of the potential durability or sustainability of crust formation at the Salton Sea. Moreover, the massive air emissions experienced at the Owens dry lakebed undermines this assumption. Given the reliance of the DPEIR on this assumption about the quality and characteristics of the sediments to be exposed by the Project, it is imperative that meaningful data is collected, studied and evaluated, and reliable conclusions are issued regarding both the potential for fugitive air emissions and the potential that the exposed land may be used for any specific use before the DPEIR is finalized and approved. Any reclamation of these newly exposed lands will present enormous and expensive challenges to the Tribe; even worse, the impacts to the Reservation's air quality may make areas of the Reservation uninhabitable. 13-16

The DPEIR states that CVSC flows will increase to 160,000 acre-feet per year by 2035. However, it is unclear whether this figure includes proper consideration of the CVWD's proposed appropriation of the CVSC agricultural return flows, which may divert up to 11,000 acre-feet per year for desalinization and delivery to local farmers. In addition, the DPEIR's discussion of conveyance of reclaimed agricultural return flows through the Coachella Canal does not take into account that federal conveyance works (the Coachella Canal and its distribution system are owned by the United States) cannot be utilized in a manner that impairs Indian Trust Assets. 13-17

Moreover, the discussion of how the filter backwash and brine waste created by the desalinization of CVSC water will be eliminated is unacceptably inadequate. The two alternate disposal proposals both raise concern for the Tribe. The first proposal to construct 110 acres of brine ponds raises several questions. How close to the Reservation will the ponds be located? Will the ponds be designed to avoid negative impacts to the shallow groundwater? Will the ponds be designed to avoid negative impacts to waterfowl? The second proposal, to allow brine waste to flow directly into the Salton Sea, is also insufficiently developed. The increase in Salton Sea salinity levels is not addressed. The inclusion of salt removal from the Salton Sea by evaporation is inappropriate in the calculation of impacts to the Salton Sea (See Table 5-15). The use of natural phenomenon to mitigate an environmental impact is legally and scientifically improper. 13-18

Irrigation and Drainage Systems

The DPEIR contemplates the potential for expansion of the CVWD distribution and drainage system. The DPEIR states that the exact location of these potential distribution and drainage facilities is not known at this stage of development. The Tribe reminds the CVWD that a majority of the Reservation lands listed within the schedule for CVWD's Irrigation District No. 1 have yet to be served by irrigation and drainage works and 13-19

encourages CVWD to complete the responsibilities it owes to the Tribe, responsibilities it voluntarily undertook in 1958 under the Contract Between the CVWD and the Secretary of the Interior for Providing an Irrigation System and Drainage Works for Certain Indian Lands within the District (Contract No. 14-20-650-631).

Additional Consultation

Throughout the DEIR, there is a recognition that increased collaboration with Coachella Valley tribes will be required to properly mitigate impacts to groundwater and cultural resources. It is recommended that CVWD develop a formal plan and schedule for consulting and coordinating with local tribes to improve relationships and ensure that CVWD does not illegally impair or destroy tribal resources.

13-20

Thank you for considering these comments. Please do not hesitate to contact me at 760-397-0300 or Les W. Ramirez, the Tribe's Special Counsel for Water Resources & Environmental Affairs, at 505-254-7812 to discuss these issues in greater detail.

Sincerely,

Mary E. Belardo
Tribal Chairwoman

13. Response to: Mary E. Belardo
Tribal Chairwoman
The Torres Martinez Desert Cahuilla Indians

13-1 The District respectfully disagrees that the Water Management Plan has been improperly segmented from the other projects listed. Each of these projects has different lead agencies and their environmental documents are stand-alone documents. NEPA review of the overall Quantification Settlement Agreement (QSA) was prepared by the U.S. Bureau of Reclamation in the Environmental Impact Statement for the Implementation Agreement, Inadvertent Overrun and Payback Policy (IA/IOP), and Related Federal Actions (USBR, 2002b). NEPA review is not required for the CVWD Proposed Project as there is no federal agency approval required.

13-2 The District is not aware of contradictions between the IA/IOP, the QSA and the IID Water Conservation and Transfer Project/Draft Habitat Conservation Plan (HCP). Nor is the District aware of any improper fragmentation. These are different projects undertaken by different agencies for different purposes. How and whether fallowing would occur has not yet been determined. At the present, IID may fallow some land, which would lessen impacts on the Salton Sea. Thus, there is no new information that would significantly change the conclusions of the PEIR.

13-3 The water that would be desalinated is water attributable to the irrigation drainage from Colorado River water imported by the District, which the District has the right to recapture. The proposed diversion is already included in the projected inflows to the Salton Sea from CVWD (see Table 5-15 of the Draft PEIR).

13-4 In response to a request for a copy of the tribe's water quality standards, CVWD was advised the standards were not available to the public because they had not been finalized and were still undergoing review and revision (see attached letter). Accordingly, the PEIR cannot present any analysis regarding those standards. As a general rule, a tribe does not have authority to regulate non-members. The Tribe has not been granted Treatment as State (TAS) status under the federal Clean Water Act, which would only confer authority to establish water quality standards for surface waters that are tribal trust assets. Authority to establish groundwater quality standards is not conferred by TAS status.

13-5 The Draft PEIR states that the Proposed Project "may," not "will," increase selenium concentrations in the agricultural drains. In considering the applicability of various options fore treatment of selenium in agricultural drain water, it is important to consider that the CVWD water service area and the Salton Sea are in a setting different from those where most selenium treatment technologist are being developed. For example, the use of piped laterals has been noted in reducing selenium loads, as an alternative drain management approach. A demonstration project using this technology was successful in reducing the volume of seepage from seleniferous (selenium-containing) soils entering irrigation laterals in the Umcompahgre River Basin in Colorado. While this approach

reduced the selenium load delivered in irrigation water by 28 percent, this approach is not applicable at CVWD where selenium is not entering irrigation laterals from the soils, but rather from Colorado River water.

Other research on selenium mitigation techniques now used in California has focused on the drainage issues of the San Luis Unit of the Central Valley Project and on removal of selenium from drain water that has percolated through seleniferous soils on the west side of the San Joaquin Valley, particularly in the areas of the Panoche Water and Broadview Water Districts. Techniques that have received attention for the San Luis Unit are deep well injection ($242 to $356/acre-ft.), solar evaporation of water combined with landfilling of solid residue ($630/acre-ft), and sequential reuse of drainage water ($150/acre-ft) (IID Master Response on Selenium, 2002). The high costs of these treatment approaches and the extent to which they would reduce flows to the Salton Sea make the three approaches described above infeasible for large-scale implementation at CVWD.

Selenium treatment approaches are being developed in the Panoche Water and Broadview Water Districts. Pilot projects installed in these areas are based upon research showing that selenium can be taken up by plants, volatilized, or converted by biological processes to insoluble forms that can be removed from the water. Although research suggests that up to 80 percent of the waterborne selenium can be removed by this process, biological sampling has shown that aquatic organisms in treated water contain higher concentrations of selenium than those organisms living in untreated water. This is because selenium is converted from selenate to more bioavailable forms that are taken up more readily by aquatic organisms. Application of this technology in CVWD could therefore, increase, rather than mitigate, selenium impacts to fish and wildlife.

In spite of results showing high rates of selenium removal at Panoche and Broadview, these results were generated by small pilot studies that have not been extended to regional trials or accepted as proven methodologies for selenium removal. At Broadview, it was estimated that approximately 0.5 tons of straw were required for each acre-ft of water undergoing treatment to provide the carbon needed to fuel the biological processes central to selenium removal. At the scale of CVWD's drainage system, and dual function as flood control facilities, this would equate to large masses of straw (approximately 42,000 to 80,000 tons or 840,000 to 1,600,000 bales per year) to drive the process and the subsequent need to remove and dispose of the carbon source residue after its carbon content had been depleted. In the case of Broadview, burning the straw residue was recommended, but in the context of the Coachella Valley, this would compound the air quality problems that now exist in the Valley. Finally, the inflow concentrations of selenium to the treatment process are higher than those observed in CVWD, while outflow concentrations are similar to concentrations observed at CVWD. For example one treatment reduced selenium concentration from approximately 26 µg/L to approximately 7 µg/L; a second treatment shows an inflow of 7 µg/L and outflow of 3 µg/L. Therefore, it appears that the percentage of selenium removed at Broadview is influenced by the selenium concentration of the influent water, and that the concentrations of CVWD agricultural drainage (approximately 6 µg/L) is well below the

values of 25 to 40 µg/L reported at Broadview. Although biological removal may have merits, the large quantities of straw required and related disposal issues make this approach impractical at this time for the Coachella Valley.

Physical methods for selenium removal such as reverse osmosis, ion exchange and co-generation as well as chemical means, such as treatment with iron filings and ferrous hydroxide, have also been investigated. Although such methods are potentially effective, they are expensive and not currently performed for the large scale required for the treatment of agricultural drain water. No projects beyond "lab-bench" scale research have been implemented for this type of remediation.

Another strategy for selenium removal is fixed-film biological reactors and sludge blanket reactors, which act to convert selenate to insoluble forms of selenium. Although the research relating to the role of microalgae in reducing selenate has been extensive, and detailed cost estimates for large-scale projects have been prepared, no field programs have yet been implemented. Therefore, these reactors also have not progressed beyond the testing stage into practical research and development.

In summary, after a review of the available technologies for selenium mitigation, the District has determined that none had been fully implemented as proven mitigation measures in the settings in which they were being developed, and that it would be infeasible to present them as mitigation measures that would be successful at CVWD.

13-6 The District respectfully disagrees with the comment. Conservation of agricultural water in the IID and the lining of the Coachella Canal will have no effect on the current level of groundwater recharge in the Lower Coachella Valley. Both of these projects occur outside of the Coachella Valley groundwater basin. The impacts of these projects are evaluated and fully mitigated in their respective environmental documents. Groundwater levels under the Torres Martinez Reservation are projected to rise by approximately 80 to 100 feet with the contemplated changes in water management (see Draft PEIR Figure 8-3).

13-7 Please see the Master Response for Perchlorate.

13-8 The Draft PEIR analyses do evaluate water quality impacts as well as water level benefits of the Proposed Project recharge elements. The Draft PEIR considered and presented all potential impacts of the proposed recharge activities.

13-9 Comment noted; scientific evidence supporting the Tribe's position is requested. As noted in the Master Response for Perchlorate, the USEPA has published a *draft* toxicological assessment that is currently undergoing review and may be revised in the future. Therefore, there is no requirement that it be the basis for any water quality standard until EPA has approved it. The District has used the current DHS action level of 4 µg/L as its threshold of significance.

13-10 Please see the Master Response for Perchlorate. There are on-going measures on the river by Kerr-McGee that will reduce the level of perchlorate in Colorado River water. Additional pre-treatment is not feasible due to its enormous cost. Given the likelihood that perchlorate levels will decrease in the future, treatment does not appear necessary.

13-11 CVWD has made no assumption of jurisdiction on Tribal lands. The proposed mitigation measure to provide well-head treatment made no mention of "CVWD operated." Quite to the contrary, in discussions with Les Ramirez, attorney representing the Torres Martinez tribe, in which these mitigation proposals were discussed, the District expressed its intention to provide the necessary facilities to the Tribe for the Tribe's operation. Unless requested to do so by the Tribe, the District does not foresee any well-head treatment facilities, if needed, to be owned and/or operated by CVWD.

13-12 Please see the economic analyses presented in the revised Appendix I of the Final PEIR. A comparison has been added to Appendix I that demonstrates the increased cost of these potential mitigation measures to the overall water management plan costs. CVWD has committed to provide treatment or an alternate water supply to any well owner whose well becomes unusable due to violation of a public health standard as a result of the Proposed Project.

13-13 See Response 13-4 on Tribal water quality standards..

13-14 The 2,900 acres is part of the total exposure by the net reduction of inflows from water conservation in the IID service area. This is included in the IID transfer and is fully mitigated therein. CVWD is contributing to the mitigation effort as a party to the QSA. Therefore, no additional mitigation by CVWD is required. A land bridge to Mullet Island, a significant rookery for black skimmers and double-crested cormorants could become exposed by the year 2009 under average baseline conditions when the Sea level drops below about –230 ft. There is no difference in the time that this land bridge would be exposed between the baseline and the Proposed Project. Therefore, no additional impact would occur due to the Proposed Project.

13-15 The impacts of the lowered Sea caused by the water transfers are partly offset by the increased drain flows from the CVWD agricultural drains. Under normal, non-storm conditions, drain flows would not have any significant effect on turbidity (sediment) in the drains (see page 5-60 of the Draft PEIR). A review of the Salton Sea bathymetry indicates that the change in Salton Sea water level between the baseline and the Proposed Project in 2077 (from -235 to -236) would lengthen the exposed channels of the existing CVWD drains by approximately 300 ft. This change is very minimal compared to the exposure that will occur under the baseline conditions (1,000 to 10,000 ft). This elevation change would add up to 25 acres of riparian and wetland habitat which would transpire about 130 acre-ft/yr. This loss to evaporation and evapotranspiration before reaching the Sea is less than 0.1 percent of the future inflows to the Sea from the CVWD area and is therefore insignificant. In addition, impacts on the Salton Sea shoreline and on wetlands at the north and south ends of the Sea caused by lower Sea water levels beyond baseline conditions are the responsibility of Imperial Irrigation District under the

IID Water Conservation and Transfer Project and the QSA . CVWD's increased flows would partially offset IID's effects and reduce IID's mitigation requirements. CVWD is already contributing to Salton Sea mitigation through the QSA, and therefore the District's mitigation requirements are fulfilled.

13-16 The analysis of air quality impacts in the IID Transfer Project EIR recognized that the air quality impact at the Salton Sea shore was potentially significant and unavoidable. The Draft PEIR also states that fugitive dust emissions would be significant and unavoidable (page 4-46, para. 2, and page 11-4). At the same time, IID notes that the Salton Sea Air Quality Workshop held April 3, 2002 concluded, "At this time, there is neither enough data nor enough exposed shoreline to predict with any credibility where, when, or how bad the emissions will be." IID has committed to a phased approach to detect, locate, assess and resolve this potentially significant impact: restriction of access, research and monitoring, creation or purchase of offsetting emission reduction credits, and direct reduction of emissions at the Sea. The responsibility for air quality is IID's. Moreover, CVWD contributes to mitigation under the QSA and therefore the District's mitigation requirements are fulfilled.

The commenter has not provided any scientific basis or evidence for the statement that "Any reclamation of these newly exposed lands will present enormous and expensive challenges to the Tribe; even worse, the impacts to the Reservation's air quality may make areas of the Reservation uninhabitable."

13-17 The 160,000 acre-ft/yr increase does include the 11,000 acre-ft/yr proposed to be desalinated. Table 5-15 of the Draft PEIR shows a deduction of 13,600 acre-ft/yr in 2035 for water diverted from the CVSC, an addition of 2,600 acre-ft/yr of brine to the Salton Sea and a deduction of 600 acre-ft/yr of Salton Sea water for salt removal. The net effect is a reduction in flows to the Salton Sea of 11,600 acre-ft/yr in 2035. No impairment in Indian Trust Assets is envisioned from the treatment of agricultural drainage.

13-18 The brine disposal method used for agricultural drainage desalination is speculative at this time. The siting and characteristics of the ponds would be evaluated in a separate environmental document once sites are identified. The Torres Martinez Tribe would be consulted in that process. The ponds would likely be located in the Lower Valley in areas underlain by the same poorly drained clays that require agricultural fields in this area to install tile drains. They may be lined with soil cement or bentonite to prevent infiltration. When mitigation strategies are designed, impacts on waterfowl will be analyzed and mitigated. Disposal of brine to the Salton Sea would not increase the salt loading to the Sea, as this salt would have entered the Sea in the drainage water anyway. The Draft PEIR proposes removing an equal or greater amount of salt from the Sea in exchange.

Natural phenomena are used routinely to mitigate environmental impacts. Essentially all man-made processes utilize the same processes that occur naturally. The difference is the rate at which these processes take place. The laws of physics and thermodynamics govern all mitigation measures.

13-19 The Tribe's desire to have its lands within ID-1 served with Colorado River water is noted. The referenced 1958 contract states in part:

> "The Secretary [of the Interior] shall construct an irrigation distribution system and drainage works that will connect with the distribution system and drainage works administered by the District and that will irrigate and drain the trust or restricted Indian lands on the Cabazon, Augustine, and Torres-Martinez Indian Reservations which are listed on Schedule A .... Provided, That such irrigation distribution system and drainage works shall be constructed on the Torres-Martinez Indian Reservation only upon the request of the Indian owners of the lands to be irrigated thereby and a determination by the Secretary of the Interior that the construction of the irrigation distribution system and drainage works is economically feasible."

For the original projects constructed under the 1958 contract, the U. S. government advanced the funds for construction, and the District paid them back over time by applying half of the revenues from the service connection until the advance was repaid. More recently, lessees have advanced the funds for construction.

13-20 The District is appreciative of and encouraged by your offer to develop a formal on-going consultative process between the Coachella Valley tribes and the District. The District wholeheartedly endorses this approach and look forward to a forum where information and concerns can be openly exchanged. CVWD has previously offered to enter into a government-to-government agreement with the tribes in the Coachella Valley wherein information and concerns can be exchanged and addressed on a regular basis. If the Cabazon Band of Mission Indians is interested in such an agreement, the District would welcome the opportunity to pursue this option.

15

LAW OFFICES OF ART BUNCE

ART BUNCE
KATHRYN CLENNEY
ATTORNEYS AT LAW

RECEIVED
AUG 1 2 2002
C.V.W.D

August 8, 2002

Mr. Steve Robbins, Assistant General Manager
Coachella Valley Water District
P.O. Box 105
Coachella Valley, CA 92236

Subject: **Agua Caliente Band of Cahuilla Indians' Comments for CVWD Water Management Plan – Water Quality Perspectives**

These comments are submitted on behalf of the Agua Caliente Band of Cahuilla Indians (ACBCI) regarding our review of the Coachella Valley Water District (CVWD) Water Management Plan (Plan). We, the Agua Caliente Band of Cahuilla Indians, have lived in the Coachella Valley since long before European settlers arrived, and we shall continue living here long after this Plan is ancient history. As long term residents of the desert, we understand the importance of water. Palm Springs was founded because a freshwater spring exists at the current location of the Spa Hotel, and reliable surface water emanates from the San Jacinto Mountains. Our ancestors made this their home and have relied on these water resources for many generations. We know that groundwater in the Coachella Valley has been used for most of the last 100 years at rates that exceed natural recharge, and we realize that a water management plan is needed to provide for the long-term viability of our groundwater resources. We have been eagerly awaiting receipt of this Plan since 1994, when we were first told in it was being prepared.

First, we would like to applaud the efforts of the CVWD. We appreciate that you, the CVWD are taking this process seriously, devoting considerable thought and effort to prepare this Plan. We agree with much of what the Plan calls for, such as increased water conservation and source substitution. However, we are concerned that your approach focuses on quantity, with little regard for maintaining the current high quality of the groundwater. This appears to be a change from what we were initially told when you began preparing this Plan. As late as 1999, the CVWD stated that you were "currently preparing a water management plan for the Coachella Valley. Our goal is to ensure a dependable long-term supply of ***high quality*** water for all valley water users" (emphasis added) (CVWD Engineers Report, April 1999, pg. 19, as well as other references). The Plan does not include the phrase "high quality" in the statement of objectives, substituting the less rigorous term "safe." This appears to be an intentional change in philosophy. 15-1

430 NORTH CEDAR STREET, SUITE H, ESCONDIDO, CA 92025
MAILING ADDRESS: P.O. BOX 1416, ESCONDIDO, CA 92033-1416
TELEPHONE: 760-489-0329 FAX: 760-489-1671

The four stated objectives of the Plan are: 1) eliminate overdraft and associated adverse impacts; 2) maximize future conjunctive use opportunities; 3) minimize economic impact of the Plan on Coachella Valley water users; and 4) minimize environmental impacts. Water quality is stated as one of the lesser consequences of the effects of overdrafting the basin, but the goal is only to achieve a zero net change in "freshwater" storage. The Plan defines "freshwater" as water with a Total Dissolved Solids (TDS) content of 1,000 mg/l or less. This level of TDS is substantially worse than that of the current high-quality groundwater in the main production aquifers, as is discussed in greater detail below. Over a relatively short period of time, the Plan would result in the loss of most high-quality groundwater, and replace it with poor quality water that barely meets current drinking water standards. We find this unacceptable.

The following sections contain additional specific comments to the Plan, which are organized by topic. Your Plan shows that the Upper and Lower Valley affect each other, and therefore both are discussed in these comments.

WATER QUANTITY

- The Plan does not emphasize the seriousness of our current water use and supply imbalance. The 1999 overdraft was 73,600 acre-feet per year, and the overdraft of "freshwater" storage was 136,700 acre-feet per year. The aggregate loss of water from storage totals 1,421,400 acre-feet of water, and 4,684,000 acre-feet of "freshwater." This is 15 percent of the estimated 30,000,000 acre-foot storage capacity of the basin. **15-2**

- The Plan relies on unspecified "interruptible" water supplies to be obtained from currently unidentified sources. The quantity of this water is quite large (40,000 acre-feet per year). Given the general shortage of water throughout California, we are concerned that obtaining this water will be difficult. **15-3**

- The Plan seeks to arrest the continued decline of groundwater levels in the Upper Valley, but does not appear to seek to return groundwater to its previous levels. **15-4**

- The Plan uses infiltration basins as the means of recharging groundwater. The main problem with recharge basins is that the recharge water is slow to move to other portions of the basin, merely displacing the existing groundwater to increase water levels elsewhere. That displacement process is generally not controlled. This leads to two problems: (1) adverse effects of excessive withdrawal and excessive recharge can occur simultaneously in different portions of the basin; and (2) water quality impacts from recharging poor quality water are focused in the area of recharge, rather than being borne by the areas withdrawing the most groundwater. We believe it would be appropriate also to use injection wells more evenly to place the recharge water in areas where the overdraft is greatest. This would also allow high quality water to be placed below poor quality water, creating an upward hydraulic gradient that would help remove salts from the basin. We are aware of several areas where deep injection would be possible at a rate of 1,000 gallons a minute using only the natural difference in head between the ground surface and the piezometric surface in the lower aquifer. Thirty such wells could inject 40,000 acre-feet of water per year directly into the areas with the most significant overdraft. **15-5**

- The discussion of Salton Sea impacts is confusing. The amount of water flowing to the Sea will increase, but the salt content will also increase. The Plan points out that the rate of increase is less than would occur with the Quantification Settlement Agreement (QSA), but the QSA has not been finalized nor approved, and the environmental affects of the QSA may be quite severe. The effect on the Sea should be compared to current or future baseline conditions rather than to the QSA. 15-6

WATER QUALITY

We believe it is imperative that the quality of the groundwater be maintained. The following comments address elements of the plan that do not maintain the high quality of our groundwater.

- The Plan defines "freshwater" as water with a TDS of 1,000 mg/l or less, and bases the calculations of freshwater storage on whether water of this quality is being added at a rate equal to the rate at which groundwater is being withdrawn. However: (A) the groundwater being withdrawn from most of the basin has a TDS of around 250 mg/l; (B) the secondary drinking water standard is 500 mg/l, which is based on taste, odor, and other aesthetic qualities; and, (C) 1,000 mg/l is the primary drinking water standard, which is based on health affects. It is misleading to use the classification of "freshwater" for such a broad range of water types. For the purposes of this discussion, we will use the following terms: "high quality" water has a TDS of 300 mg/l or less, "moderate quality" water has a TDS of 300 to 500 mg/l, and "poor quality" water has a TDS of 500 to 1,000 mg/l. Water with a TDS in excess of 1,000 mg/l is not suitable for drinking water and is referred to as "brackish" water. 15-7

- The Plan proposes to use poor quality water to replace the high quality groundwater currently being withdrawn from the aquifer. This is unacceptable. Under the Plan: 15-8

  1. Current (1999) groundwater usage is stated as 376,100 acre-feet per year;
  2. Current recharge of high quality water (natural recharge and inflows, not returns) averages 60,500 acre-feet per year;
  3. The proposed recharge of poor quality water will be 183,000 acre-feet per year (103,000 in the Upper Valley and 80,000 in the Lower Valley), and,
  4. The remainder will be made up by return flows of water that will generally be brackish and unusable.

  The basin is estimated to have a total storage capacity of about 30,000,000 acre-feet, of which 4,684,000 acre-feet of freshwater have already been drained. Groundwater removal exceeds high quality water recharge by 315,600 acre-feet per year. At this rate, the high quality groundwater will be completely withdrawn in 80 years. Adverse affects of this withdrawal will occur much sooner. Under the Plan, the high quality water will be replaced by poor quality water, resulting in a significant decrease in water quality over time. The high quality water will last a little longer under the Plan due to conservation efforts, but all high quality water will ultimately be removed before the end of the century. 15-9

- The salt balance calculation looks at total salt leaving the basin verses total salt entering the basin. However, the salt leaves the basin through either the drain system or by direct discharge to the Salton Sea, both of which remove water only from the "Semi-perched" aquifer. The salt entering the basin will be added to both the Semi-perched aquifer and the deeper aquifers, resulting in a redistribution of salt in the basin, with increased concentrations in the lower (drinking water) aquifers. Thus, the salt balance presented in the Plan is misleading, and doesn't discuss the true "cost" of the plan in terms of lost resources. To avoid this false impression, the salt balance calculation should be performed on each aquifer in the Lower Valley. 15-10

- The modeling of the chemical impact of recharging the groundwater with poor quality water used a particle-tracking method that is not capable of calculating water concentrations. This appears to be an intentional avoidance of identifying "bad news" rather than a necessity of the modeling process. The distribution of TDS concentrations should be modeled for each aquifer so that the change in concentration can be predicted in each part of each aquifer throughout the basin. 15-11

LEGAL ISSUES REGARDING WATER QUALITY

The water rights of the Agua Caliente Band of Cahuilla Indians are primarily federally-reserved rights under the doctrine of *Winters v. U.S.* While any inquiry regarding such tribal rights is usually framed in terms of rights to the *quantity* of water needed to fulfill the purposes of a federal Indian reservation, the federal courts recognize that such rights also include a critical water *quality* aspect. For example, in *U.S. v. Gila Valley Irrigation District*, 920 F.Supp. 1444, 1448-1456 (D. Ariz., 1996), the federal district court considered various claims brought by the United States and the Gila River Indian Community against several parties who were engaged in practices upstream, off the reservation, which significantly degraded the quality of the Gila River as it entered the downstream San Carlos Apache Indian Reservation. The federal court held that, upon a proper showing, the court would issue an injunction prohibiting the non-Indian defendants from engaging in certain off-reservation practices which significantly degraded the quality of that downstream tribe's water.

Therefore, the CVWD needs to consider explicitly our federally-reserved water rights regarding water quality in its Plan and other actions. The CVWD clearly demonstrates that, although there will be wide-ranging benefits throughout the Coachella Valley in terms of water quantity from the spreading of the proposed additional water at the Windy Point spreading basins, the corresponding detriment, in terms of salt build-up and other undesirable effects, will be concentrated immediately down-gradient from the basins. The concentration of these detrimental effects at the Agua Caliente Indian Reservation for the years up to 2035 is dramatically and graphically shown in Figure 8-2 of the Plan. As stated on p. 11-1 of the Plan, 15-12

> The Proposed Project will increase the TDS concentrations of the potable groundwater aquifer in the vicinity of the recharge basins and could be considered to degrade local groundwater quality. However, most of the direct water quality impact will occur near the recharge basin sites. In these areas, groundwater TDS could

increase to as much as the TDS concentration of the Colorado River water.

Furthermore, and closely related to the above point, the Plan must address the Tribal regulatory issue. Under 1987 amendments to the Clean Water Act, 33 U.S.C. §1377, any tribe may apply to the EPA for treatment as a state ("TAS"). The Agua Caliente Band has already started that process, but has not yet achieved it, although it expects to achieve TAS in the near future. When such treatment is accorded to a tribe, that tribe may then promulgate and enforce its own water quality standards within its reservation. Therefore, it is entirely possible that the Tribe will set a water quality standard more stringent than the CVWD could meet, especially in that portion of the Agua Caliente Indian Reservation immediately down gradient from the point where the CVWD proposes to spread poor quality water. The Draft Program EIR itself is the best evidence of the kind of direct effects on Reservation water quality, as administered by the Agua Caliente Band, needed to uphold the Tribe's regulatory jurisdiction in this context. See *Montana v. U.S.E.P.A.*, 141 F.Supp.2d 1259, 1262 (D. Mont., 1998). Therefore, the Draft Program EIR should address the tribal regulatory issue. **15-13**

OPTIONS

Criticizing a plan without offering alternatives is not very constructive. Therefore, we not only present comments on the Plan's alternatives, we also identify several ways these options can be improved, plus an additional option that you have not considered. These comments are presented below, first focusing on the Plan's listed alternatives, and then offering our suggestion as Option 3. **15-14**

Option 1 – Pipeline for State Water Project Water

The first Plan option was to build a pipeline to bring State Water Project (SWP) water into the basin for use as recharge water. The Coachella Valley has a current entitlement of 61,200 acre-feet of water per year. The Plan intends to increase that by 100,000 acre-feet of water per year (expecting to receive 50,000), with an additional 40,000 acre-feet to be obtained through purchases of "interruptible" water from areas with excess water. Under the Plan, all of this water would be traded to Metropolitan for Colorado River water delivered to the Coachella Valley either through the Colorado River Aqueduct at the Whitewater River turnout and spreading grounds, or through the Coachella Valley Branch of the All American Canal (Canal water). This is necessary due to the lack of delivery facilities capable of bringing SWP water directly into the Valley.

The first option considered the construction of a pipeline to bring SWP water into the Valley to offset the water quality impacts that would result from recharging the basin with poor quality water. This is needed because Colorado River water has a TDS of about 530 to 750, while SWP water has a TDS of about 250 to 300. The Plan notes that in 1979 two pipeline routes were evaluated by the Department of Water Resources (DWR), a route through the San Gorgonio Pass and a "high desert" route through Lucerne Valley and Yucca Valley. The Plan then proceeds only to evaluate the San Gorgonio pass route, without explaining why the high desert route was dropped from consideration. We believe this limited evaluation is flawed for several reasons:

- The San Gorgonio pass route was identified as the favorable route in the 1979 evaluation, but times have changed; the Plan's route has become more urbanized, and power costs have increased. These factors would increase the cost of the San Gorgonio pass route relative to the high desert route, both for construction and operation. The high desert route is still predominantly rural or undeveloped, and does not have a large up-hill segment to lift water over the pass. A pipeline has already been installed to Yucca Valley that established right-of-ways for pipelines. Yucca Valley is at about the same elevation as Silverwood Lake, so that pumping costs are generally limited to overcoming energy losses in route. Yucca Valley is twice as high as the San Gorgonio Pass, and this should double the value of the energy recovered in the downhill leg of the pipeline. For these reasons, we believe building a pipeline through the desert route should be formally and rigorously considered as an alternative. **15-15**

The high desert pipeline route would involve building a new pipeline along the same alignment as the existing Morongo Basin pipeline through Lucerne Valley. The existing Morongo Basin pipeline was built in two years in the mid 1990's at a total cost of $52 million, including environmental evaluations, engineering, right-of-way acquisition, etc. This is significantly less that the projected cost of a pipeline through San Gorgonio Pass, even though the total length of the Morongo Basin pipeline was 82 miles. The Morongo Basin pipeline is smaller than what is needed for the Coachella Valley, at only 30 inches in diameter and a capacity of 44 acre-feet per day. It is currently operating at about ¼ capacity, with pumping occurring at night when electric rates are low. Water is stored at the top to the route, then released into the energy-recovery portion of the route during the day when the value of the produced electricity it highest. (It is a shame that the CVWD did not participate in the construction of that pipeline, making it large enough to meet both basin's needs. Now we face duplicating their effort.)

The unused capacity of the Morongo Basin pipeline is too small to meet the needs of the Coachella Valley, but a larger pipeline could be installed parallel to it, along the same rights-of-way. Most of the operating costs from the San Gorgonio Pass pipeline were due to pumping water uphill from the Devil's Canyon Afterbay to the top of San Gorgonio pass. By using the high desert route, the water is obtained from Silverwood Lake at an elevation of about 3,000 feet. Yucca Valley is at a similar elevation, so pumping is primarily needed to overcome friction losses. This significantly reduces operating costs. In addition, the drop in elevation from Yucca Valley to the Whitewater River spreading grounds is approximately double the drop from San Gorgonio pass. Therefore, the energy recovered should be worth twice as much as recovered from Option 1. In fact, we suspect the energy recovered will exceed the pumping costs, making it a net income producer once the capital costs are paid off. At the very least, a close balance between pumping costs and energy recovery will make this option less susceptible to changes in the cost of energy, which is also a plus.

We believe the high desert pipeline is an attractive alternative for bringing high quality water into the Coachella Valley, and a more rigorous evaluation of the costs of this option should be performed.

- Colorado River water was considered to be equivalent in water quality to SWP water because of the presence of "trihalomethanes" in the SWP water verses TDS in Colorado River water. This misstates the situation. Trihalomethanes are not present in SWP water. Instead, only the organic compounds that are precursors to trihalomethanes are present. The trihalomethanes are formed when water with organic compounds is chlorinated, which is part of the disinfection process that is required prior to using surface water in a public water supply system. Since Metropolitan uses SWP water directly in the water distribution system, the presence of the organic compounds is detrimental to Metropolitan's use of this water. However, SWP water would be used to recharge groundwater in the Coachella Valley, eliminating both the need for chlorinating the water and the potential for the creation of trihalomethanes. The organic compounds in SWP water would degrade or be filtered out of the water as it is recharged into the ground. This eliminates trihalomethanes as an issue of concern for using SWP water in the Coachella Valley. On the other hand, the TDS concentrations remain after infiltration into the ground, decreasing water quality in the drinking water aquifers. Thus, Colorado River water is inherently inferior to SWP water for the purposes of groundwater recharge. The CVWD should stop treating these waters as equal. As far as the Coachella Valley is concerned, water from the SWP is clearly superior to Colorado River water. **15-16**

- The Plan concluded that Option 1 was undesirable for several reasons, namely: (1) high cost, (2) it would disrupt existing habitats, and (3) it did not alleviate salt build-up in the Lower Valley. With respect to these issues, we have the following comments:

  1. The cost for the largest pipeline was $322 per acre-foot of water. This is equivalent to about $0.001 per gallon, well below the price of bottled drinking water, and only about double the current cost of tap water delivered by the CVWD. This is not a high price to pay for maintaining the current high quality of our drinking water. The CVWD cost comparison indicates that this cost would "increase the costs of the Water Management Plan by more than 50 percent." The cost of the Plan is not discussed elsewhere, and is totally useless as a point of comparison since a plan that does not protect water quality is worth nothing to begin with. A better comparison might be the $495 per acre-foot that San Diego will be paying for water transferred to it through the California Aqueduct. We believe the people of the Coachella Valley would be willing to pay an additional $0.001 per gallon to maintain the current high quality of their water. **15-17**

  2. The "existing habitat" that would be disrupted by installing a pipeline is not identified. Much of the route in question is primarily urban. Any disruption would be temporary in any case. Therefore, this rationale seems to be a fabricated excuse to make this option seem less desirable. **15-18**

  3. The lack of benefit to the Lower Valley is cited as a shortcoming of the pipeline option, in that it would not deliver SWP water to the Lower Valley. Obviously, that would require building a pipeline extension to the Lower Valley. Identifying this as a shortcoming of the Option just means that the Option was not properly scoped out. The cost of building such a pipeline should be estimated so that the cost-benefit analysis of this option can be properly evaluated. **15-19**

Option 2 – Desalination of Canal Water

This option involved building desalination facilities to treat canal water before use. The goal was to lower TDS concentrations to 300 mg/l. The quantity of water so treated varied based on the projected uses of the water. None of the versions appeared to focus on water quality improvement in areas of greatest sensitivity (the recharge areas), and all included assumptions that appeared to use high quality water unnecessarily. As such, the sizes of the proposed desalination facilities were larger than necessary, driving up overall costs. We believe the quantity of water needed to fulfill the needs of the Coachella Valley can be met with less water than proposed in this option by using the following criteria: **15-20**

1. Only high quality water (desalinated or SWP water) should be used for direct recharge of aquifers that contain high quality water. The desalinated water could also be used for direct distribution in the municipal water supply system, if desired.

2. Poor quality Colorado River water (not desalinated) can continue to be used for direct application to farm fields or golf courses. In the Lower Valley, this water would percolate into the Semi-perched aquifer after use (which currently contains non-potable water), but would not migrate into the lower aquifers if the lower aquifers were being properly recharged. Such a use would not threaten the quality of the deeper aquifers because the upper portion of the groundwater will be skimmed off via the drains. This would significantly reduce the amount of water needing to be desalinated, thereby reducing the size of the area needed to handle the produced brines.

Cost was the primary factor in dismissing this option, and was again in the range of $184 to $330 per acre-foot. The costs would be lower, but higher per acre-foot, for versions that focus desalination efforts on critical uses, such as groundwater recharge. As stated above, we do not believe this is a high cost for maintaining the current high quality of the groundwater. Encouraging use of canal water would be simple; the fee for using canal water could be maintained at the current low rate while users of groundwater would bear the cost of desalination (up to $330 per acre-foot). Farmers would not have to pay a higher price for water quality they don't need, while the quality of the groundwater would be maintained for domestic use.

Option 3 – Dual Use of the Colorado River Aquaduct

We recognize that criticizing a plan is easy but accomplishes little without a constructive alternative. We offer the following additional alternative that we believe may provide an even more cost effective means of bringing high quality SWP water into the Coachella Valley. We have neither the time nor the resources to evaluate this option in the rigorous manner it deserves, and therefore we request that it be more thoroughly reviewed by CVWD in response to our comments.

The existing Colorado River Aqueduct crosses the Coachella Valley, bringing water from the Colorado River to Lake Matthews, south of Riverside, California. A pipeline that is an extension of the California Aqueduct System is under construction to carry SWP water to the new Domenigoni (East Side) Reservoir, and crosses the Colorado River Aqueduct in the vicinity of San Jacinto. Option 3 involves using the Colorado River Aqueduct to bring SWP water into the

Coachella Valley by temporarily/periodically reversing the flow in the Colorado River Aqueduct between San Jacinto and the Whitewater River turnout. This would involve the following:

- Constructing a water transfer facility where the Colorado River Aqueduct and California Aqueduct pipeline cross, including a pumping plant and temporary water storage facility. The purpose of this facility would be to transfer water from the pipeline into the Colorado River Aqueduct, and provide the power needed to pump this water to the Whitewater River outlet of the Aqueduct. The Whitewater River turnout is at about the same elevation as the San Jacinto end of the pipeline, so the power costs should be minimal. **15-21**

- Since the Aqueduct normally delivers water westward, operation of this Option would be intermittent, when the Aqueduct is not otherwise in use. Intermittent use would require higher flow rates than continuous use, and therefore the structure at the Whitewater River turnout of the Aqueduct would probably need to be enlarged to handle the increased rate of flow. The spreading grounds may also need to be enlarged.

- A pipeline to convey this water to the Lower Valley should also be scoped-out.

The advantages of this option include:

1. Delivery of high-quality SWP water to the Coachella Valley.

2. No new pipelines are necessary to convey the water into the Coachella Valley (though a new pipeline from Whitewater to the Lower Valley may be a cost-effective means of conveying high quality water to the Lower Valley).

Disadvantages of this option include:

1. Some re-engineering of the Aqueduct and new pipeline would be needed.

2. The flow at the Whitewater River turnout would be increased and intermittent, and may require enlargement of these structures.

We do not have the means of evaluating the costs of this Option, but we believe it could be the least expensive and least disruptive of the options. This option should be rigorously evaluated.

SUMMARY

The Agua Caliente Band of Cahuilla Indians has serious concerns about both this Water Management Plan, and the current overdraft situation in the Coachella Valley. We are the largest landowner in the Valley, and our future, like that of many others, is tied to the availability of good quality drinking water. We believe it is imperative that the high quality of the groundwater be maintained, and that the current overdraft situation be corrected. The current Plan has a poor focus on water quality. Both of the considered options were dismissed because high quality water would cost $0.001 per gallon. You underestimate the value of high quality **15-22**

water. As permanent desert residents, we know that high quality water cannot be taken for granted.

We believe that the Plan, as presented, would not be acceptable to the general public if its adverse affect on water quality were known. It is certainly not acceptable to us. The options presented in the Plan were not that expensive, and did not include several alternatives that could make them even less expensive. We suspect that a combination of the options discussed above would be the most cost-effective means of protecting the quality of groundwater in the Coachella Valley, probably consisting of the dual use of the Aqueduct combined with a smaller desalination facility for the Lower Valley. If the Aqueduct cannot be modified for dual use, then a pipeline may be necessary. The cost of a pipeline to the Lower Valley should be evaluated to properly assess the need for a desalination facility. In any event, recharging the drinking water aquifers with poor quality water from the Colorado River is not acceptable.

In addition to the comments presented above, the Agua Caliente Band of Cahuilla Indians would like to be more involved as an active partner in protecting groundwater quality in the Valley. We would like to obtain an electronic copy of the computer model of the Coachella Valley so that we can do our own predictive modeling of our Reservation. We would like to more fully share data with both the CVWD and the DWA. We would also like to discuss other significant issues affecting our water supply, such as well-head protection. **15-23**

Thank you for providing the Tribe with this opportunity for comment. Questions regarding this letter or requests for further elaboration on any of the above comments, or to establish further coordination on these issues, should be directed to Michael Kellner, Environmental Resources Manager. He can be reached at (760) 325-3400, ext. 204.

Sincerely,

Art Bunce, Tribal Attorney

cc: Richard M. Milanovich, Chairman

Tom Davis, Chief Planning Officer

Margaret Park, Principal Planner

Michael Kellner, Environmental Resources Manager

15. Response to: Art Bunce
Tribal Attorney
Agua Caliente Band of Cahuilla Indians

15-1 The District appreciates the tribe's concerns about water quantity and quality. The project goals concerning high water quality are unchanged. As stated in PEIR Section 3.1.1.1, reduction of groundwater overdraft will improve the water quality by preventing the percolation of poor quality agricultural return flows into the groundwater basin. The District considers Colorado River water as having satisfactory quality for groundwater recharge, irrigation and domestic uses as it meets applicable State and federal standards. The District respectfully disagrees that the plan would result in a loss of most higher quality groundwater.

15-2 The District respectfully disagrees with the commentor that "the Plan does not emphasize the seriousness of our current water use and supply imbalance." As stated in the Water Management Plan (CVWD, 2000b):

> The goal of the Water Management Plan is to assure adequate quantities of safe, high-quality water at the lowest cost to Coachella Valley Water users. To meet this goal, four objectives have been identified:
>
> 1. eliminate groundwater overdraft and its associated adverse impacts, including:
>   - groundwater storage reductions,
>   - declining groundwater levels, land subsidence, and
>   - water quality degradation
> 2. maximize conjunctive use opportunities
> 3. minimize adverse economic impacts to Coachella Valley water users, and
> 4. minimize environmental impacts

This goal and the associated objectives are unchanged. The seriousness of the current overdraft condition is discussed throughout the Draft PEIR and the Water Management Plan itself.

15-3 The District agrees with the commenter. The first step is to identify need and the second step is to obtain the water. The Plan has identified the need for an average supply of 40,000 acre-ft/yr of additional firm water. CVWD intends to obtain firm entitlements to additional water supplies that will provide this amount of water needed under average conditions.

15-4 The four stated objectives of the Proposed Project are to: 1) eliminate groundwater overdraft and its associated adverse impacts, including groundwater storage reduction, declining groundwater levels, land subsidence and water quality degradation; 2) maximize future conjunctive use opportunities; 3) minimize adverse economic impacts to Coachella Valley water users; and 4) minimize adverse environmental impacts (Draft

PEIR Section 1.3). The stated objectives do not include returning the basin to previous levels. The purpose of the project is to arrest the future continuing decline of the groundwater basin. Returning the basin to previous levels would not only be infeasible, but in some areas may not even be desirable, where artesian and other high groundwater conditions occurred formerly.

15-5 The District recognizes that excessive withdrawal and recharge can occur simultaneously in different portions of the basins, which is why the Water Management Plan (WMP) proposed in-lieu (replacement water) deliveries to groundwater users as well as groundwater recharge. This approach is taken in the central portion of Valley (Rancho Mirage to Indio) where the distance from the recharge sites is great. Delivery of imported water to golf courses and other non-potable uses allows groundwater extraction rates to be reduced and the water table to recover.

Injection wells may be technically feasible in the Lower Valley. Typical injection rates are about one-half to two-thirds of groundwater extraction rates and depend on the local water level and well conditions. Many of the wells in the Lower Valley are agricultural wells, which may not be suitable for injection due to their construction methods and materials. The District is not aware of areas where injection may be possible at a rate of 1,000 gpm using only natural static head.

A critical factor in the operation of injection wells is the quality of the injected water. Untreated Colorado River water contains sediment (fine particulate matter) that would rapidly clog the wells unless filtration is provided before injection. The cost of treatment and injection in the quantities needed is estimated to be 3 to 4 times greater than the cost of spreading basins (see Appendix B of the Water Management Plan (CVWD, 2000) due to the need for treatment (either centralized or on-site) and the likely need to construct new wells for injection purposes. Therefore, injection is not as economically feasible as spreading or in-lieu. If groundwater recharge by spreading cannot be implemented at the rates anticipated in the WMP and the PEIR, injection may be considered in future updates of the WMP.

15-6 The water transfer from Imperial Irrigation District (IID) to CVWD is part of the Quantification Settlement Agreement (QSA) and an integral part of the Proposed Project analysis. The Draft PEIR did compare the effect of the Proposed Project including the water transfer from IID under the QSA to current and future baseline conditions (See PEIR Section 2.7).

15-7 The District respectfully disagrees with the water quality categories proposed in this comment. The definition of freshwater as having a TDS of 1,000 mg/L as defined in the Water Management Plan is based on federal and state drinking water regulations. The guidelines are based on decades of research in public health. The federal secondary drinking water standard for TDS is 500 mg/L, and is described as an unenforceable standard related to aesthetics (USEPA, 2000b). The USEPA website states:

"National Secondary Drinking Water Regulations (NSDWRs or secondary standards) are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply. However, states may choose to adopt them as enforceable standards (USEPA, 2002).

The State of California secondary drinking water standards consist of three MCL levels as presented in Table 64449-B of the Title 22, California Code of Regulations shown below:

Table 64449-B
Secondary Maximum Contaminant Levels - Ranges

Constituent, Units	*Maximum Contaminant Level Ranges*		
	Recommended	*Upper*	*Short Term*
Total Dissolved Solids, mg/L or	500	1,000	1,500
Specific Conductance, micromhos	900	1,600	2,200
Chloride, mg/L	250	500	600
Sulfate, mg/L	250	500	600

Section 64449 of the Title 22 of the California Code of Regulations states:

Section 64449 (f) For the constituents shown on Table 64449-B, no fixed consumer acceptance contaminant level has been established.

(1) Constituent concentrations lower than the Recommended contaminant level are desirable for a higher degree of consumer acceptance.

(2) Constituent concentrations ranging to the Upper contaminant level are acceptable if it is neither reasonable nor feasible to provide more suitable waters.

(3) Constituent concentrations ranging to the Short Term contaminant level are acceptable only for existing systems on a temporary basis pending construction of treatment facilities or development of acceptable new water sources.

Thus, California allows the long-term use of water with up to 1,000 mg/L TDS. The 1,000 mg/L figure is not a primary drinking water standard; there is no established health standard for TDS.

Many metropolitan areas including Las Vegas, Tucson, Phoenix, and many southern California communities use Colorado River water as their primary water source. Las Vegas Valley Water District uses filtered Colorado River water and reports a water supply TDS of 614 mg/L in its 2001 water analysis (LVVWD, 2002). The City of Phoenix, Arizona also uses filtered Colorado River water and other surface water sources along with local groundwater as its supplies. Phoenix reported the TDS of its supply ranging from 278 to 886 mg/L (Phoenix, 2002). The City of Tucson, Arizona uses

Colorado River water from the Central Arizona Project to recharge its groundwater basins. Over time, the groundwater will contain an increasing percentage of recharge CAP water (Tucson, 2002). The cities of the Imperial Valley all use filtered Colorado River water as their source of drinking water. The Metropolitan Water District of Southern California supplies a blend of SWP and Colorado River water to coastal southern California.

15-8 As set forth in comment 15-7, the District respectfully disagrees with the categories proposed and the conclusions in the comment letter. The District does not believe that Colorado River water is "poor quality" because, based upon applicable State and federal standards, it has satisfactory quality for groundwater recharge, irrigation and domestic uses.

15-9 CVWD agrees that without the Proposed Project, high quality groundwater will be removed from the Basin. However, as stated in Response 15-7, CVWD respectfully disagrees with the conclusion that poor quality water is anything with a TDS of 500-1000 mg/L based on the State Secondary Drinking Water Standards. CVWD's conclusion is that the freshwater overdraft is currently (1999) 136,700 acre-ft/yr and would increase to 254,700 acre-ft/yr by 2035 as shown in Table 6-7 of the Draft PEIR. This table shows that by 2035 the total "freshwater" lost from the basin will be 11,866,500 acre-ft. This leaves a remaining freshwater volume of 18,133,500 acre-ft (30,000,000 – 11,866,500). If the freshwater loss continues at the 2035 rate, the fresh water in the basin will last at least an additional 71 years (until 2106). Implementation of the Proposed Project will eliminate the overdraft in 2035 and limit the loss of fresh water to a total of 5,349,400 acre-ft and would ensure the continuing availability of this water source.

15-10 Any groundwater discharge from the system will carry dissolved salts with it. Drains ultimately discharge to the Salton Sea. Salt from groundwater ET discharges will accumulate in the plants and in the root zone. Wells will discharge groundwater with various TDS concentrations. The source of these discharges is not limited to the Semi-perched aquifer. Increased heads in recharge areas and decreased heads in discharge areas provide the potential for flow within and through the aquifers from the recharge to discharge areas. Where it is not captured by wells, groundwater from recharge areas will ultimately discharge to the water table, drains, or Sea-bed discharge areas. The groundwater model results (heads and flows) automatically take into account the flow of water throughout the basin.

It is difficult to analyze impacts on an individual aquifer basis for several reasons. The salt loading to a particular aquifer varies based on the flow from or to adjacent aquifers. While the groundwater model can track the water flow, it does not track the actual movement of salt. As discussed in Response 15-11, a particle tracking model was used to estimate the flow of recharge water in the basin. Some areas of the basin are more impacted by salt applied to the ground (through water application or use of fertilizers). These areas tend to be those not having a confining clay layer underneath them. This is evidenced by the groundwater quality variations shown in Figure 6-12 of the Draft PEIR. The western portions of the Lower Valley and the Palm Desert area tend to have higher

January 31, 2011

Steve Robbins, General Manager
Coachella Valley Water District
PO Box 1058
Coachella, CA 92236

RE: Comments on the Coachella Valley Water Management Plan 2010 Update

Dear Mr. Robbins,

Thank you for the opportunity to review and comment on the Water Management Plan 2010 Update. The Tribe offers the following comments and questions:

Tribal concerns are addressed in a limited fashion in this document. Native Americans are the original inhabitants of the Coachella Valley, having resided in the Valley for millennia. The water in the Valley has sustained these Native American people agriculturally, economically, culturally and spiritually during the entirety of this long period, as it still does today. By virtue of their sustained and lengthy inhabitation of the Valley, the resident tribes currently possess water rights, and claims to water rights, under established federal law and doctrine.

For instance, the Agua Caliente Band of Cahuilla Indians and its members possess reserved water rights in the Coachella Valley. Federal law recognizes and protects the Tribe's aboriginal use right to water, as well as the rights to water associated with the creation of its Reservation in the Valley in 1876. The Tribe's reserved water rights are among the most senior rights in the Coachella Valley. A small portion of the Tribe's reserved right to surface water from Tahquitz and Andreas Creeks was asserted by the United States, as trustee for the Tribe, and adjudicated by the State of California in the 1938 Whitewater River Adjudication. The United States asserted additional groundwater rights in that adjudication, but no action was taken on those rights at that time as the court determined groundwater was beyond its jurisdiction. The Tribe possesses these other, as yet un-adjudicated, surface and groundwater rights in the Coachella Valley.

Current and future planning for the management and administration of water in the Valley must, necessarily, take into account the full spectrum of the Agua Caliente Tribe's rights – both adjudicated and un-adjudicated - as well as the rights of the other resident tribes. These points are not reflected currently in the Water Management Plan Update 2010 but should be noted as important issues relating to water management and administration in the Coachella Valley. The Tribe's status as holder of a significant interest in the water resources of the Valley also mandates that it be given an elevated status in consultations over the development of the current and all future water management plans.

The California Water Plan Update 2009 placed special emphasis on improving relationships with the Tribes in the state in all matters relating to water resource planning. As part of Update 2009, a Tribal Communication Committee prepared a comprehensive Tribal Communication Plan (29 pages), which is included in Volume 4. The Tribal Communication Plan includes definitions, goals, objectives, guiding principles, audience and venues, and a detailed implementation plan. The Tribal Communication Plan objectives are also listed in the overall Update 2009 Implementation Plan. Neither the letter nor the spirit of the specific provisions of the Update 2009 relating to relationships with Indian tribes, particularly the Agua Caliente Band, are at all met by this current draft plan.

In Table 3-2, the Plan identifies existing water demand at about 680,000 AFY and estimates future water demand at 885,000 AFY in 2045, and perhaps as high as 976,000 AFY. Current groundwater extraction in the Coachella Valley ranges between 375,000 and 395,000 AF annually.

Given that about 27,000 AFY can be extracted from the aquifer sustainably, the Plan doesn't go far enough in proposing conservation. The WMP notes that "Water conservation is a major component of future water management."[1] However, water conservation is limited to continuing rebate programs for agriculture and domestic service. If CVWD wishes to see a significant reduction in water use, then a more ambitious tiered water rate system is essential. CVWD water rates, as compared, for example, to Eastern Municipal Water District in western Riverside County, begin 47% lower at Tier 1 and at Tier 4 (Wasteful) are 98% less than EMWD. Continuing to significantly overdraft the groundwater aquifer without increasing tiered water rates will produce disastrous consequences in the not too distant future.

p. 4-11: Reference is made to the fact that "[t]he supply is supplemented with artificial recharge with imported SWP and Colorado River water." Since SWP water is swapped for Colorado River water, in fact all recharge is accomplished using Colorado River water. The original sentence must be modified to clarify this point. As presently drafted, the report potentially misleads the reader into believing that higher quality SWP water is actually imported for recharge.

The 1968 Colorado River Basin Project Act assures that there will be a full supply of water to the Coachella Valley except in periods of extreme drought[2]. The Plan also notes that there are several issues affecting the supply as well.[3] Given the continuing global climate change that will likely bring extreme drought more often and sooner than anticipated in 1968 and the other issues noted, the WMP should include greater analysis of the impacts of climate change. The Executive Summary to the draft states only that "[c]limate change **could** affect the long term supplies of both the SWP and Colorado River and water demands within the Valley. Actual impacts and timing are **unknown** and **cannot be reliably projected**."[4] Such a characterization badly misrepresents and distorts the growing consensus of climate scientists on the long-term effects of climate change on the hydrograph of the Colorado River.[5] Accordingly, the probability

---

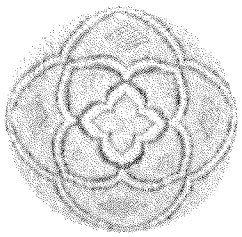
[1] WMP 2010 Update p.3-10

[2] Ibid. p.4-13

[3] Ibid. p.4-15

[4] WMP 2010 Update Executive Summary p. 16 (emphasis added).

[5] See e.g. Kenney, Doug, *Rethinking the Future of the Colorado River: Draft Interim Report of the Colorado River Governance Initiative*, Western Water Policy Program, Natural Resources Law Center, University of Colorado Law School (December 2010).



percentages associated with the delivery of Colorado River water to the Valley need to be re-examined, and appropriate changes made to the planning efforts reflected in the draft WMP.

"Due to California's Colorado River priority system, all delivery shortages would be borne by Metropolitan, which has a lower priority than CVWD."[6] If its delivery is shorted, please explain how this works: it appears that MWD can withdraw the same (or greater) amount it stores in the CV ground basin if its delivery is shorted. It seems to be a zero sum game.

The WMP assumes reliable sources of water from both the Colorado River and the State Water Project (SWP). The Tribe believes the reliability assumptions to be over optimistic. In the future, it seems that additional SWP water supplies will be reduced at best and completely eliminated at worst. On page 4-29 a statement is made that Bay-Delta planning activities will restore SWP deliveries to 77% of Table A amounts. The WMP assumes that the Valley will receive, on average, 50% of its SWP allocation[7]. Given the ongoing water quantity and environmental issues surrounding any permanent Bay-Delta solution, please explain why a more conservative delivery quantity wasn't used.

Given the continuing drought that affects the Colorado River Basin and given the latest challenge to the QSA, the Tribe disagrees with the assumption that the QSA or a functional equivalent will be in place in the future, thus assuring a steady flow of Colorado River water.

The Tribe expressed its strong concerns about the degradation of the groundwater quality in its August 8, 2002 comment letter on the 2002 WMP. For the 2002 WMP and PEIR, despite acknowledging that groundwater quality degradation was a significant impact, CVWD adopted a Statement of Overriding Considerations and chose to ignore Tribal concerns about long-term negative effects of groundwater quality. Since that time, it appears that few, if any, efforts have been made to improve groundwater quality. Table 2-2 summarizes the status of implementation of the 2002 WMP and actions to improve groundwater quality are absent. Recent data on TDS concentrations show that it has increased significantly from 300 mg/L in the Upper Aquifer in the 1930's to over 800 mg/L. It is disturbing to see that significant degradation of the groundwater basin has occurred, is occurring and seems likely to continue to deteriorate given the lack of substantial management actions proposed to improve groundwater quality in this 2010 Update. Given this situation, the Tribe believes it is critical that CVWD and the other water agencies here in the Valley conduct a detailed Valley-wide TDS study (p. 5-5) without delay to gauge the extent of water quality degradation due to Colorado River water recharge.

On Page 6-2 the WMP notes that "The quality of the groundwater is generally very high." The text then proceeds to minimize this issue by implying that water quality issues are localized. As noted above, the quality of the groundwater is no longer "very high" and will continue to get worse as long as CVWD and DWA continue to recharge the aquifer with untreated Colorado River water. The Plan notes on page 5-5 that CVWD will investigate alternatives to reduce water quality impacts of Colorado River recharge. The Tribe suggests that CVWD has had the last 8 years to investigate and that it is now time for CVWD to proactively and responsibly improve the quality of the limited groundwater resources available and detail the concrete actions it will take to restore the groundwater to its original very high quality over the next 8 years and beyond.

---

[6] Ibid. p. 4-26.
[7] WMP p. 4-19.

The Valley's largest recharge facility is, as you know, in close proximity to the Tribal and allotted trust land within the Agua Caliente Reservation. As a direct result, the impact of groundwater degradation brought on by using Colorado River water to recharge the aquifer falls disproportionately on Indian trust water and land resources – and on the Agua Caliente people – rather than on non-Indian water and trust resources in the Valley.

With respect to groundwater overdraft, the WMP notes: "Groundwater overdraft reduction was the primary driving force behind the 2002 WMP."[8] It is not clear in the WMP whether any true reduction in overdraft has been achieved. Continuing overdraft of 110,000 AFY on average with recharge from reduced supplies of SWP water and limited conservation efforts doesn't appear to be an effective method of dealing with overdraft. The Tribe disagrees with the approach of "managing" the groundwater overdraft—the goal should be to reduce the overdraft with the ultimate goal of eliminating overdraft.

Water conservation must be placed in greater focus and become one of the primary options for management planning. The 2010 WMP uses a water conservation target that assumes demand projections based on State-mandated 20% per capita use reduction by 2020.[9] A 20% reduction in water use through conservation over 10 years only meets state standards. This seems inappropriate considering that greater per capita reductions up to 50% could be achieved by implementing measures similar to Tucson or Phoenix. Both these desert cities standards seem a more appropriate conservation target than simply the 20% state mandate. Scenario 4 or 5 in Section 7 would be a more practical answer to the lack of water availability.

In Section 7 it isn't clear where groundwater extraction fits in to the water supply. Please add text to clearly identify the quantity of groundwater planned to be extracted to meet demand.

Again, we thank you for the opportunity to review the Water Management Plan Update 2010. If you have any questions, please feel free to contact me at 760-699-6800.

Very truly yours,

Thomas J. Davis, AICP
Chief Planning & Development Officer
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

C: Tribal Council

[8] Ibid p. 6-2
[9] Ibid p. 6-7

AGUA CALIENTE BAND OF CAHUILLA INDIANS

PLANNING & DEVELOPMENT DEPARTMENT
CONSTRUCTION DIVISION • ECONOMIC DEVELOPMENT DIVISION
PLANNING & NATURAL RESOURCES DIVISION • TRIBAL HISTORIC PRESERVATION OFFICE

September 20, 2011

Ms. Patti Reyes
Coachella Valley Water District
P.O. Box 1058
Coachella, CA92236

RE: 2010 Water Management Plan Update Draft Subsequent Program EIR

Dear Ms. Reyes:

The Agua Caliente Band of Cahuilla Indians (Tribe) has reviewed the Subsequent Program EIR (SPEIR) for the 2010 Water Management Plan Update (WMP) and offers comments that we hope will be helpful to CVWD in ensuring that the SPEIR and 2010 WMP Update are documents that provide an accurate analysis of environmental impacts and provide meaningful strategies to preserve and protect water resources in the Valley. For purposes of our review of the SPEIR, please also refer to the Tribe's letter commenting on the Draft WMP dated January 31, 2011.

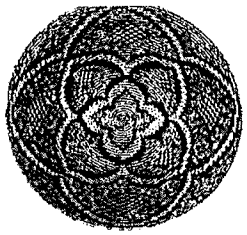
The SPEIR states the purpose of the 2010 Water Management Plan Update as:
"The original and ongoing purpose of the project is to address the state of overdraft in the Coachella Valley groundwater basin, and thereby reduce potentially significant adverse effects of overdraft:

- *groundwater storage reduction,*
- *decline in groundwater levels,*
- *land subsidence, and*
- *degradation in groundwater quality."*

As with the Draft WMP, the Tribe generally does not believe that the District in the SPEIR has provided a credible analysis of the effects of continued overdrafting of the aquifer, and of the assessment of long term changes that need to be made to water consumption and usage in the Valley to arrest these downward trends. The Tribe recognizes that the District has made some forward strides, but the simple fact is that much more needs to be done. Future decades will include increase pressures for water use and only amplify the necessity for more significant measures, The need for more change in consumptive patterns will only be hastened and made more elusive, as the dependability of supplies from either State Water Project or Colorado River sources face additional uncertainty in the coming years.

It is important that we work together to address these challenges and it must start with candid discussions based on sensible projections. It is in this cooperative spirit that the Tribe provides the following more detailed comments and our specific concerns:

5401 DINAH SHORE DRIVE, PALM SPRINGS, CA 92264
760/699/6800 • AGUACALIENTE-NSN.GOV



A. The Tribe disagrees with statements made in the document that the WMP has no impact on Indian Trust Asset land ownership and use.

On Page 1-28 the statement is made that there is "*No impact on ITA land ownership or use.*" Later in the document on Page 8-60 it is noted that "*The CVWD considers that the Proposed Project would have a significant impact on Indian Trust Assets if it substantially interfered with the beneficial use or ownership of ITAs in the Coachella Valley.*"

It is the Tribe's position that continued water mining that significantly reduces water supply to Indian Trust Assets and that degrades water quality IS a significant impact in that such actions restrict the ability of Tribal and allottee land holders to establish new beneficial uses on their trust land. Water quality degradation directly affects the ability of the Tribe and allottees to fully use trust land that is directly impacted by reduced water supply and degraded water quality, regardless of whether that water meets any "*recognized health-based water quality standard.*" Candidly, we do not see how one could conclude otherwise. Of course, poor quality water and water that costs more to pump because of overdraft directly affect the economic value of ITA.

P8-60: *"The Riverside County Superior Court entered a decree, which determined the rights of the various claimants, on December 9, 1938. (In the Matter of the Determination of the Relative Rights, Based upon Prior Appropriation, of the Various Claimants to the Waters of the Whitewater River and its Tributaries, in San Bernardino and Riverside Counties, California (Super. Court. Riverside County, 1938, Case No. 18035). The decree stipulates that up to 4.8 cfs of surface flow diverted from Tahquitz Creek through the Agua Caliente Ditch and 6 cfs from Andreas Creek via the Andreas Creek Pipeline can be used on the Agua Caliente Indian Reservation for domestic, stock watering, power development and irrigation purposes. The claims to groundwater rights were not adjudicated in the 1938 Judgment."*

This statement is partly accurate, but greatly understates the Tribe's senior and continuing ownership interest in groundwater underlying its Reservation lands. The United States asserted, as trustee for the Tribe, substantial claims to groundwater underlying the Agua Caliente Reservation, for multiple uses. Although the Tribe's claims were not adjudicated in 1938, the court having determined that it lacked jurisdiction to adjudicate *any* groundwater claims in the basin, the Tribe nonetheless holds groundwater rights under federal law. The Tribe (and the United States) asserts a continuing ownership interest in this resource, a protectable interest, despite these rights not yet having been quantified and decreed. These additional principles should be added to the SPEIR.

P6-3: *"Native American tribes assert unquantified reserved water rights pursuant to federal law and the Winters doctrine, which refers to the U. S. Supreme Court decision in the case. Two landmark U.S. Supreme Court cases, Winters v. U.S. (1908) and U.S. v. Rio Grande Dam & Irrigation Co.(1899), established several key principles: 1) federally reserved lands have a right to use sufficient water to fulfill the "primary purpose" of the reservation, and 2) these water rights cannot be destroyed by state water law or by water users acting in accordance with state law (Parr & Parr, 2009)."*

The Tribe also asserts that federal reserved water rights include rights to groundwater, and that these rights are senior in priority to water rights established under state law, inasmuch as they date to aboriginal usage and occupancy, as well as to the date of the creation of the

Reservation. Courts have squarely held that the federally-reserved water rights of a tribe (and derivatively allottees) under the Winters doctrine extend to groundwater, as well as surface water. See, e.g., U.S. v. Washington, 375 F.Supp. 2d 1050, 1068, n. 8 (W.D. Wash., 2005). These additional principles should be added to the SPEIR.

A statement is made at the bottom of page 8-63 regarding future water levels:
"Implementation of the present Proposed Project will elevate groundwater levels beneath certain ITA lands. The projected changes in groundwater levels throughout the Coachella Valley between 2009 and 2045 are shown in Figure 8-3. Groundwater levels are projected to increase as much as 100 feet in the deep aquifer under ITA lands. In the West Valley, groundwater levels beneath lands of the Aqua Caliente are projected to rise about 20 to 50 feet by 2045".

The Proposed Project relies on imported SWP and Colorado River water to elevate groundwater levels. Given the continuing drought that affects the Colorado River Basin and given the latest challenge to the QSA, it is self-evident that such projection of future water levels is based on overly optimistic reliability assumptions. The Tribe disagrees with the implied assumption that the QSA or a functional equivalent will be in place in the future, thus assuring a steady flow of Colorado River water. With respect to SWP water, on page 4-29 of the 2010 WMP Update, a statement is made that Bay-Delta planning activities will restore SWP deliveries to 77% of Table A amounts. The WMP assumes that the Valley will receive, on average, 50% of its SWP allocation[1]. This assumption on which the Proposed Project is built is also overly optimistic. In the future, it seems that with ongoing issues surrounding the Bay-Delta, additional SWP water supplies will be reduced at best and completely eliminated at worst. Accordingly, it is unrealistic and inappropriate to state with such apparent certainty that the groundwater levels will in fact improve when that is far from certain and indeed conditions may degrade. The coming decades may see further declines in the groundwater levels. These are serious environmental impacts that need to be accurately characterized in the SPEIR, but which currently are not.

B. The Tribe disagrees with the characterization of a slower rate of basin overdraft as a "Beneficial Effect."

The continuing overdraft has been facilitated by what appears to be very limited monitoring and assessment of the aquifer. As in the 2002 WMP, on page 3-23 of the SPEIR, Groundwater level/quality monitoring and subsidence monitoring are listed as *"Near Term Projects to Meet Water Management Needs."* Further, on page 3-22, seven new projects are noted as *"should be implemented".*

The Tribe continues to be gravely concerned about CVWD and DWA's lack of progress in creating a timely, transparent and relevant monitoring program. These Agencies have mined water in the Coachella Valley for 74 years and have done so, it appears, without a robust data/monitoring program to enable groundwater resources responsibly. It is the Tribe's position that the lack of a comprehensive groundwater monitoring plan and a lack of a centralized groundwater database are actions that have resulted in environmental impacts as they speak directly to the Agencies' use of a limited water resource. As it did in 2002, the Tribe continues to strongly encourage the Agencies to make data and monitoring its highest priority.

[1] WMP p. 4-19

Table 1-2 on Page 1-25 [Table 1-2]: A decrease in overdraft/water levels changing at a slower rate than current conditions is considered a *Beneficial Effect.* The Tribe disagrees with this characterization and only views *complete* elimination of the overdraft as a true beneficial effect. While the Tribe lauds the Agencies' efforts to identify and deliver outside sources of water, overdraft of the aquifer is a recognized environmental impact and it is widely held that these water imports alone have never been enough to fully replace the high quality water being mined from the aquifer.

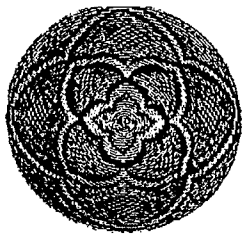
The SPEIR on Page 5-42 notes: "*Implementation of the 2010 WMP Update would control and eliminate long-term groundwater overdraft, resulting in recovery of groundwater levels in the basin.*" It is not clear as to where in the document there are facts to support this claim. When would this recovery occur? Would it improve both the West and East Valley or just one? Please identify the specific empirical evidence and authorities used to support this statement.

On Page 6-11 this statement is made: "*Basin overdraft, however, has reversed the direction of the subsurface flow in some portions of the basin.*" Please explain how this significant impact was evaluated and identified as part of a "Beneficial Effect". Does this affect the West Valley? The lack of publicly available data combined with this statement creates the impression that the true impacts of groundwater mining are in fact a detrimental impact.

On Page 6-7 statements about the size of the aquifer are made: "*In 1964, the DWR estimated that the Coachella Valley groundwater basin contained a total of approximately 39.2 million acre-feet (AF) of water in the first 1,000 feet below the ground surface; much of this water originated as runoff from the adjacent mountains. Of this amount, approximately 28.8 million AF of water was stored in the Whitewater River subbasin. However, the amount of water in the subbasin has decreased over the years due to pumping to serve urban, rural and agricultural development in the Coachella Valley at a rate faster than its rate of recharge.*" Has CVWD/DWA conducted more recent studies (in 48 years) of the size and character of the groundwater basin? If so, the Tribe requests the Agencies make all data available to the public. If not, then it appears that the Agencies have been mining groundwater without sufficient data to determine actual impacts to the aquifer—mining with substantial impacts to the aquifer.

The Tribe is troubled by comments on Page 6-39 regarding insufficient infrastructure: "*A comparison was made between anticipated groundwater elevation in 2015 and 2035 for the Proposed Project and the 2002 WMP and PEIR. This comparison indicated that groundwater elevations from about Thermal to the Whitewater Recharge Facility would be between 5 and 110 ft lower with the 2010 WMP Update than with the 2002 WMP. This decline is a result of delayed implementation of the MVP and Levy facility projects, coupled with reduced SWP Exchange water availability as a result of drought and delivery issues in the Delta.*" Please explain why, with the assumed influx of fees from developers during the recent economic upswing/housing boom, these projects weren't implemented in a timely fashion. With some of the most rock-bottom water rates in Southern California and the ability to reasonably generate revenue to cover these costs, it seems short-sighted that they weren't implemented then.

C. The Tribe believes that overdrafting the aquifer IS a growth inducing impact and that CVWD has a direct impact over future development in the Coachella Valley.



As noted on Page 1-36: "*Substantial growth is projected in the Valley and can be accommodated by the Proposed Project through 2045.*" This statement is simply false and we fear demonstrates an alarmingly perilous perspective. Ongoing mining of the aquifer to accommodate future growth is not sustainable. Continuing to overdraft the aquifer to support projected growth with only vague long-term ideas to stop the overdraft is a growth inducing action. CVWD has the ability to implement stronger conservation ordinances that directly reduce the impact on water resources.

As noted on Page 3-4: "*In the absence of this ordinance and other on-going conservation measures, water demands in the Valley would be nearly 1,040,000 AFY by 2045.*" And on Page 3-11: "*Projections indicate that continued implementation of these measures in conjunction with the State's 2010 CALGREEN Building Code requirements will result in per capita water use reduction of nearly 40 percent compared to the baseline per capita use defined in SBx7-7.*"

How much more water could be conserved through an even stronger ordinance?

D. The Tribe is concerned with how the document characterizes the reduction in groundwater quality as a potentially significant impact but offers no feasible solution and notes that a Statement of Overriding Considerations will likely be adopted by CVWD.

In several places in the SPEIR the issue of feasibility of various projects and mitigation measures is mentioned. For example:

Page 1-26: Net annual salt inputs increase in West Valley, potentially significant, "*No feasible measures are currently available to reduce TDA in recharge water.*"

Page 5-24: "*In addition, for purposes of this project, CVWD considers that a significant impact would occur if the Proposed Project resulted in:*

- *Diversion of additional water from the Colorado River that could not be provided through the existing infrastructure and operational practices of the Coachella Canal.*"

Page 6-55: "*By 2020, implementation of the 2010 WMP would increase the average West Valley TDS increment to 8.6 mg/L/yr. This is a potentially significant interim impact for the West Valley. By 2045, the West Valley TDS increment would increase to 9.5 mg/L/yr...Therefore, the impact is potentially significant in the West Valley.*"

P6-57: "*Since the salinity (TDS) of SWP Exchange water is expected to average about 630 mg/L over the Proposed Project planning period, it is anticipated that groundwater within the area influenced by recharge activities could reach this level of salinity. This is a potentially significant impact.*"

P6-61: "*Although the groundwater salinity is expected to increase, no designated beneficial uses of groundwater would be compromised; that is, the groundwater would continue to meet quality requirements for agricultural, industrial and municipal uses, the Basin Plan identified designated beneficial uses for Valley groundwater. The Basin Plan identifies no specific numerical groundwater quality objectives for Coachella Valley groundwater basins. Much agriculture and many golf courses in the Coachella Valley already use and have used Colorado*

River water successfully as their sole source for irrigation water. With respect to municipal use, there are no primary or health-based standards for total dissolved solids or salinity in drinking water (DPH, 2008)."

Page 1-44: *"1.15 SIGNIFICANT, IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE CAUSED BY THE PROPOSED PROJECT SHOULD IT BE IMPLEMENTED Local degradation of groundwater quality near existing and proposed recharge basins from recharge of Colorado River water is considered a significant irreversible environmental change. In the absence of this recharge, however, the infiltration of agricultural drainage water and sea water intrusion would have greater, significant irreversible impacts on groundwater quality."*

The Tribe raised water quality concerns in 2002 and was ignored. In the Ninth Circuit, it is clear that a tribe's federally-reserved water rights extend to water quality, not only to water quantity. See U.S. v. Gila Valley Irrigation District., 920 F. Supp. 1444, 1448 (D. Ariz., 1996). It is troubling to see that water quality degradation has continued and is still considered a significant impact. It appears that CVWD has, as it did in 2002, opted to define feasibility based on its willingness to forego spending money to treat the Colorado River water it brings in to the Valley to replace high quality groundwater that it mines unabated. The financial cost of new facilities to treat poor quality Colorado River water is an important part of a rational, long-term solution but should not be used to justify a Statement of Overriding Considerations under CEQA.

The Tribe, in its 2002 letter, presented alternatives to the 2002 WMP and estimates of the cost of water. The three (3) alternatives were:

- construction of a pipeline to bring SWP water directly to the Valley
- build desalinization facilities to treat canal water
- dual use of the Colorado River Aqueduct to bring SWP water to the Valley

In the nine (9) years since the 2002 WMP was adopted by CVWD, not one of these alternatives appear to have been adequately studied so as to rule out their feasibility. The justifications presented in the 2010 WMP for why the first two options won't work are based solely on financial considerations. The third alternative suggested by the Tribe in its 2002 letter has, as far as we are aware, been ignored.

E. CVWD continues to present conflicting information about the feasibility of bringing SWP water to the Valley and continues to mischaracterize the quality of SWP water.

At several points in the document conflicting statements are made regarding the feasibility of a direct pipeline to the Valley for State Water Project water:

Page 1-41: 1.10.3 Alternatives Considered for Reducing Groundwater Quality Impacts
"A recent study of direct importation for basin recharge of lower-salinity SWP water, the State Water Project Extension Feasibility Analysis, remains in draft form and its feasibility is not determined. This approach also has significant environmental impacts and significant costs in addition to those of the Proposed Project. Therefore, it is not considered to be a viable alternative."

In Section 6.5.4.1 it states: "*the possibility of a future SWP extension into the Coachella Valley is being examined again…but its technical, financial, institutional and environmental feasibility are still highly uncertain and it is not part of the 2010 WMP Update considerations.*"

Please clarify as to whether any feasibility analysis has been completed by CVWD, or any other entity. If an analysis has not been completed, then how can its viability already be determined? The Tribe would like a complete analysis of this project available for public review in 2012. In our 2002 letter, the Tribe presented an option for constructing a new pipeline to bring SWP water to the Valley. In that letter, we suggest a route for the pipeline that would minimize impacts and result in costs to CVWD of $0.001 per gallon. Without a robust technical study of this concept, how can CVWD dismiss it as not a viable option? It is troubling that such an analysis has not been undertaken over the last 9 years when the Tribe first proposed this concept.

F. Mitigation Measures

Mitigation Measure ITA-1 requires that CVWD or DWA work with the Tribe to provide domestic water service to the Reservation should water quality levels exceed *"recognized health-based water quality standards"*. The Tribe prefers that both agencies increase their vigilance in monitoring water quality across the Valley via a much improved monitoring program (see previous comments) instead of falling back on a mitigation measure that would force tribes into expensive connections to the Agencies' legacy systems.

Conclusion

This process offers us an opportunity to work together to address these long-standing issues which will be vital to our collective future. There are many unanswered questions and there is much more that we have to do to responsibly manage this critical resource. Agua Caliente urges both CVWD and DWA to join with us in a conversation to ensure that we take such necessary and affirmative steps to preserve and wisely use our water resources.

Thank you for the opportunity to comment on the SPEIR. If you have any questions, I can be reached at 760-699-6800.

Very truly yours,

Thomas J. Davis, AICP
Chief Planning & Development Officer
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

C: Tribal Council

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
Southern California Agency
1451 Research Park Drive, Suite 100
Riverside, California 92507-2154
Telephone (951) 276-6624 Telefax (951) 276-6641

IN REPLY REFER TO:
Water Resources

SEP 28 2011

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

Attention: Mr. Steve Robbins, General Manager, Chief Engineer

Subject: Coachella Valley Water Management Plan 2010 Update, Administrative Draft, Subsequent Program Environmental Impact Report SCH No. 2007091099

Dear Mr. Robbins,

The following comments and concerns are provided regarding the Coachella Valley Water Management Plan 2010 /Update, Administrative Draft, Subsequent Program Environmental Impact Report SCH No. 2007091099 (SPEIR).

The Bureau of Indian Affairs, Pacific Region, Southern California Agency, (BIA) saw very few comments, outreach or analysis within the draft text sections of the SPEIR, describing tribal related issues and lands for advanced review. We congratulate the Coachella Valley Water District (CVWD) for soliciting tribal concerns and interests regarding water management in the Coachella Valley in the recent past with their outreach meetings, educational presentations and discussions regarding tribal involvement in the Coachella Valley planning area and wonder why Native American concerns were not documented or recommendations provided within the Water plan update or the SPEIR to address federally reserved trust water resources. It was mentioned that the basin which is the planning area for these reports has not been adjudicated. Recommendations for preserving and formulating shared interests in the basin are not discussed adequately within the context of the SPIER.

There are several issues regarding the Coachella Valley Groundwater Basin that are of concern as it relates to land held in trust by the United States for the Indian tribes that reside in the Coachella Valley. Below is a list of some of these concerns.

1. Tribes occupying land overlying the Coachella Valley Water Basin have superior overlying rights to use basin groundwater under state law. In addition to rights to use groundwater, tribes in the Coachella Valley hold federally reserved water rights held in trust by the United

States. CVWD and their Water plan update process must recognize the unique position the tribes hold in this valley. The SPEIR should be imposed in a manner that does not discriminate against the tribes with respect to their unique position as owners of federally reserved water rights, and must ultimately benefit the tribes rather than diminish tribal resources. The tribes as owners of federal reserved water rights are in a substantially different position than other residents of the Coachella Valley who merely posse rights to use water under State law. The Coachella tribes should participate as equal members of the planning process. It is mentioned that self governance was an issue brought up by the Tribes in the planning meetings; however no other comments were made or suggestions presented.

2. Ground Water overdraft in the Coachella West Valley has been in decline for over 60 years. The East Valley has been in decline for the last thirty years, (reference; Figure 6-5, historical cumulative change in storage). Almost no progress to slow the decline of ground water is shown in Figure 6-5 since the last plan in 2002. The analysis of this SPEIR relies on similar flawed logic, programs and economic growth as the last plan to solve the next ten years of overdraft. There has been no demonstration within this report to show success for improved conditions regarding this issue. Failure will be at the expense of both local and tribal communities. Given the lack of success since 2002, how does this plan differ and what safety measures will be in place if groundwater overdraft is not halted for both short and long term projections.

   In addition; it has been stated that groundwater recharge is necessary but treatment of recharge water from the Colorado River is not an option. There are no explanations presented regarding this statement. There is no consideration given for remediation of the basin in close proximity to the recharge locations.

3. Impacts of ground water recharge methodology to be used for recharging the upper and lower aquifer systems was not considered as it relates to tribal federal water reserves. Protecting Coachella Valley groundwater quality by pre-treating the water before it is spread into the recharge basins is a major concern for the tribes and the BIA.

4. It is very misleading to state the proposed plan for groundwater recharge and substitution of surface water is beneficial to both subsidence and groundwater levels which are still significantly declining, (albeit less than the no plan alternative). A reasonable person with a general understanding of the facts would strongly disagree with the use of "beneficial" in this case. Clearly it is being used as a sound bite to misinform and mislead the communities in the Coachella Valley. This needs to be addressed to prevent the term form misleading the public.

5. Subsidence occurring within the valley as a result of groundwater mining did not address how overdraft subsidence issues affect tribal trust lands.

6. Tribal water supply needs as well as infrastructure planning for improvement of living conditions on the reservations were not addressed.

7. Sanitary infrastructure hook-up with the local municipal districts that provide for sewage and treatment on the reservation were not addressed.

8. The general water quality monitoring plan lacks reporting requirements to the interested parties. The vague requirement stated in the SPEIR is that when standards are exceeded a substitute water supply will be furnished. The schedule, locations, and results of water quality monitoring in the Coachella Valley should be published and accessible. How this will be implemented should be fully disclosed in this document in order for the public to determine if it is adequate to protect the resources at risk. In this document it is not clear who will be responsible for testing and if the data is shared, or if each entity with concerns should have its own testing program. How will the monitoring program be implemented and the data shared between local management members of this basin and the public?

9. Elevated concentrations of native constituents found within the basin should be tested and analyzed for water quality. Treatment methods to be used to provide a safe drinking water source on tribal land should be considered and was not addressed.

10. Future permitting of ground water pumping and how it affects trust water resources on the reservations was not addressed and should be considered.

11. Recharging the aquifer system by surface run-off on the west side of the valley during flooding was not considered. Water run-off collection facilities should be considered within the plan for natural recharge in areas adjacent to tribal trust land.

12. Impacts to water quality from Coachella Valley Water district's recharge programs would likely degrade the aquifer's water quality near reservations. The Colorado River water movement, as a consequence of recharging the aquifer in these locations was not analyzed for water quality to confirm predictions and assumptions of the plume's movement already made by the water district. Potential impacts to trust tribal water reserves as well as possible mitigation measures on water quality were not identified or explored. On page 1-28 it is stated "should recharge with Colorado River water under the proposed project cause any Torres Martinez or Aqua Caliente domestic drinking water well to exceed any recognized health-based water quality standard, CVWD and DWA will work with the tribes to bring the drinking water supply to the tribes into compliance by providing domestic water service to the tribes from CVWD's or DWA's respective domestic water system or by providing appropriate well head treatment." Have the Tribes agreed to this? If not discussions need to be documented and an agreement should be made in writing before the SPEIR is finalized.

    This question is now posed, at whose expense. Will CVWD or DWA incur cost to install domestic water infrastructure? Will CVWD or DWA provide treatment at the municipality's expense? Has the plan considered the other Tribes located in the valley? Namely, Cabazon Band of Mission Indians, Twenty Nine palms Band of Mission Indians and Augustine Band of Mission Indians including individual Indian allotment land?

13. Storm water run-off from urban sources and how these waters affect tribal land and the basin as it passes through were not addressed.

14. Contamination of the Salton Sea from urban, municipal and agricultural use was inadequately addressed.

15. Affects of elevated levels of contaminants on traditional native plants and wildlife important to the tribes culture was not addressed.

16. Feasibility studies for State Water Project Water Transfer to the Coachella Valley, and how this could possibly benefit tribal water reserves that are being depleted by water mining off the reservations were not addressed.

17. Reservation land must be included in the water modeling studies being conducted by the various water districts in the valley to have a complete picture of current and future impacts to the water basin was not addressed.

18. The tribes need to have a voice in water policy formulation as it relates to the Coachella Valley. The implementation for this was not addressed.

19. In comments submitted for the Coachella Valley WMP 2010 Update, it was stated that there was a general lack of specific data to support the findings in that report. It was requested that the supporting data be included in the report and appendices of the PEIR/EIR. The SPEIR does not support the findings of the Coachella Valley WMP 2010 Update and should accurately and honestly state the groundwater situation in Coachella Valley. In all probability, It is very likely groundwater levels will continue to decline near the existing rates as depicted in the Coachella Valley WMP 2002 Update.

20. Current planning for California Water Plan Update 2013 is underway and there are happening discussions about how to include other avenues to control groundwater overdraft. These actions are politically challenging and require strong leadership to propose and implement active management; monitoring and important regulations of water resources necessary to achieve sustainability of ground water basins for local communities to continue to prosper and thrive. The California Water Code allows these actions to occur in groundwater management areas. How are these discussions, groundbreaking ideas for implementation and shared management being introduced into this SPEIR to support the Coachella Valley WMP 2010 Update? How does this reporting interrelate with the Integrated Water Management planning for the Coachella Valley. Why are Federal reservation lands overlying this groundwater basin not being included in shared planning for Coachella Valley.

The Tribe and the Coachella Valley Water District should work in a manner similar to cooperating agencies under the National Environmental Policy Act. We believe this would be useful given the Tribes' sovereign status and their unique knowledge, expertise, and position as overlying landowners in the Basin.

We believe that cooperative approaches can resolve conflict and result in solutions. Comments to the plan can and should be filed to better address tribal water supply issues as part of a cooperative approach.

If there are any questions or clarification needed regarding the content of this letter, please do not hesitate to contact Ms. Christina Mokhtarzadeh, Hydrologist Southern California Agency at (951) 276-6624 ext. 257 or Ms. Lenore Lamb, Agency Natural Officer at (951) 276-6624 ext 254.

Sincerely;

Robert Eben
Superintendent

Cc: Water Rights Specialist, Pacific Region, Bureau of Indian Affairs
Regional Hydrologist, Pacific Region, Bureau of Indian Affairs
Chairperson, Agua Caliente Band of Cahuilla Indians
Chairperson, Augustine Band of Cahuilla Indians
Chairperson, Torres Martinez Desert Cahuilla Indians
Chairperson, Twenty Nine Palms Band of Mission Indians
Chairperson, Cabazon Band of Mission Indians
Chairperson, Morongo Band of Mission Indians
Regional Solicitor, U.S. Department of the Interior
Superintendent, Palms Springs Agency, Bureau of Indian Affairs

Established in 1918 as a public agency

Coachella Valley Water District

December 1, 2011

File: 0643.511

Thomas J. Davis
Chief Planning and Development Officer
Agua Caliente Band of Cahuilla Indians
5401 Dinah Shore Drive
Palm Springs, CA 92264

Dear Mr. Davis:

Subject: Draft Subsequent Program Environmental Impact Report (SPEIR)
2010 Coachella Valley Water Management Plan Update

The following is the proposed response of the Coachella Valley Water District (CVWD), as lead agency for the subject SPEIR, to your comment letter dated September 20, 2011, copy enclosed. This response is provided 10 days prior to certifying the SPEIR (December 13, 2011), in compliance with State CEQA Guidelines Section 15088(b).

The comments and responses are numbered correspondingly.

4-1 A. "The Tribe disagrees with statements made in the document that the WMP has no impact on Indian Trust Asset land ownership and use."

Impacts to ITA

The comment letter contends that continued water "mining" that significantly reduces water supply to Indian Trust Assets and that degrades water quality is a significant impact in that such actions restrict the ability of tribal and allottee land holders to establish new beneficial uses on their trust land. It is assumed that the term "mining" as used in the comment means the continued long-term withdrawal of groundwater in excess of natural and artificial recharge. CVWD agrees that continued "mining" of the groundwater basin is undesirable. The WMP goal is to eliminate long-term overdraft, and not to continue "mining" the basin, and the SPEIR demonstrates that long-term water levels will increase (SPEIR Section 6.4.2, pages 6-36 to 6-50). However, that does not mean there will not be periods when extraction from the basin temporarily exceeds natural and artificial recharge. Water levels are expected to rise in the long-term, and periods of increasing and decreasing water levels will occur as the result of hydrologic variation in the supplies used to recharge the basin. CVWD and DWA strive to recharge as much water as possible when it is available with full knowledge that there will be

periods when supplies are reduced due to drought. Thus, the 2002 WMP and the 2010 WMP Update identify actions to be taken over the next 35 years to halt overdraft and manage the basin in a sustainable manner. CVWD and DWA have made significant investments to acquire additional water supplies over the past eight years that put the Valley on a path toward sustainability. Given that long-term groundwater levels will increase under the 2010 WMP Update, CVWD expects there would be an improvement to Indian Trust Assets' water supply.

With regard to impacts to Indian Trust Assets due to increased salinity/TDS from Colorado River water being recharged into the Basin, it should first be noted that the Tribe's letter does not identify which current or anticipated beneficial uses of groundwater the Tribe believes are or may be adversely affected by the quality of the recharge water. This water meets water quality standards for municipal, agricultural, and industrial uses, and primary health-based standards for drinking water (SPEIR, at page 6-62). In fact, many cities in the Southwest, including Las Vegas, Phoenix, Tucson, and the Imperial Valley cities use Colorado River water as a major portion if not their sole source of water supply.

With reference to mitigation measure ITA-1, which states that violations of health-based standards due to the 2010 WMP Update will require the District to either provide connections its water distribution system or providing appropriate well-head treatment (SPEIR, at 8-69), the SPEIR conservatively describes this decrease in water quality as being a significant and unavoidable impact, it will be still be fit for human consumption according to federal and state standards specifically adopted to protect human health. Given that the quality of this water is suitable for human consumption, there is no basis for the commenter's statement that water quality degradation from the 2010 WMP Update will affect the ability of the Tribe and its allottees to "fully" use trust land or affect its ownership. In addition, the projected increase in groundwater levels resulting from Plan implementation will result in lower, not higher, pumping costs compared to current conditions.

Because of the nature of the basin, with water use exceeding recharge, salinity will increase basin wide over time, even if no additional Canal water is recharged, because of ongoing water uses and evapotranspiration. Therefore, an increase in salinity in tribal wells (and all others in the Valley) will occur in any case. With recharge, the rate of increase in salinity would occur at a slightly faster rate near recharge facilities. Increased salinity associated with recharge is considered in the SPEIR to be a significant impact on water quality, but it does not interfere with ITA water use or ownership.

Tribal Water Rights

The commenter makes several statements as to the nature of the Tribe's water rights as per the federal *Winters* doctrine and also the effect of the 1938 Judgment made by the Riverside County Superior Court in the adjudication of water rights in this area. The SPEIR acknowledges, without response, that the Tribe and the United States as Trustee for the Tribe have asserted certain water rights claims. The commenter's comments on these subjects are noted; the 2010 Water Management Plan Update and the SPEIR do not address water rights. Nothing in the 2010 WMP Update is intended to interfere with the legal status of the Tribe's water rights or

disturb the order of priority of water rights holders within the Basin. These are legal matters and are not properly the focus of this SPEIR. Beyond such acknowledgement, the District believes it is inappropriate to address such claims in a CEQA document. Therefore, it is sufficient to note that the SPEIR concludes that health-based water quality standards would continue to be observed and, as outlined above, the Tribe will still be able to use its water rights to supply beneficial uses on trust lands.

Colorado River and the QSA

The comment letter asserts that given the continuing drought that affects the Colorado River Basin and the challenge to the QSA, the WMP projection of future water supplies is overly optimistic. The Tribe disagrees that the QSA or functional equivalent will be in place in the future.

The 2010 WMP Update's assumptions are well supported. First, as stated on page 5-18 *ff* of the Draft SPEIR, the Colorado River is managed and operated in accordance with the *Law of the River*. California's Colorado River allocation is 4.4 million acre-ft/yr (AFY). Under the current priority system and in accordance with the 1968 Colorado River Basin Project Act (82 Stat. 885 *ff*), in years when there is insufficient Colorado River water to meet the needs of the Lower Basin States (California, Nevada and Arizona), diversions for the Central Arizona Project are to be reduced sufficiently to deliver 4.4 million AFY to the water rights holders, contractors and reservations in California. In addition, as a result of its higher priority, CVWD would not experience a reduction in deliveries until Metropolitan Water District of Southern California (Metropolitan) deliveries (550,000 AFY) are eliminated. Thus, in the very unlikely situation in which the entire QSA effort collapses, CVWD will continue to receive a large share of California's 4.4 million AFY allotment. The U.S. Bureau of Reclamation's interim guidelines for shortage sharing provide additional protection through at least 2026.

Second, progress is continually being made with regard to the QSA. Oral arguments for the appeal hearing on Judge Candee's QSA ruling (Superior Court of California, 2010) were heard on November 21, 2011; a decision is possible by early 2012. CVWD expects that Judge Candee's ruling will be overturned and has been actively working with the other QSA signatories to resolve the issues associated with the State's financial obligations for QSA mitigation costs. Even if the QSA is not reinstated in its current form, California must continue to limit its Colorado River water use to 4.4 million AFY. CVWD would continue to receive Colorado River water under the existing agreements in place before the adoption of the QSA in 2003. In the absence of the QSA, the amount of Colorado River water received would again depend on priority, rather than be a defined quantity, but CVWD, once again, will continue to receive water under such a worst case scenario. If the amount is less than the lowest level of 385,000 AFY planned for in the 2010 WMP Update, the plan would be modified.

While the Tribe may disagree with CVWD's assumptions regarding whether the QSA or a functional equivalent will be in place in the future, the analysis of future groundwater levels is used to estimate the amount of recharge water, coupled with water conservation and other water management elements, that will be required to meet the projected future water demands while

eliminating long-term overdraft. The intent of the WMP Update is to provide a flexible approach that can adapt to changing future development and water supply conditions. The evidence does not support that any of these contingencies will occur, but if SWP and Colorado River water supplies are less available or reliable in the future than assumed in this plan, CVWD and DWA have the ability under the plan to either: 1) implement additional water conservation measures to reduce demands and pumping, or 2) acquire additional water supplies from other sources as outlined in the WMP Update. If future water demands are less than projected, then less recharge water will be needed to balance the basin and stabilize or recover water levels. Future plans and their elements will be subject to full CEQA analysis and review at the time they are proposed.

SWP Reliability
The comment letter incorrectly states the planning assumptions for SWP reliability used in the Plan. On page 4-29, the Draft WMP states:

There currently are no published data or information regarding the effect that the BDCP and DHCCP will have on SWP delivery reliability. Consequently, *it is assumed for planning purposes that, if successful*, [emphasis added] these programs will restore SWP average delivery reliability to the pre-Wanger decision levels of 77 percent of Table A Amounts. This assumption is consistent with planning assumptions being made by Metropolitan (Metropolitan, 2010a and 2010b). The WMP Update evaluates *both low (50 percent) and high (77 percent) reliability* [emphasis added] in determining future water needs for the Valley.

The potential future reliability of SWP deliveries if the BDCP is successful is assumed, pending more detailed analysis by DWR. The WMP Update does not rely on this assumption alone but evaluates a range of additional imported water that will need to be acquired depending on the Delta outcome. If this additional water cannot be acquired from SWP sources, then CVWD and DWA will need to pursue other options, possibly including desalination of ocean water and subsequent exchange. Such a significant change in conditions would likely trigger an update to the WMP and additional CEQA compliance.

A future reliability factor of 50 percent of SWP Table A Amounts, as a long term average, is used in the WMP Update if the BDCP is not successful. This factor is 17 percent *more conservative* than the SWP reliability of 60 percent of Table A Amounts published in DWR's Final 2009 SWP Delivery Reliability Report. The District disagrees with the Tribe's assertion that future SWP deliveries will be further reduced to some undefined level or eliminated at worst, since these conditions are considered highly unlikely by the DWR, the operator of the SWP.

If, at a future time, either or both imported sources' water deliveries were expected to decrease to significantly below currently anticipated levels, CVWD would revise the WMP accordingly and change the mix of elements to reflect the new reality. Again, the new WMP and its elements would be subject to full CEQA analysis and review at that time.

4-2 "B. The Tribe disagrees with the characterization of a slower rate of basin overdraft as a 'Beneficial Effect.'"

The District respectfully asserts that reduction, as well as elimination, of an existing on-going adverse condition is a beneficial effect. Additionally, the District believes that the term "mining" is misleading, since it suggests that water is withdrawn without any view toward its replacement, which is not the case in the WMP Update. Replacing all water pumped to date in excess of recharge is not a goal of the WMP and is not required under CEQA, which considers existing conditions as its analytical baseline. CVWD has never implied that historical imports were sufficient to eliminate overdraft or that all historically pumped water would be replaced. The WMP Update relies on a combination of water conservation, new water supply development, sources substitution and groundwater recharge to reduce/eliminate existing and future overdraft (SPEIR Section 1.3 Project Goals and Objectives and Section 1.6 Project Description). The objective of the WMP Update is to address an existing condition, which is the statutory baseline for CEQA analysis, not to replace water pumped in the past.

The comment states that overdraft has been facilitated by limited monitoring and assessment of the aquifer. With respect to the request for "creation of a timely, transparent and relevant monitoring program," to document groundwater conditions in the basin, the District has had an extensive groundwater monitoring program in place for more than 60 years. The District's program currently monitors more than 500 wells at least three times per year. It was the results of CVWD's basin-wide, on-going well monitoring that clearly identified a serious decline in groundwater levels in the West and East Valleys before 1993, which spurred the preparation of the first WMP. CVWD groundwater monitoring data are published in the CVWD Annual Engineer's Report prepared in conjunction with the Replenishment Assessment Charge (RAC). CVWD publishes hydrographs for two example wells in the West Valley and 14 wells in the East Valley (CVWD, 2010a, and 2010b). Data for a minimum of 10 additional West Valley wells will be presented in future reports. The District also will be participating in the state's California Statewide Groundwater Elevation Monitoring (CASGEM) program (DWR, 2011), submitting groundwater elevation data for 45 wells twice per year starting in January 2012. Other Valley water agencies are also participating in this program. CASGEM data will be available to the public. The District agrees that development of a comprehensive groundwater level database for the Coachella Valley, which would be comprised of all available monitoring data, including on tribal wells, would be beneficial for providing a more complete picture of groundwater conditions. A monitoring program is an element of the Proposed Project (WMP section 6.8.4, page 6-42) and is so identified in the SPEIR (section 1.6.2, page 1-8; Table 1-1, page 1-12; section 3.3.1.1, page 3-22; and Table 3-3 page 3-30 and 3-31). Each water supplier is responsible for data collection from its wells, including groundwater quality information. In addition, the Coachella Valley Integrated Regional Water Management Plan (IRWMP) (CVWRMG, 2010, Section 9) proposed development of a Data Management System (DMS) for groundwater data, "as appropriate and publicly available," from public and private water purveyors.

The recovery of groundwater levels resulting from Plan implementation, as indicated on SPEIR page 5-42, is described in detail in SPEIR Section 6.4.2 (page 6-36 *ff*). Projected elimination of

overdraft in the 2002 WMP and in the 2010 WMP Update is based on application of the peer-reviewed Coachella Valley groundwater model developed for the 2002 WMP by Dr. Graham Fogg (see SPEIR Section 6.2.4 and Appendix D). The model was revisited and then re-run for the present WMP Update to reflect current and anticipated future planning conditions in the basin. The model input data were based on groundwater production records, well monitoring data and existing documents on Valley hydrogeology. Hydrographs showing historical monitoring and model simulation results for nine representative wells are presented on Figure 6-14. Evaluation of basin size, capacity and hydrostratigraphy was part of the original groundwater model development and was based on previous basin documentation and past and current well data. As discussed in SPEIR Section 6.2.4 and Appendix D, the model developed for the 2002 WMP produced excellent agreement between measured and simulated groundwater levels and drain flow for the data period 1936–1996, upon which it was based and which was used for calibration. The model was found to be accurate for groundwater elevations to within plus or minus 20 feet. For the present WMP Update, the 1997-2009 period was used as a verification period. When rerun and compared to recent data for preparation of the WMP Update, the model was generally found to follow historic groundwater levels within the same range. Based on existing well monitoring data, basin wells already have shown a recovery in water elevations; artesian conditions already have been restored in portions of the East Valley (SPEIR Figure 6-14 page 6-43 and Figure 6-16, page 6-51).

The Tribe's comment misconstrues the reversal of deep aquifer flow away from instead of towards the Salton Sea as being an impact of the Proposed Project. As part of the Environmental Setting, Page 6-11 of the SPEIR states: "Historically, some groundwater migrated out of the Lower aquifer, flowing into the area beneath the Salton Sea. Basin overdraft, however, has reversed the direction of the subsurface flow in some portions of the basin." The deep aquifer flow reversal occurring near the Salton Sea is described as part of the existing conditions, caused by existing overdraft. It is not an impact of either the 2002 WMP or the current WMP Update. The flow reversal is limited to a small portion of the East Valley near the Salton Sea and does not affect the West Valley. Again, the District does not "mine" the groundwater basin; as discussed above, the objectives of the WMP and WMP Update are to reduce/eliminate existing and projected overdraft of the basin.

DWR Bulletin 108 (1964) remains the most comprehensive study of basinwide hydrogeologic characteristics to date. CVWD keeps track of the overdraft annually in the Engineers' Report and water levels are measured three times per year to track the rate and location of groundwater level changes. The District also plans to work through the IRWMP process to develop a shared groundwater database with the other four public water agencies in the Valley and other stakeholders who choose to participate. The District encourages the tribes to participate and share their data as well.

The comment letter questions the progress of implementation of WMP elements and the use of developer fees to fund these projects. Since 2002, the District has implemented many elements of the 2002 WMP, which included water conservation, acquisition of new water supplies, Phase 1 of the Mid-Valley Pipeline and the Martinez Canyon and Thomas E. Levy groundwater

replenishment facilities. WMP Update Table 2-2, Status of the 2002 Water Management Plan Implementation, presents the extensive progress made to implement the WMP since 2002. Since 2002, CVWD and DWA have invested more than $240 million in water acquisitions, conservation, construction of new facilities and monitoring to reduce overdraft and manage the basin. The following provides a summary of these major investments by program element:

Program Element	Status	Expenditure Since 2002
Water Conservation – Agriculture, domestic and golf	On-going	$14,500,000
Water Supply Development		
Quantification Settlement Agreement	On-going	$36,000,000
SWP Table A Acquisition	Completed	$88,800,000
Source Substitution		
Mid-Valley Pipeline Phase 1	Completed	$44,700,000
Groundwater Recharge		
Thomas E. Levy Recharge Facility	Completed	$44,400,000
Martinez Canyon Pilot Recharge Facility	Completed	$7,700,000
Surface and Groundwater Monitoring	On-going	$6,800,000
Total Expenditures		$242,900,000

Because of the significant financial and technical resources required to implement these projects, CVWD has not been able to implement them as rapidly as desired. Nevertheless, the District is committed to implementing the WMP Update and its elements over the planning period to achieve the Proposed Project's stated goals and objectives.

The Tribe's comment suggests that developer fees and water rates should be used to fund WMP projects. Since 1978, with the passing of Proposition 13, capital construction costs for new domestic water facilities have been borne by developers through the District's Water System Backup Facilities Charge (WSBFC). The WSBFC was created as a funding mechanism for the construction of backup water facilities. A component of WSBFC, the "Supplemental Water Supply Charge" or SWSC was created as a funding mechanism for the purchase of rights for supplemental water supplies to ensure domestic water availability for new development projects. Typically, developers of new projects will construct the on-site pipelines and deed ownership to the District for future operation and maintenance. The District will subsequently build the necessary off-site "back-up" facilities, such as wells, treatment facilities, booster stations, reservoirs and large diameter transmission mains, which are funded by the developer through the WSBFC. In addition, the purchase of long-term water supplies needed to provide domestic water to a new project is also funded through the SWSC component of the WSBFC. This component is based on the District's inflation-adjusted cost of acquiring new imported water supplies and considers the expected reliability of those supplies. The WSBFC is assessed on all new development and redevelopment projects within the District's service area. A similar

charge generates capital funds for construction of new wastewater collection and treatment facilities required to support new development.

The use of developer fees is restricted by the 1987 Mitigation Fee Act (Government Code §§ 66000-66025). This act requires public agencies to: 1) establish a nexus between a development project and the public improvement to be financed by the fee, 2) segregate the fee revenue to avoid comingling of capital fees and general funds, 3) make findings regarding the on-going need for any fees not expended or committed within five years of collection, and 4) refund any fees for which the above findings cannot be made. CVWD must apply any developer fees whether for water acquisition or construction of water, sewer or flood control facilities to the appropriate fund and cannot use those funds for any other purpose. CVWD has used a portion of the developer fees for the purchase of additional SWP Table A Amounts. However, other WMP projects such as the Mid-Valley Pipeline and the Thomas E. Levy Recharge Facility must be funded by the District's Reserves. The cost of these projects is recovered over time through water sales to the project customer or through the District's RAC. With regard to the use of water rates to fund WMP programs, California Proposition 218 (passed in 1996) restricts the District from establishing water rates that do not reflect the cost of service. In addition, Proposition 218 requires that any proposed increase in water rates be subject to public vote. CVWD expects to implement new water conservation programs in the future and the cost of those programs would be funded by water rates when those programs are implemented. However, the District is not able to arbitrarily increase water rates simply to encourage water conservation.

The District's record demonstrates that it has made significant strides in a number of areas with a definite and realistic goal of overcoming overdraft, both of which are beneficial effects. The District respectfully disagrees with the Tribe's comment and believes that the SPEIR adequately addresses these issues. The District maintains that implementation of the WMP Update will have beneficial effects on the Coachella Valley.

4-3 "C. The Tribe believes that overdrafting the aquifer IS a growth inducing impact and that CVWD has a direct impact over future development in the Coachella Valley."
The District respectfully disagrees that overdrafting the aquifer is growth inducing. On the contrary, overdrafting the aquifer is ultimately a growth-limiting effect. In addition, ongoing "mining" of the aquifer is not what is proposed, since the principal focus of the WMP is to overcome overdraft by replacing water that is withdrawn or by reducing withdrawal. The WMP is by nature growth-accommodating, rather than growth-inducing, since approval of growth in the Coachella Valley is under the authority of Riverside County and the Valley cities. CVWD does not have direct control over future development. The District expects that development will continue to be approved by these agencies and will occur. Should growth occur at a different pace than projected in the WMP Update and SPEIR, the Plan has the flexibility to adapt to those changing conditions while still meeting the objective of water supply sustainability. The District would only pump that amount of water that is actually needed at one time, and hence District groundwater production is governed by growth that is directed by other forces and in fact already exists at the time water is pumped.

The District respectfully disagrees that the WMP contains "vague, long-term ideas." Specifically defined elements of the WMP include conservation (which is ongoing, including the passing of a Landscape Ordinance and implementation of tiered water budget-based domestic water rates), desalination of drain water (for which the District has completed a pilot project), ongoing implementation of water recycling, specifically identified recharge projects, and past and ongoing specific water transfers, etc. (see SPEIR Section 3 Project Description). The WMP Update is a 35-year plan, which must be evaluated programmatically, as allowed and encouraged under CEQA for long-term areawide plans. Additional CEQA compliance will be prepared, and will tier off the WMP Update SPEIR, as sites for individual plan elements are identified. The WMP Update and SPEIR present a short term and a long-term implementation plan with a schedule for completion of the Plan elements (SPEIR Table 3-3 and pages 3-33 and 3-34). The Plan will be updated periodically as the environment or the Plan change.

The Tribe questions the degree of water conservation achieved and proposed in the WMP Update. The degree of conservation proposed in the WMP Update is based on meeting the statewide "20 by 2020" requirements for existing customers and to implement the requirements of the state 2010 CALGREEN Building Code and the District's Landscape Ordinance for new development as a minimum. In addition, CVWD would continue to invest in conservation measures to achieve greater savings than the state-mandated minimums. Based on analyses performed for the WMP Update, CVWD estimates that per capita water use in 2045 will be nearly 40 percent less than current usage levels (see WMP Update, pg 6-7). The acceptable degree of conservation may change in the future; the Plan is adaptable to changing conditions. For example, recent large developments (e.g. Travertine Point and Kohl Ranch), when completed, will more than meet current state "20 by 2020" conservation goals. The District believes that the degree of conservation proposed, implemented together with the other elements of the WMP Update, presents a long term sustainable plan (see SPEIR section 3.1.5.1).

While additional conservation could theoretically be implemented that would further reduce water demands, such conservation would require more fundamental changes in the culture and economy of the Coachella Valley. Whether additional conservation could potentially avoid all water importation cannot be determined at this time, and would depend on how conservation is implemented in all sectors and by all users. Should CVWD and DWA not be able to obtain additional supplies to meet demands, a decision may need to be made regarding future growth in the Valley.

Therefore, the District is working, through implementation of the 2002 WMP and the 2010 WMP Update, to accommodate growth projected by others and to manage responsibly the water resources in the Coachella Valley.

4-4 "D. The Tribe is concerned with how the document characterizes the reduction in groundwater quality as a potentially significant impact but offers no feasible solution and notes that a Statement of Overriding Considerations will likely be adopted by CVWD." With regard to impacts on the Tribe's water rights, please see the discussion under Response to Comment 4-1, *supra*.

The SPEIR does conclude that the 2010 WMP Update would result in a significant impact with regard to water quality related to Indian Trust Assets, due to increased groundwater salinity from the water to be recharged under the 2010 WMP Update. The impetus for this significance conclusion was the fact that salinity would increase over existing conditions; however, it should be noted that the levels predicted under the 2010 WMP Update still meet health-based water quality standards and thus are available for beneficial use by the Tribe and for all other users in the Coachella Valley.

The letter goes on to state that "The financial cost of new facilities to treat poor quality Colorado River water is an important part of a rational, long-term solution but should not be used to justify a Statement of Overriding Considerations under CEQA." The District refers to State CEQA Guidelines Section 15093 Statement of Overriding Considerations, which requires the CEQA lead agency to balance economic, legal, social, technological and other benefits against unavoidable environmental risks in considering whether to approve a project. "If the specific economic, legal, social, technological or other benefits, including region-wide or statewide environmental benefits, of a proposed project outweigh the unavoidable adverse environmental effect, the adverse environmental effects may be considered 'acceptable.' "

The relevance of the letter's reference to page 5-24 is not clear. The referenced statement is a CEQA-required significance criterion that is used to determine whether a significant impact would occur relative to changes in Coachella Canal flows and has no bearing on groundwater quality.

The commenter's statement that the infeasibility of treating Colorado River water is used to justify the Statement of Overriding Considerations is not correct. Infeasibility does not play a role in justifying the approval of a project in spite of its significant and unavoidable impacts; rather, it is the project's benefits that are balanced against its significant and unavoidable impacts when a lead agency adopts a Statement of Overriding Considerations. The concept of mitigation or alternatives to the project being "infeasible" goes towards establishing that a significant impact of the project is in fact "unavoidable" (in other words, there is not sufficient feasible mitigation available to reduce the impact to less than significant). Only when this is established is the weighing of benefits against significant and unavoidable impacts in a Statement of Overriding Considerations necessary.

The commenter states that it is concerned that various means of avoiding the groundwater quality impact discussed above were not "adequately studied so as to rule out their feasibility," and specifically identifies the use of a new aqueduct to directly provide SWP water to the District, the construction of desalination facilities to treat canal water, and the "dual use" of the Colorado River Aqueduct to bring SWP water to the District. This is not correct. As discussed in SPEIR Section 6.5.4, the District investigated but found no financially feasible solutions to the salinity issue at this time. Section 10 of the SPEIR evaluates alternatives considered to reduce salinity impacts of recharge: the SWP Extension (Section 10.4.1) and Canal water desalination (10.4.2). These alternatives are revisited below.

SWP Extension to the Coachella Valley

The first alternative evaluated was construction of the SWP Extension. CVWD, DWA, Metropolitan, San Gorgonio Pass Water Agency and Mojave Water Agency commissioned a feasibility study of extending the SWP to the Coachella Valley in 2006 (GEI, *et al.*, 2011). The SWP Extension feasibility study initially evaluated four potential conveyance alignments: 1) a Lucerne Valley alignment originating on the East Branch of the California Aqueduct near Hesperia and running through Yucca Valley, 2) a North Pass alignment originating at the SWP Devil Canyon Afterbay in San Bernardino and paralleling Interstate 10, 3) a South Pass alignment originating at Lake Perris and paralleling State Route 60 and Interstate 10, and 4) a San Jacinto alignment originating at Lake Perris and tunneling through the San Jacinto Mountains. Following completion of the initial evaluation in 2007, two potential alignments were selected for more detailed evaluation — a 90-mile-long Lucerne Valley alignment and a 40-mile-long Modified North Pass alignment that utilized Metropolitan's Inland Feeder. For each alignment, two different project sizes were considered: a small project entailing delivery capacity for CVWD and DWA only with water delivery over 11 months per year and a large project including capacity for CVWD, DWA and other contractors along the alignment with water delivery over 9 months per year. The alignments were evaluated equally and neither alignment was selected as the proposed project.

Environmental constraints for both alignments were found to be numerous and substantive (for example, it is not certain that a Morongo Canyon alignment reach would be permitted, even if tunneled). A full EIR and NEPA EIS will be required for the project and neither process has commenced; in addition, a federal lead agency has not been identified.

The total capital cost of the Lucerne Valley project was estimated to range from $900 million to $1.2 billion for the small project and $1.1 to $1.4 billion for the large project in 2009 dollars, with a $7.5 million per year (2009 dollars) operation and maintenance (O&M) cost. The capital cost allocation to CVWD and DWA was estimated at $1.06 billion for the small project and $1.2 billion for the large project using the mid-point of the capital cost estimates. Annual O&M costs including expected power generation revenue ranged from -$0.4 million for the small project to $7.5 million for the large project. For the Modified North Pass alignment, the estimated total capital cost in 2009 dollars was $774 to $981 million for the small project and $881 million to $1.13 billion for the large project. Annual O&M costs of $26.2 million for the small project and $19.1 million for the large project. The CVWD and DWA construction cost share of the Modified North Pass alignment was estimated at $878 million for the small project and $897 million for the large project using the mid-point of the capital cost estimates.

Cost allocation is frequently performed on the basis of proportionate capacity in each pipeline reach. For the Lucerne Valley alignment, the cost allocated to CVWD and DWA was estimated to range from $77 million to $89 million per year. For the Modified North Pass alignment, the cost allocated to CVWD and DWA was estimated to range from $77 million to $87 million per year. CVWD's share of this cost would range from $55 million to $64 million per year, while DWA's share would be 22 million to $26 million per year.

To put these costs in perspective, for 2010, CVWD's total annual income was $208 million of which $79.2 million was derived from water sales and $18.2 million from replenishment assessment income. Property taxes generated $64.1 million. In comparison, DWA's total annual income was about $50 million. Since the cost of implementing the SWP Extension could only be placed on water users or property tax payers, the project could require some combination of a 70-80 percent water rate increase, a 100-130 percent property tax increase or a 300-350 percent replenishment assessment increase. It is likely that similar increases would be experienced by DWA. Therefore, the cost to implement either SWP Extension alignment would pose a substantial financial burden on CVWD, DWA and their customers. Given the current economic conditions of the Coachella Valley, it seems unlikely that the citizens would support such a substantial investment at this time. For example, a typical golf course using 1,000 AFY of water would see its replenishment assessment increase from about $112,000 a year to $432,000 a year.

The viability of the Modified North Pass alignment also depends on Metropolitan allowing use and purchase of available Inland Feeder capacity; no commitment has been made to date. A number of additional issues affecting the project feasibility remain unresolved.

- Reliability of the SWP conservation facilities is an unresolved constraint to the SWP Extension project. SWP Conservation Facilities are basically those facilities that generate the yield of the SWP, and include Lake Oroville, San Luis Reservoir, and a portion of the California Aqueduct from the Delta to San Luis Reservoir. Prior to construction of improvements to the East Branch and the SWP Extension, the reliability of the SWP conservation facilities will need to have been improved to a level similar to that project in the 2005 SWP Delivery Reliability report to justify such an investment.
- Capacity in the California Aqueduct north of the bifurcation into the East Branch and West Branch is a potential constraint to the SWP Extension.
- The Pearblossom Pumping Plant on the East Branch of the California Aqueduct has less capacity than required to supply the SWP Extension project along with other contractors' needs.
- The capacity of the Inland Feeder may not be adequate to make deliveries to the Modified North Pass Alignment as well as meet Metropolitan's needs. Further analysis is needed to determine the anticipated available capacity in future years.
- The governance structure for the design, construction and operation of the project has not yet been determined. Such a structure is necessary to secure bond funding for the project.
- Feasibility will also be affected by the results of future stakeholder and public agency outreach.
- Participation of the project partners will depend on whether their individual needs for supplemental water can be met by the proposed project, which depends on which alignment ultimately is selected.

The SWP Extension feasibility report is in final draft form and is expected to remain in that form for the foreseeable future. The SWP Extension project is currently on hold pending resolution of the feasibility constraints identified above, resolution of the Bay Delta Conservation Plan and the potentially participating agencies' ability to finance the project. Based on the significant cost

impact of the project, the SWP Extension is considered financially infeasible at this time. In SPEIR Section 3.3, it is identified as an element for possible inclusion in future updates to the WMP.

Desalination of Colorado River Water

The second alternative, desalination of Canal or SWP Exchange water prior to recharge, was evaluated in the WMP Update and found to have potentially significant impacts in addition to impacts of the WMP Update, particularly potential biological and cultural resources effects, energy demand, greenhouse gas emissions and brine disposal by methods to be determined. In addition, while the treatment process is technically feasible, the feasibility of brine disposal methods has not been sufficiently evaluated and presents a potentially significant environmental and permitting constraint. Moreover, the issue is not just willingness to spend money. No alternative will be built if the lead agency and the rate payers cannot afford it, if it is economically infeasible and if it has unacceptable impacts on the service area.

CVWD performed a reconnaissance-level evaluation of desalinating Canal water prior to recharge at the Whitewater facility and at the three East Valley facilities – Levy, Martinez and Indio. To bracket the desalination options at Whitewater, two options were considered, one where the capacity is limited to the average recharge (90,000 AFY capacity) with any additional water bypassed without treatment and one where all recharge water is desalinated (180,000 AFY capacity). Both of these options assume location of a treatment facility near Metropolitan's CRA to minimize the impact of TDS on the groundwater basin between the CRA and recharge facility. The East Valley facilities were assumed to operate at a continuous recharge rate as indicated in the WMP Update. Using costs from a CVWD-funded investigation of Colorado River water treatment (Malcolm Pirnie, 2008a), the cost of treatment was estimated as presented in the Table below to achieve: 1) a 500 mg/L TDS target based on the California recommended secondary drinking water standard for TDS and 2) a 250 mg/L TDS target based on the general water quality of the Lower aquifer. The costs of desalination treatment are also compared with the cost of the SWP Extension and several combination options involving both the SWP Extension and treatment of recharge water in the East Valley.

Previous estimates of treatment costs have excluded the cost of brine disposal. Brine flows from recharge water desalination are estimated to range from 7.4 mgd to 55 mgd, depending on the TDS target and the treatment capacity. Although the Malcolm-Pirnie studies evaluated a wide variety of potential brine disposal options, discharge to wetlands near the Salton Sea showed the most promised. Previous studies have also did not include the cost to obtain replacement water to offset the amount of water lost to brine disposal. This evaluation includes these additional costs.

This evaluation shows that the cost to construct treatment at Whitewater could range from $68 million for the smaller facility with a 500 mg/L target to $508 million for the larger facility with a 250 mg/L target. These costs are exclusive of brine conveyance and disposal. Total annual costs including amortized capital, O&M and replacement water costs would range from $15 million to $71.4 million per year depending on the TDS target and the design capacity.

In addition, CVWD evaluated the cost to treat Colorado River water prior to recharge at the Thomas E. Levy Groundwater Replenishment Facility near La Quinta and the proposed recharge facilities at Martinez and Indio. As with the Whitewater options, two TDS targets were considered: 500 mg/L and 250 mg/L. The capital cost (also exclusive of brine conveyance and disposal) would be $117 million to achieve the 500 mg/L target, while the capital cost to achieve the 250 mg/L target would be $237 million. Amortized capital, O&M and replacement water costs are estimated to be $22.6 million and $47.9 million per year, respectively, for the two water quality targets.

To estimate an order of magnitude cost for brine conveyance and disposal, it is assumed that a brine line could be constructed roughly parallel to the Whitewater River channel from Whitewater to the Salton Sea, with branches to collect brine from Indio and Martinez as shown on the attached figure. Such a brine line system would be more than 66 miles long with diameters ranging from 12 to 30 inches for the smallest option and from 12 to 54 inches for the largest option. Based on current pipeline installation costs (assuming use of high density polyethylene pipe-HDPE), the brine line construction could add $158 million to more than $288 million to the capital cost of a recharge water desalination program. Assuming 1 percent per year for O&M, the annual cost of the brine line would be $1.4 million to $2.2 million per year. The capital cost of a separate brine line to serve East Valley recharge desalters would add $67 million to $79 million to the program cost. Whether discharge of brine to the Salton Sea via wetlands would be permitted is uncertain at this time. Previous evaluations of lined evaporation ponds and zero liquid discharge approaches show comparable or higher costs than those presented here (Malcolm Pirnie, 2008b).

Intentionally left blank

Comparison of Desalination and SWP Importation Options

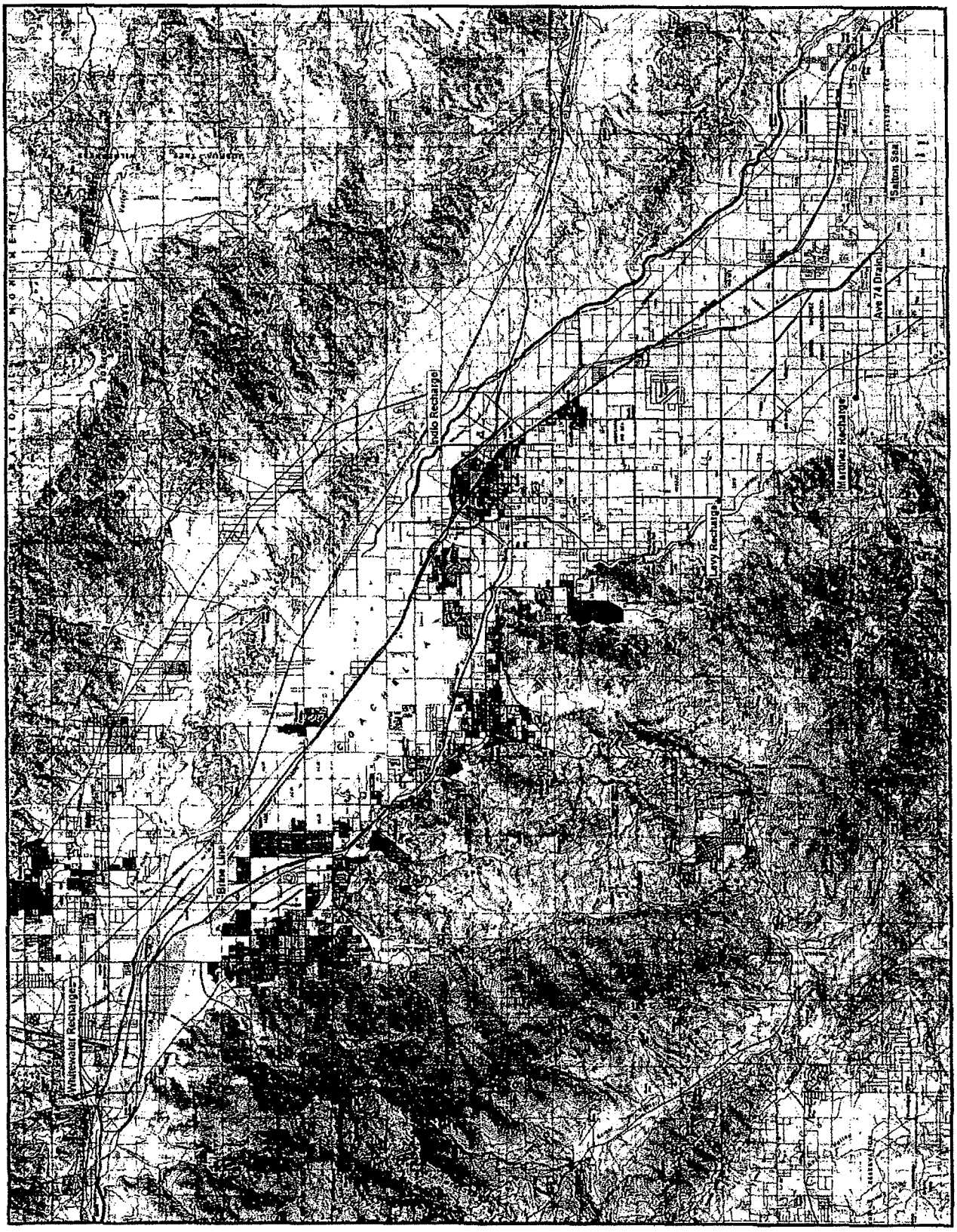
Location	TDS Target-mg/L	Avg Annual Delivery-AFY	Plant Capacity-mgd	Capital Cost	O&M Cost-$/yr	Total Annual Cost $/yr	Average Groundwater Production-AFY	Average RAC Impact - $/AF	Existing Avg RAC $/AF	Percent RAC Increase
Desalination-1										
Whitewater River	500	85,000	22.6	$ 68,000,000	$ 8,100,000	$ 15,000,000				
Levy	500	40,000	20.3	$ 62,000,000	$ 6,100,000	$ 12,200,000				
Martinez	500	20,000	10.1	$ 35,000,000	$ 3,300,000	$ 6,700,000				
Indio	500	10,000	5.1	$ 20,000,000	$ 1,800,000	$ 3,700,000				
Brine System				$ 158,000,000	$ 1,600,000	$ 13,300,000				
Total				$ 343,000,000	$ 20,900,000	$ 50,900,000	257,000	$198	$90	220%
Desalination-2										
Whitewater River	500	100,000	173.2	$ 376,000,000	$ 7,800,000	$ 37,500,000				
Levy	500	40,000	20.3	$ 62,000,000	$ 6,100,000	$ 12,200,000				
Martinez	500	20,000	10.1	$ 35,000,000	$ 3,300,000	$ 6,700,000				
Indio	500	10,000	5.1	$ 20,000,000	$ 1,800,000	$ 3,700,000				
Brine System				$ 197,000,000	$ 2,000,000	$ 16,500,000				
Total				$ 690,000,000	$ 21,000,000	$ 76,600,000	257,000	$298	$90	332%
Desalination-3										
Whitewater River	250	85,000	62.9	$ 192,000,000	$ 26,100,000	$ 45,400,000				
Levy	250	40,000	39.3	$ 128,000,000	$ 14,200,000	$ 26,300,000				
Martinez	250	20,000	19.7	$ 70,000,000	$ 7,500,000	$ 14,000,000				
Indio	250	10,000	9.8	$ 39,000,000	$ 4,000,000	$ 7,600,000				
Brine System				$ 230,000,000	$ 2,200,000	$ 19,200,000				
Total				$ 659,000,000	$ 54,000,000	$ 112,500,000	257,000	$438	$90	487%
Desalination-4										
Whitewater River	250	100,000	194.6	$ 508,000,000	$ 28,100,000	$ 71,400,000				
Levy	250	40,000	39.3	$ 128,000,000	$ 14,200,000	$ 26,300,000				
Martinez	250	20,000	19.7	$ 70,000,000	$ 7,500,000	$ 14,000,000				
Indio	250	10,000	9.8	$ 39,000,000	$ 4,000,000	$ 7,600,000				
Brine System				$ 288,000,000	$ 2,700,000	$ 23,800,000				
Total				$1,033,000,000	$ 56,500,000	$ 143,100,000	257,000	$557	$90	620%
SWP Extension Only										
SWP Extension	330	100,000		$ 817,000,000	$ 12,000,000	$ 71,300,000	165,000			
Total				$ 817,000,000	$ 12,000,000	$ 71,300,000	165,000	$432	$112	386%

Comparison of Desalination and SWP Importation Options (continued)

Location	TDS Target-mg/L	Avg Annual Delivery-AFY	Plant Capacity-mgd	Capital Cost	O&M Cost-$/yr	Total Annual Cost $/yr	Average Groundwater Production AFY	Average RAC Impact - $/AF	Existing Avg RAC $/AF	Percent RAC Increase
SWP Extension and Desalination-1										
SWP Extension	330	100,000		$ 817,000,000	$ 12,000,000	$ 71,300,000				
Levy	500	40,000	20.3	$ 62,000,000	$ 6,100,000	$ 12,200,000				
Martinez	500	20,000	10.1	$ 35,000,000	$ 3,300,000	$ 6,700,000				
Indio	500	10,000	5.1	$ 20,000,000	$ 1,800,000	$ 3,700,000				
Brine System				$ 67,000,000	$ 800,000	$ 5,900,000				
Total				$1,001,000,000	$ 24,000,000	$ 99,800,000	257,000	$388	$90	432%
SWP Extension and Desalination-2										
SWP Extension	330	100,000		$ 817,000,000	$ 12,000,000	$ 71,300,000				
Levy	250	40,000	39.3	$ 128,000,000	$ 14,200,000	$ 26,300,000				
Martinez	250	20,000	19.7	$ 70,000,000	$ 7,500,000	$ 14,000,000				
Indio	250	10,000	9.8	$ 39,000,000	$ 4,000,000	$ 7,600,000				
Brine System				$ 79,000,000	$ 800,000	$ 6,700,000				
Total				$1,133,000,000	$ 38,500,000	$ 125,900,000	257,000	$490	$90	545%

Basis of Estimates:

- Size of desalination facilities based on average recharge water deliveries with a 20% peaking factor. Capacity based on mass-balance of treated and bypassed water to achieve desired TDS target. Average CRA TDS = 640 mg/L, average Canal water TDS = 767 mg/L per Reclamation projections (Reclamation, 2007).
- Capital and operations and maintenance (O&M) costs of desalination based on cost data from Malcolm-Pirnie, 2008a. Updated to 2010 cost levels using ENR construction cost index and sized based on treatment capacity
- SWP Extension costs based on lowest cost option – Modified North Pass Alignment, Small Project serving CVWD and DWA only as presented in Final Draft SWP Extension Project Development Report (GEI, et al., 2011). Assumes 93 percent of the cost is allocated to Whitewater River Subbasin and 7 percent to Mission Creek Subbasin.
- Brine system assumes construction of HDPE pipeline to convey brine flows by gravity from treatment sites located near each recharge facility to Salton Sea. Whitewater facility is assumed to be located near CRA turnout. Brine from Martinez facility is discharged to Avenue 74 drain.
- Capital costs are amortized at 6 percent for 30 yrs.
- Pipeline O&M costs are assumed to be 1 percent of construction costs.
- Total annual costs consist of amortized capital, O&M and replacement water for brine discharge at $300/AF.
- Average groundwater production is for period 2021 through 2045 based on WMP Update unpublished data files for Proposed Project. For the SWP Extension Only option, the average production is for the West Valley only.
- Average Replenishment Assessment Charge (RAC) Impact assumes all costs of SWP importation or desalination are recovered through increased RAC charges on pumping.
- Existing RAC charge is the production-weighted average of the 2011-12 RAC adopted by DWA for the West Valley ($82/AF); CVWD for the West Valley ($108/AF) and CVWD for the East Valley $31/AF.



Schematic of Potential Coachella Valley Brine System

Based on the foregoing analysis, the capital cost to treat Colorado River water prior to recharge including brine disposal could range from $343 million to achieve a 500 mg/L target while treating most but not all of the water at Whitewater to about $1.03 billion to achieve a 250 mg/L target treating all recharge water. The economic impact of implementing a desalination program is significant as shown in the table above. The smallest desalination program would more than triple the average replenishment assessment in the Valley, while the largest program would increase the average replenishment assessment by a factor more than seven times current charge. While the effect of such an increase on the customers of large water purveyors such as DWA and CVWD would be somewhat dampened by other costs, the impact on smaller producers like golf courses and farmers would be substantial and would likely result in a severe economic impacts. Therefore, in light of the high cost and the uncertainty associated with brine disposal permitting, desalination of recharge water is considered to be financially infeasible at the present time.

In addition, Section 8.1.4.2 of the 2010 WMP Update states that "an evaluation of the potential effects of Colorado River recharge will be conducted in conjunction with the salt/nutrient plan" to be submitted to the State Water Resources Control Board by 2014 to meet SWRCB Recycled Water Policy requirements. The Tribe, as well as CVWD, DWA, other Valley water agencies and stakeholders, will have an opportunity to participate in the preparation of that basin-wide plan on how salinity and nutrients should be managed and monitored.

Dual Use of Colorado River Aqueduct

The comment letter stated that CVWD had ignored a potential third alternative for delivering SWP water to the Valley and referred to its letter commenting on the 2002 PEIR. In that earlier letter, the Tribe put forth a third approach—the use of the Metropolitan Colorado River Aqueduct (CRA) to bring SWP water to the Coachella Valley. The 2002 comment letter and District's response appear in the 2002 final PEIR Section 13 – Comments and Responses in the Final PEIR and are attached. At the time the 2002 PEIR was being finalized, Metropolitan was approached with this suggestion and concluded that reversing the flow in the CRA was not feasible, given its own aqueduct operations and maintenance requirements and the fact that the aqueduct was designed for gravity, non-pressurized flow to the west.

CVWD has revisited this approach for this SPEIR and Metropolitan was contacted again as part of the responses to comments on the Draft SPEIR (Hasencamp, *et al.*, pers. comm., 2011). The following presents an update to the 2002 response regarding dual use of the CRA to delivery SWP water to the Coachella Valley.

The commenter suggested dual use of the Metropolitan's Colorado River Aqueduct (CRA) for conveying SWP water to the Coachella Valley. Under this concept, a pipeline and pumping station would be constructed to convey SWP water from Lake Perris to the CRA near the western portal of the San Jacinto Tunnel. During periods when the CRA is not in use, SWP water would be pumped into the CRA to flow in the reverse direction to the Coachella Valley and delivered at the Whitewater turnout.

Evaluation of this option is based on several considerations. Based on discussion with Metropolitan engineers, the CRA is always in use for conveying Colorado River water to Southern California (except for short periods when maintenance is performed). The design flowrate of the CRA is 1,800 cubic feet per second (cfs) (about 1.3 million AFY) toward the west and typical full flow operation is at 1,605 cfs (Hasencamp, *et al.*, pers. comm., 2011). Metropolitan is currently delivering approximately 1.25 million AFY of Colorado River water. Although Metropolitan's current firm deliveries from the Colorado River are about 660,000 AFY, Metropolitan is developing and implementing plans to maintain as close to full deliveries as possible. These projects include the water transfers under the QSA, Palo Verde land fallowing, several interstate and desert storage projects, recovery of Water stored in Lake Mead and use of surplus Colorado River water when available. During 2010, Metropolitan delivered 1,090,000 AFY of Colorado River water to its service area. Metropolitan's 2010 Regional Urban Water Management Plan indicates full utilization of the CRA for the next 25 years (Metropolitan, 2010). Although CRA deliveries to Metropolitan have been reduced in 2011 due to high SWP water availability, Metropolitan has continued to operate the aqueduct on a continuous basis except for maintenance shutdowns (Hasencamp, *et al.*, pers. comm., 2011).

CVWD and DWA currently have a combined SWP Table A Amounts of 194,100 AFY. At DWR's current estimated SWP reliability of 60 percent of Table A, CVWD and DWA would expect to receive 116,460 AFY on average. To deliver an average annual SWP flow of 116,460 AFY (194,100 AFY maximum annual) to CVWD and DWA, several factors must be considered including the SWP contractual limitations, conveyance from the SWP to the CRA, ability to move water through the CRA and spreading ground capacity.

The SWP contract limits peak month flow to 1.32 times the average annual flow. This effectively limits CVWD's and DWA's maximum delivery from the SWP to 354 cfs (194,100 AFY × 1.32 ÷ 724 AFY/cfs). As shown in the table below, CVWD and DWA would require 166 days of CRA operation at this maximum contractual flowrate to receive their average annual deliveries. This would restrict Metropolitan's use of its own aqueduct to 199 days per year and limit deliveries to 710,000 AFY (57 percent of current). Delivery of the full Table A allocation to CVWD and DWA would require 277 days of operation, limiting Metropolitan to 89 days per year or 317,000 AFY (25 percent of current). Clearly, this approach would not be acceptable to Metropolitan as it would not provide sufficient time to deliver Metropolitan's Colorado River water needs.

Water Delivery Constraints based on SWP Contract

	CVWD and DWA Average SWP Delivery	CVWD and DWA Maximum SWP Delivery
CVWD and DWA SWP Capacity – cfs	354	354
CVWD and DWA Annual SWP Supply – AFY	116,460	194,100
Time to Deliver Average SWP supply – days per year	166	277
Remaining Time for Metropolitan Operation – days per year	199	89
Metropolitan Delivery design flow – cfs	1,800	1,800
Metropolitan Annual Delivery -AFY	710,000	317,000

If the SWP conveyance limitation could be waived and CVWD and DWA could deliver their full Table A Amount at the CRA maximum design capacity (1,800 cfs), 55 days of reverse operation would be required. This would limit Metropolitan's operation to 310 days per year and a maximum flow of 1,107,000 AFY, 89 percent of its intended operation.

The nearest locations to deliver SWP water to the CRA are from the SWP Santa Ana Valley Pipeline or from Metropolitan's Inland Feeder. The SWP Santa Ana Valley Pipeline (SAVP) was designed to convey 444 cfs from the Devil Canyon Afterbay in San Bernardino to Lake Perris. Water from the SAVP would be required to convey water to a pumping station that would lift water to the CRA. CVWD and DWA acquired 138 cfs of capacity rights in the Santa Ana Valley Pipeline under the terms of the 2003 Exchange Agreement with Metropolitan that transferred 100,000 AFY of SWP Table A Amount to CVWD and DWA. Metropolitan retained the remaining capacity in this pipeline. Thus, CVWD and DWA do not have sufficient capacity in the Santa Ana Valley Pipeline to meet their conveyance needs. In addition, the SAVP provides the sole source of water the Metropolitan's Mills Water Treatment Plant in Riverside, so reduction in SAVP water deliveries to supply CVWD and DWA would not be acceptable. Consequently, an additional conveyance facility must be considered.

Metropolitan completed construction of the Inland Feeder, which has a capacity of about 1,000 cfs. The Inland Feeder conveys SWP water from Devil Canyon Afterbay to Diamond Valley Lake and allows Metropolitan to make full use of its capacity in the East Branch of the California Aqueduct. CVWD and DWA do not have capacity rights in Inland Feeder. Metropolitan conducted an Inland Feeder capacity availability study for the SWP Extension to the Coachella Valley feasibility study. The capacity investigation indicated that unused Inland Feeder capacity may be available about 55 percent of the time, but the available capacity would exceed 300 cfs only 22 percent of the time. The average available capacity is estimated to be 172 cfs, which would deliver 124,500 AFY if available for an entire year. While this may be sufficient to deliver CVWD's and DWA's average SWP supply, it is unclear whether the timing of capacity availability would coincide with SWP water availability and whether there would be sufficient capacity when needed to deliver CVWD's and DWA's full Table A allocation. Even more significant is whether Metropolitan would even consider allowing CVWD and DWA to use that capacity given its own needs.

The next potential capacity limitation is the Whitewater Spreading Facility. This facility has a maximum recharge capacity of 300,000 acre-ft in a single year (based on operational experience in the mid-1980s) or a continuous flowrate of 415 cfs. This flowrate does not include any allowance for recharge basin maintenance. For short term periods, the spreading facility has been able to recharge up to 700 cfs, with flows averaging 560 cfs for four months. The following table summarizes water deliveries at Whitewater for the maximum annual flow and short-term sustained flow conditions and estimates the number of days remaining and the annual deliveries for Metropolitan. All of these delivery scenarios result in significant reductions to Metropolitan's CRA deliveries.

Water Delivery Constraints Based on Whitewater Spreading Facility

	CVWD and DWA Average SWP Delivery		CVWD and DWA Maximum SWP Delivery	
	Maximum Annual Flow	Short-term, sustained Flow	Maximum Annual Flow	Short-term, sustained Flow
Whitewater Spreading Facility Capacity – cfs	415	560	415	560
CVWD and DWA Annual SWP Supply – AFY	116,460	116,460	194,100	194,100
Days to Deliver Average SWP supply	142	105	235	175
Remaining Days for Metropolitan Operation	223	260	130	190
Metropolitan Delivery design flow – cfs	1,800	1,800	1,800	1,800
Metropolitan Annual Delivery - AFY	796,100	928,200	464,100	678,300

While expansion of the recharge basins may be possible, historical operation in the mid-1980s and for 2010-11 indicated that water levels would rise close to the ground surface at these high recharge rates. If the water levels reach the ground surface, recharge rates would decline significantly, reducing the recharge capacity. Thus, expansion may be limited by hydrogeologic constraints. In addition, environmental impacts from construction of new recharge basins, such as loss of dune sand replenishment for fringe-toed lizard habitat, may be difficult to resolve. All land surrounding the recharge basins has been designated as a conservation area by the Coachella Valley Multi-Species Habitat Conservation Plan. Expansion of the recharge facilities is not a covered activity, so a major plan amendment would be required to allow and expansion.

Finally, it is uncertain whether the existing CRA pipeline could structurally withstand the added pressure required for reverse flow. The CRA was designed in the 1930s for gravity, unpressurized flow. This means that the CRA was designed with a hydraulic gradeline that closely approximates the ground surface elevation. Little allowance was provided for pressurization. In addition, the San Jacinto Tunnel, which accounts about 14 miles of the distance to the Whitewater turnout, leaks significant amounts of water and may not have the structural integrity to handle the additional pressure (over 100 ft) required to force water to the Coachella Valley. Increased pressure would cause leakage from the tunnel into the surrounding mountains with unknown effects. Since it is the sole source of Colorado River water for the Southern California metropolitan area, shutting down the tunnel for extended periods of time to accomplish structural modifications would present significant operational problems for Metropolitan.

Based upon these considerations, there are significant technical and operation issues associated with this alternative. CVWD discussed this approach with the management of Metropolitan who indicated to CVWD that they would not consider such a proposal (Hasencamp, *et al.*, pers. comm., 2011).

Note also, that the Plan seeks to minimize the additional importation of Colorado River water for recharge though increased conservation, maximizing local water use through desalination of drain water and through recycling. The District has already achieved an 18.4 percent reduction in per capita water use through conservation, and the CVWD Landscape Ordinance has reduced allowable landscape irrigation from 1.5 AFY/customer to 0.6 AFY/customer. In addition, the present Plan includes half the recharge at the proposed Martinez Canyon recharge facility planned in 2002. A small recharge facility is proposed in Indio, to be carried out by the city.

Therefore, after consideration of these three approaches, the District has concluded that there is no feasible mitigation for groundwater quality impacts (salinity) at this time.

4-5 "E. CVWD continues to present conflicting information about the feasibility of bringing SWP water to the Valley and continues to mischaracterize the quality of SWP water."

The District does not view the information on SPEIR page 1-41 and Section 6.5.4.1 as contradictory. CVWD and other water agencies conducted a feasibility analysis of bringing SWP water to the Valley is discussed in 4-4 above. A draft report was prepared in early 2011 (GEI, *et al.*, 2011).

The Tribe's letter does not explain or provide evidence to support the statement that CVWD mischaracterizes the quality of SWP water. SWP Exchange water quality is discussed in SPEIR Sections 5.3.3.2 and 10.4.1. SWP water quality information presented is from the DWR, operator of the SWP and from Metropolitan Water District's monitoring at Silverwood Lake.

Therefore, the District does not view the information on the feasibility of the SWP extension to be contradictory. The statement concerning SWP quality characterization is noted but is not explained or supported.

4-6 "F. Mitigation Measures"

As above, the District agrees that an expanded monitoring and reporting program, one that also includes data from tribal wells, would be useful for gaining a more complete picture of the Valley water resources; it is part of the WMP Update implementation plan. Monitoring is an important first step toward identifying whether a problem exists, but in and of itself is not mitigation.

The tribes generally do not provide groundwater quality data. The Torres Martinez tribe has reported that they provide data to the state, but the District has not been able to locate it; the Twenty-nine Palms tribe sent some information to EPA STORET on one monitoring well and several surface water sites. The District does not monitor tribal wells. The District therefore assumes that tribal wells are monitored by the individual tribes in keeping with USEPA requirements and that exceedances of applicable water quality standards are reported. The existing mitigation measure does not and cannot require the tribes to connect to local water or wastewater agencies' systems. To date, some Coachella Valley tribes have indicated interest in connecting to existing water distribution systems and sewer systems, however; CVWD currently

is working with them and the Indian Health Service to obtain grants and other monies to effect this infrastructure. It should also be remembered that mitigation measure ITA-1 suggests the installation of wellhead treatment facilities in case water quality exceeds primary health-based water quality standards.

Conclusion

As demonstrated in the past five years of WMP Update and SPEIR preparation and through multiple meetings with the Tribe, the District has always been willing to meet with the Tribe and discuss issues of mutual interest. The District agrees that there is much more to be done to manage Coachella Valley water resources and their uses. That is the intent of the 2010 WMP Update, which is a necessary first step and road map for these future actions. CVWD remains interested in coordination with the tribal councils and their staffs on issues of mutual benefit.

Thank you for your consideration and interest in the proposed project.

Yours very truly,

For Steve Robbins
General Manager-Chief Engineer

Enclosure/1/as

PR:/Reyes/2011/Dec/4 Agua Caliente

AGUA CALIENTE BAND OF CAHUILLA INDIANS
PLANNING & DEVELOPMENT DEPARTMENT
CONSTRUCTION DIVISION • ECONOMIC DEVELOPMENT DIVISION
PLANNING & NATURAL RESOURCES DIVISION • TRIBAL HISTORIC PRESERVATION OFFICE

December 22, 2011

Mr. Steve Robbins, General Manager-Chief Engineer
Coachella Valley Water District
P.O. Box 1058
Coachella, CA 92236

RE: 2010 Water Management Plan Update Draft Subsequent Program EIR

Dear Mr. Robbins:

The Agua Caliente Band of Cahuilla Indians (Tribe) has reviewed your response letter dated December 1, 2011 and again offers comments that we hope will be helpful to CVWD in ensuring that the SPEIR and 2010 WMP Update provide an accurate analysis of environmental impacts as well as meaningful strategies to preserve and protect water resources in the Valley. We ask that this letter be provided to the CVWD Board of Directors for consideration prior to taking action on the Subsequent PEIR.

1. Pg 1, paragraph 2: In responding to our comments about water overdraft, you have the word "mining" in quotes, yet water mining is an accepted term when used to describe repeated and prolonged removal of groundwater without sufficient water being recharged to replace that water. For example, the CVWD Engineer's Report on Water Supply and Replenishment Assessment, Upper Whitewater River Subbasin Area of Benefit 2011-2012, on Page 18 states, (without quotes around the word "mining"):

   Overdraft of the upper portion of the Whitewater River Subbasin will continue with or without further development; however, overdraft will increase with increased development. In effect, the groundwater Subbasin is being mined, since it is not being replenished sufficiently to recover fully. (Emphasis added.)

2. Pg 2, paragraph 2: Although the Colorado River water being recharged into the basin meets minimum water quality standards, it is in fact lower quality water than the natural groundwater and will be more costly to use for agriculture due to increased leaching requirements. The argument that the Colorado River water is satisfactory for our Valley because it is used by Imperial Valley fails, because the Colorado River is the only source for the Imperial Valley and is therefore preferable to the alternative—no water at all. The Tribe guesses that Imperial Valley farmers would prefer to have water with better quality if they could get it.

3. Pg 2, paragraph 3: It is true that the quality of the water will not affect domestic, commercial, municipal and industrial (DCMI) water use; however it will affect agricultural water users. Lower quality water requires additional water to meet leaching requirements and therefore takes more water to grow the same crop when compared to better quality water.

5401 DINAH SHORE DRIVE • PALM SPRINGS, CA 92264
TEL 760.699.6800 • FAX 760.699.6924 • WWW.AGUACALIENTE-NSN.GOV

4. Pg 2, Tribal Water Rights: We disagree with the response dismissing tribal water rights as "...inappropriate to address... in a CEQA document".

   The CEQA Guidelines, Appendix G, Section VIII. HYDROLOGY AND WATER QUALITY asks: *Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

   The continued substantial depletion (mining) of the aquifer directly impacts the quality and viability of tribal water rights, rights that are directly comparable to "planned uses for which permits have been granted" as discussed in CEQA. Thus the SPEIR should consider the ultimate water demand of a fully developed Reservation land base when the Tribe (and other Valley tribes) fully exercises its water rights.

5. Metropolitan Water District (MWD) may be providing Colorado River water in advance of the time they are entitled to receive that water under the exchange contracts. In future years, MWD could recover this water by reducing its deliveries under the exchange contracts. The quantity of this water delivery advance should be estimated and discussed in the SPEIR.

6. Pg 10, paragraph 1: Your response states that there will be significant impact with regard to water quality but that the water will still meet health-based water quality standards. Equally important is the issue of how the increasing salinity of the groundwater will affect agricultural water use and the environmental consequence of underestimating this significant negative impact.

7. Pg 11, paragraph 1: The cost for the SWP pipeline extension should be compared to the cost of removing the salt from the Colorado River water, rather than simply suggesting that the SWP pipe extension is too expensive. The document does provide cost estimates for removing salt from the Colorado River water but does not provide a conclusion regarding the least cost option.

Thank you for your consideration of these issues. If you have any questions, I can be reached at 760-699-6800.

Very truly yours,

Thomas J. Davis, AICP
Chief Planning & Development Officer
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

C: Tribal Council

KILPATRICK TOWNSEND

ATTORNEYS AT LAW

607 14th St., NW
Suite 900
Washington DC 20005-2018
t (202) 508-5800 f (202) 508-5858
www.KilpatrickStockton.com

Native American Rights Fund
1506 Broadway
Boulder, Colorado 80302-6296
t (303) 447-8760 f (303) 443-7776
www.narf.org

Confidential Settlement Communication – Protected by Rule 408

October 5, 2012

VIA E-MAIL

Gerald Shoaf
Redwine & Sherrill
1950 Market Street
Riverside, CA 92501

Roderick Walston
Best Best & Krieger LLP
2001 N. Main Street, Suite 390
Walnut Creek, CA 94596

Re: Confidentiality Agreement and Data Request

Dear Counsel:

On behalf of our client, the Agua Caliente Band of Cahuilla Indians, we appreciate the opportunity to meet with you and representatives of your clients, the Desert Water Agency ("DWA") and Coachella Valley Water District ("CVWD"), on June 14, 2012 and August 8, 2012, respectively. At both of these meetings, the Tribe expressed its desire to be treated as a sovereign government and partner in managing the precious water resources in the Coachella Valley. The Tribe has resided in the Coachella Valley for millennia and is regarded as one of the aboriginal steward of the desert Valley and of the magnificent and sacred Indian Canyons. The Tribe believes it has a responsibility to provide leadership to ensure the long-term integrity and sustainability of the Valley's water resources for the benefit of its members and for all of the residents of the Coachella Valley.

The Tribe possesses the most senior federally reserved water rights in the Valley – both surface and groundwater – and in the storage space beneath its lands where the water districts store groundwater. To protect this precious water resource, the Tribe intends to obtain a quantification of its water rights. The Tribe has reached out to DWA and CVWD to begin a process of working toward a negotiated settlement framework that involves a quantification of the Tribe's water rights, protects the water resources of the Valley and ultimately benefits all parties involved, Native and non-Native alike.

Time is of the essence. The Tribe is deeply concerned that insufficient attention is being paid to the protection of the limited water resources in the Valley, especially the groundwater.

Given the few options for securing imported water – the Colorado River being the primary source – the Tribe fears that over-dependence on the aquifer will continue and in fact increase in pace, resulting in even greater rates of overdrafting in the coming decades and generations. This could lead to water table declination making continued water abstraction more difficult and expensive. That has been the fate of some of the other great aquifers of the United States such as the Ogallala Aquifer, and elsewhere in the world in places such as the Indus River Plain Aquifer and the North China Plain Aquifer. In light of the present substantial overdrafting and in consideration of the substantial projected increase in population in the Valley, the Whitewater River aquifer is in great peril of following suit. The Tribe has serious concerns as to whether appropriate and necessary steps have been or will be taken, absent the Tribe's participation, to ensure water security for the Valley in the years to come. Too much has been left to chance. Unless the parties take action now, degradation of the groundwater will continue and worsen, and subsidence will become a more severe problem over time.

We initially met with DWA and CVWD independently, in an effort to learn your respective levels of interest in participating in a series of confidential meetings to address the Tribe's concerns. Now we propose that the three entities move forward to start the settlement negotiation process. As a preliminary step, we are attaching a draft Mutual Confidentiality Agreement for execution by all three entities. The Agreement protects certain confidential information from disclosure to third-parties, including the media. Our hope is that the parties will be able to sign this Agreement as soon as possible.

And as we expressed to you when we first met, the Tribe has a specific set of data needs that will enable it to make a more refined determination of the quantities of water to which the Tribe believes it is entitled under federal law. In determining what data to request, the Tribe has taken pains to ensure that it will not be violating the privacy rights of any customers. To that end, the Tribe requests that the agencies produce the data in the following manner:

1. The Tribe will first supply the agencies with a current map delineating the Tribal trust, Tribal fee, and allotted trust lands on the Reservation.

2. The agencies then will provide the Tribe with a GIS or AutoCad map showing all of its respective service connections where water is delivered to the customer, irrespective of size of customer, from the agency's water systems, with reference numbers for all lands on the map provided by the Tribe. The size of the groups will be such that water use by individual connections cannot be determined and thus remain unknown to the Tribe.

3. The Tribe will then provide both agencies with the service connection number for each connection within a group. The agencies will provide the Tribe with the annual production, on a monthly basis, for each group for the most recent five (5) years, to verify unit water uses in addition to total use. No individual account will be requested or provided.

4. For all wells on Reservation lands, the Tribe also requests:

   a. Historical depth to water readings (dates and depths) in the wells being monitored;

   b. Well name and location data (northing and easting is preferred, but latitude and longitude is okay, too);

   c. Ground-surface elevation data; and

   d. Drillers logs of the wells (mostly for total depth and well completion information).

We would like to arrange for the execution of the Mutual Confidentiality Agreement and the sharing of this data as soon as practicable so that the parties can begin meaningful settlement discussions. We look forward to hearing from you.

Sincerely,

Keith M. Harper

Steven C. Moore

Indian Wells
(760) 568-2611
Irvine
(949) 263-2600
Los Angeles
(213) 617-8100
Ontario
(909) 989-8584

BEST BEST & KRIEGER
ATTORNEYS AT LAW

2001 N. Main Street, Suite 390, Walnut Creek, CA 94596
Phone: (925) 977-3300 | Fax: (925) 977-1870 | www.bbklaw.com

Riverside
(951) 686-1450
Sacramento
(916) 325-4000
San Diego
(619) 525-1300
Washington, DC
(202) 785-0600

Roderick E. Walston
(925) 977-3304
roderick.walston@bbklaw.com

November 12, 2012

VIA E-MAIL

Keith M. Harper
Kilpatrick Townsend & Stockton
607 14th St., N.W., Suite 900
Washington, D.C. 20005-2018

Steven C. Moore
Native American Rights Fund
1506 Broadway
Boulder, CO 80302-6296

Re: Response to Letter Dated October 5, 2012

Dear Mr. Harper and Mr. Moore:

Thank you for your letter dated October 5, 2012, in which you state that the Agua Caliente Indian Tribe wishes to enter into negotiations with Desert Water Agency ("DWA") and Coachella Valley Water District ("CVWD") regarding the Tribe's claimed water rights in the surface waters and groundwater of the Coachella Valley.

Generally speaking, we agree that the most expeditious way to resolve any disputes concerning the Tribe's water rights claims would be through negotiation rather than litigation. Therefore, we appreciate your invitation to attempt to resolve any disputes through the negotiation process.

Based on the contents in your letter, however, it appears that there may be such a fundamental disagreement between DWA and the Tribe concerning the Tribe's water rights claims, and the Tribe's claimed right to participate in management decisions affecting the groundwater resource, that any attempt to resolve the disagreement through the negotiation process likely would be unproductive. In your letter, you state that the Tribe wishes to be "treated as a sovereign government and partner" in managing groundwater resources in the Coachella Valley; that the Tribe is the "aboriginal steward" of the Valley; that the Tribe "possesses the most senior federally reserved water rights in the Valley—both surface water and groundwater—and in the storage space beneath its lands where the water districts store groundwater"; and that the Tribe "intends to obtain a quantification of its water rights." These statements appear to indicate that the Tribe believes that it has federal reserved water rights in both surface water and groundwater; that the Tribe's rights are paramount and senior to all other

water rights in the surface waters and groundwater; that the Tribe's right is an "aboriginal" right with, apparently, a time immemorial priority date; that the Tribe believes that it has the right to regulate and control groundwater "store[d]" by the water districts in the basin; and that the Tribe has the right to fully participate as a "partner" with the water districts even to the extent that the water districts import water supplies in order to replenish groundwater in the basin.

DWA does not believe that the Tribe has the broad rights in the surface water and groundwater in the Coachella Valley that are described in your letter. Specifically, we do not believe that the Tribe has a federal reserved right in either the surface waters or the groundwater, beyond those that have already been adjudicated and are currently being exercised; that any Tribal water right does not have a "time immemorial" priority date; and that the Tribe does not have the right to participate in regulation and control of the groundwater "store[d]" in the basin by the water agencies.

Perhaps more importantly, the California Legislature has created DWA, and has provided that the "rights to any water made available" by DWA "are owned and controlled exclusively" by the agency, and that no person within or outside the boundaries of the agency "shall acquire any property or other right in such waters" except as provided in the authorizing statute. Cal. Water Code App. §100-15(17). Thus, your letter, in suggesting that the Tribe and DWA enter into some agreement or arrangement whereunder the Tribe would participate as a "partner" in managing and controlling water that is subject to DWA's regulation and control, proposes an arrangement inconsistent with DWA's authorizing statute, and would compromise DWA's ability to perform the functions that the California Legislature has directed it to perform.

Therefore, although DWA is amenable to entering into discussions with the Tribe based on DWA's above-described understanding of the Tribe's rights, DWA would be reluctant to enter into such discussions based on the Tribe's broad claims set forth in your letter, since the Tribe apparently would hope to get much more out of the discussions than DWA could possibly agree to provide. If the Tribe were to clarify the nature of its claims and provide some persuasive legal justification supporting the claims, and if the claims comported at least to some general extent with DWA's understanding concerning the validity of the Tribe's rights, then DWA might be able to conclude that the proposed discussions would hold the promise of success and be worthwhile, and DWA would be very willing to enter into such discussions under these circumstances. Based on the breadth of the Tribe's water rights claims set forth in your letter, however, we do not see how such discussions might lead to a successful resolution, and there does not appear to be any realistic basis for the parties to undertake this effort.

In addition, your letter does not provide any quantification of the amount of water that the Tribe is seeking to obtain on the basis of its claimed rights. Thus, DWA is unclear as to the impacts that the Tribe's claims may have on the surface water and the groundwater of the Valley, and on the recognized rights of other groundwater users. Although we appreciate that the Tribe

cannot be expected at this juncture to indicate all that it hopes to achieve during any discussions, it would be helpful if the Tribe were able to provide some general indication of the amount of water is seeking to obtain in asserting its claims, so that DWA can better assess the potential impacts of the Tribe's claims on the basin and on the rights of other groundwater users.

Regarding the draft Mutual Confidentiality Agreement attached to your letter, and the data request contained in your letter, it may be premature to address these subjects at this time, because of the fundamental disagreement between the parties, described above, concerning the Tribe's water rights. Also, it should be noted that Rule 408 of the Federal Rules of Evidence precludes any statements made during settlement negotiations from being introduced into evidence during any subsequent litigation, and we would of course intend to fully comply with Rule 408.

Sincerely,

Roderick E. Walston
for BEST BEST & KRIEGER LLP

cc: Dave Luker
Michael Riddell
Gerald Shoaf

01358 00000\7647603 1

LAW OFFICES

EARL REDWINE (1894 – 1967)
MAURICE C. SHERRILL (1922 – 1999)
JUSTIN M. McCARTHY (1926 – 2004)
THOMAS E. BRUYNEEL (1942 - 2006)

GERALD D. SHOAF
GERALD W. EAGANS
GILBERT J. GRANITO
STEVEN B. ABBOTT
SCOTT R. HEIL
JULIANNA K. STRONG

ROBERT T. ANDERSEN, JR.
DENNIS K. HASTY
HARRY C. CARPELAN
M. ELI UNDERWOOD

REDWINE AND SHERRILL
A Partnership

1950 MARKET STREET
RIVERSIDE, CALIFORNIA 92501-1720
AREA CODE 951
TELEPHONE 684-2520
FAX 684-9583

13611 WINTHROPE STREET
SANTA ANA, CALIFORNIA 92705-2705
AREA CODE 714
TELEPHONE 832-2256
FAX 832-1719

REPLY TO: Riverside Office

November 13, 2012

Mr. Keith M. Harper
KILPATRICK TOWNSEND & STOCKTON
Attorneys at Law
607 14th St., NW
Suite 900
Washington, DC 20005-2018

Steven C. Moore
Native American Rights Fund
1506 Broadway
Boulder, CO 80302-6296

RE: Proposed Confidentiality Agreement and Data Request

Gentlemen:

Thank you for your letter of October 5. I was out of the office from October 6 until October 22 and was unable to respond to your letter until now.

At the meeting between the Agua Caliente Band of Cahuilla Indians (Tribe), the Coachella Valley Water District (CVWD), and representatives of both on August 8, you indicated that you would send us a letter outlining a Confidentiality Agreement that you wish to propose between the Tribe, CVWD, and the Desert Water Agency. At that time, we advised that we could agree to a Rule 408 Agreement (confidential settlement discussions) but that we would have to review your proposal to determine whether and to what extent CVWD could agree to confidentiality beyond the Rule 408 parameters.

At the August 8 meeting, we also requested that your letter set out the bases for the Tribe's claims to reserved rights to groundwater and to aboriginal rights and provide your thoughts regarding (1) allocation or apportionment of the available safe yield (in relation to the Tribe's claim to hold reserved rights to groundwater) and (2) the benefits of quantification in lieu

of exercising overlying rights considering the political, economic and environmental factors involved.

Other than restating the claim that "[t]he Tribe possesses the most senior federally reserved water rights in the Valley—both surface and groundwater—and in the storage space beneath its lands …", your letter did not respond to the request.

It is our belief that the Tribe holds neither aboriginal rights nor reserved rights to groundwater and has no claim to own or control available storage space in the aquifer. If there are to be "meaningful" discussions, we need to know the bases for your claims, and I hereby renew our request. In the absence of the requested information, there is little to discuss.

With respect to your proposed Confidentiality Agreement, we appreciate your recognition of the individual water users' rights to privacy. However, the "group" information that you seek, to the extent it is available, is for the most part public information which cannot be exempted from a public records request by use of a Confidentiality Agreement.

By use of the term "for the most part," I am referring to California Water Code section 13752 which prohibits release of well driller's logs in the absence of an owner's written authorization.

CVWD will enter into a Rule 408 Agreement but respectfully decline to enter into the Confidentiality Agreement as proposed. Please forward a Rule 408 Agreement along with the information requested above, and we can then move forward.

Very truly yours,

REDWINE AND SHERRILL

By _____
Gerald D. Shoaf

GDS/jfv
c: Catherine Munson