SECTION 4.0
REVISIONS TO THE DRAFT EIR

4.1 INTRODUCTION

Evaluation of the comments submitted the Draft EIR impact analysis determined that the comments received did not require additional evaluation or changes to the conclusions reached, or alternatives to the Proposed Project. Changes or clarifications to the Draft EIR were made in response to some of the comments to the Draft EIR.

These changes and clarifications are provided in this section of the Final EIR as errata to the text in the Draft EIR. None of the changes contain significant new information that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the Proposed Project or a feasible way to mitigate or avoid such an effect. All of the information added to the Final EIR merely clarifies, amplifies, or makes insignificant modifications in the Draft EIR. Therefore, recirculation of the Draft EIR is not required (see Guidelines Section 15088.5).

4.2 DRAFT EIR ERRATA

Revisions have been made to Sections 3.8.5, 5.1.1.7 and 7.0 of the Draft EIR. New text is underlined and deleted text is ~~stricken through~~.

4.2.1 Revisions to Section 3.8.5, Residual Impacts After Mitigation, Hydrology and Water Quality

The revisions to Section 3.8.5. discuss the potential impacts resulting from the implementation of Mitigation Measure H-1.

3.8.5 Residual Impacts After Mitigation

No residual project-level impacts would occur with mitigation.

CEQA Guidelines Section 15126.4 (a)(1)(D) states that "if a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed, but in less detail than the significant effect of the project as proposed." Implementation of Mitigation Measure H-1 could result in different corrective actions, including re-equipping of wells, construction of new wells, or construction of pipelines to provide water from the District. Impacts resulting from the implementation of Mitigation Measure H-1 would be similar to those described for the Proposed Project. There would be no impacts to groundwater from implementation of the mitigation measure, because the measure would simply replace existing wells and support existing land uses. Minor impacts from re-equipping wells would be similar to those described for re-equipping Wells 18 and 34, and would be less than significant. Minor impacts related to ground disturbance during

construction of replacement wells or providing hookups to existing District infrastructure would be similar to those described for Well 35 and its associated pipeline. Impacts from implementation of Mitigation Measure H-1 would either be less than significant, or less than significant with mitigation, depending on the option selected.

Significant and unavoidable cumulative impacts to groundwater quality would occur. These impacts would occur in the absence of the Proposed Project and it is not possible to quantify, measure, or monitor the potential nominal contribution from the Proposed Project. Therefore, this potential impact is unmitigatable and would persist with or without the Proposed Project. Additional discussion of this cumulative impact is in Sections 5.1.

4.2.2 Revisions to Section 5.1.1.7 Hydrology and Water Quality

The revisions to Section 5.1.1.7 include clarifications to the cumulative impact analysis for both water supply and water quality.

5.1.1.7 Hydrology and Water Quality

The potential impacts of the Proposed Project on hydrology and water quality were analyzed in Section 3.8. Cumulative impacts to hydrology and water quality were evaluated against the thresholds of significance from CEQA Guidelines Appendix G. The first threshold of significance is:

- Would the project violate any water quality standards or waste discharge requirements?

The primary goal of the Proposed Project, and of IWVWD, is to provide safe water that meets all applicable drinking water standards. The District owns and operates many wells and treatment units that meet applicable standards for sanitary seals and water quality objectives. For example, the wells include a 50-foot sanitary seal to protect water quality. Water delivered by the District to customers meets state and federal drinking water standards. The retrofit of existing Wells 18 and 34 during Phase 1 and the installation of new Well 35 during Phase 2 would be completed in the same manner as existing District facilities. As such, the Proposed Project would not violate any water quality standards or waste discharge requirements. No cumulative impact would occur and no mitigation measures are required.

Impacts to groundwater supplies were evaluated against the following threshold of significance, from the CEQA Guidelines Appendix G:

- 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)?

Regarding the depletion of groundwater supplies, the existing water level declines in the vicinity of the Proposed Project already have the potential to affect the production rate of pre-existing wells, such that these wells may not support existing land uses in the future. As discussed in Section 3.8, Phase 1 of the Proposed Project would not increase the total volume of pumping in the basin, and, therefore, cumulative impacts to water supply would not occur from Phase 1. Phase 2 of the Proposed Project would increase pumping by about one percent of the current production. The measurable effects of this pumping would only occur within the two-mile radius from Well 35 directly affected by the Proposed Project. Outside of this area, the effect of the increased pumping would be too small to measure, and, therefore the Proposed Project would not contribute to a reduction in the production rate of pre-existing wells outside of the two-mile radius from Well 35. Within the two mile radius from Well 35, ~~T~~this effect, however, is primarily a function of the total depth of the wells. Based on the drilling data from the 1993 U.S. Bureau of Reclamation Report, as summarized in Table 3.8-1, high-quality groundwater exists to depths of at least 2,000 ft bgs in the area of the Proposed Project. This is a potentially significant cumulative impact that can be mitigated with the implementation of Mitigation Measure H-1. Because there would be no measurable effects outside of the two-mile radius from Well 35, and the impacts within the affected area would be mitigated to less than significant, the impact to groundwater supply would not be cumulatively considerable after mitigation.

Water quality data reviewed for the EIR are summarized in Section 3.8 and are from the USGS (2011), IWVWD (Layne Christensen 2010), US Bureau of Reclamation (1993), and reports prepared under funding from the AB303 Local Groundwater Assistance Program (Stoner and Bassett 2008). Water quality varies appreciably across the basin. Water quality data from the northwest area of the basin indicate elevated levels of total dissolved solids (TDS), in the range of 500 milligrams per liter (mg/L) to 1,000 mg/L along with elevated levels of specific constituents such as arsenic, chloride, and nitrate in shallow and deeper aquifer intervals. A TDS of less than 500 mg/L is generally targeted for potable water use. The elevated TDS and the occurrence of arsenic and other constituents in the northwest area appears to be associated with the thick organic clay layer that is present at various depths in the aquifer. In the northeastern and eastern part of the basin, TDS levels can be up to several thousand mg/L due to evaporation and concentration of salts in the area of China Lake. The central, western, and southern portions of the basin generally contain the best quality groundwater, with the best quality groundwater occurring in the intermediate and southwest areas of the basin. The testing program conducted by the US Bureau of Reclamation in 1993 indicated that high-quality groundwater exists to depths of at least 2,000 feet bgs in the southwest area, where Well 35 is proposed.

Impacts to groundwater quality are evaluated based on the following threshold of significance, from the CEQA Guidelines Appendix G:

- Would the project otherwise substantially degrade water quality?

The U.S. Bureau of Reclamation (1993) and the Layne Christensen Company (2010) studies evaluated water quality variations within the groundwater basin. One of the major findings of the U.S. Bureau of Reclamation (1993) is that a greater quantity of

high-quality groundwater is in storage at depth in both the intermediate and southwest areas of the valley than previously known. This same study (U.S. Bureau of Reclamation 1993) concludes that one of the main approaches for extending the time period over which high-quality groundwater can be extracted from the Indian Wells Valley is to expand pumping in the southwest part of the basin. The Layne Christensen Company (2010) expanded on the prior findings and recommendations and based selection of appropriate pumping locations for the Proposed Project on areas with lower chloride and TDS concentrations, and areas with higher transmissivity (i.e., higher capability of the aquifer to transmit water to a well). The locations of existing Wells 18 and 34, and new Well 35, are in the southwest part of the basin in areas with lower chloride and TDS concentrations. Therefore, these wells are expected to produce high-quality groundwater for the foreseeable future in accordance with the findings and recommendations of the U.S. Bureau of Reclamation (1993) study.

Section 3.8 analyzed impacts of the Proposed Project on water quality. As discussed in that section, the Proposed Project would not involve the discharge of water offsite or into any other water bodies. As discussed above, the wells would be constructed in accordance with applicable standards and would produce groundwater that meets all drinking water standards. Water discharged to the ground surface would evaporate or percolate back into the ground. Water used to disinfect the wells would be dechlorinated before being discharged to the ground surface and would not violate applicable water quality standards or waste discharge requirements.

As discussed in Section 3.8, existing groundwater pumping in the intermediate and southwest areas, unrelated to the Proposed Project, has created groundwater depressions, such that groundwater elevations in these areas are lower than those in surrounding areas. It is assumed, therefore, that water levels dropping throughout the basin have caused the co-mingling of good quality and lesser quality water. ~~t~~The Proposed Project would contribute to the overall pumping in the basin that has created groundwater depressions and thus would contribute to the migration of groundwater with elevated levels of TDS and/or other constituents. The flow of low-quality groundwater toward the groundwater depressions and areas of higher-quality groundwater is dependent on the hydraulic gradient, or slope of the groundwater surface. The groundwater flow model prepared by Layne Hydro in August 2011 (Appendix G) and simple volumetric analysis demonstrate that the incremental additional pumping from Phase 2 would not change the hydraulic gradient in or adjacent to the areas of low-quality groundwater. ~~is assumed to contribute to the co-mingling of good quality water with lesser quality water throughout the basin. The increased pumping from the Proposed Project, however, is a very small fraction of the total pumping from the basin that has created the groundwater depressions.~~ Thus, the contribution of the Proposed Project to the change in water quality is miniscule and cannot be quantified, measured, or monitored. Therefore, it would not be technologically feasible to measure the timing or amount of the Proposed Project's impact to individual wells in the basin. Because of this, feasible mitigation that provides performance standards and timing for this cumulative impact is not possible, and the cumulative impact to water quality in the basin would be significant, unmitigatable, and unavoidable. ~~While it may be possible to mitigate for this impact at individual wells by adjusting the depth of the well screen or using wellhead treatment, it is not possible to mitigate for this impact in~~

~~the intervening aquifer.~~ It is important to note that this impact on the aquifer would occur whether or not the Proposed Project is implemented. In fact, even if all of the pumping by IWVWD was to cease, more groundwater would still be pumped from the basin than is being recharged.

Groundwater depressions would still persist and lower-quality groundwater would continue to co-mingle with higher quality groundwater. As discussed above, the average groundwater pumping from the basin over the last 30 years has been about 26,000 acre-feet per year. Over the same time period, the average pumping by IWVWD (including the entities acquired in the 1980s) has been about 8,000 acre-feet per year. Thus, non-IWVWD pumping has averaged 18,000 acre-feet per year, while the annual recharge is between 8,000 acre-feet and 11,000 acre-feet. Thus, the non-IWVWD pumping exceeds the recharge rate by 7,000 acre-feet per year to 10,000 acre-feet per year. The minor incremental increase in pumping that may occur as part of Phase 2 of the Proposed Project is too small to affect the hydraulic gradient in or adjacent to the areas of low-quality groundwater, although it would incrementally contribute to the overall pumping in the basin that creates groundwater depressions affecting water quality ~~nominal in comparison to the non-IWVWD pumping~~. On a Project-specific basis, this impact is less than significant. On a cumulative basis, this impact is significant, unavoidable, and unmitigatable.

As stated above and in Section 3.8, the existing baseline environmental conditions include a significant water quality situation. Therefore, the significant impact exists with or without the project and unavoidable cumulative impacts to groundwater quality would occur. To be clear, these impacts would occur in the absence of the Proposed Project and it is not ~~possible to quantify, measure, or monitor the potential nominal contribution from the Proposed Project.~~ technologically feasible to measure the timing or amount of the Proposed Project's contribution to any impacts to individual wells in the basin. Because of this, feasible mitigation that provides performance standards and timing for this cumulative impact is not possible, and the cumulative impact to water quality in the basin would be significant, unmitigatable, and unavoidable. Therefore, this potential impact is unmitigatable and would persist with or without the Proposed Project.

4.2.3 Revisions to Section 7.0 References

The revisions to Section 7.0, References, include the addition of a reference that was inadvertently omitted from the Draft EIR list of references, although it was considered in the analysis for the Draft EIR.

St. Amand, Pierre
1986 *Water Supply of Indian Wells Valley, California.* April

Stoner, M.D. and R.L. Bassett
2008 *Installation and Implementation of a Comprehensive Groundwater Monitoring Program for the Indian Wells Valley, California.* Prepared for the Local Ground Water Assistance

Program AB 303 State of California. Prepared by the Indian Wells Valley Cooperative Groundwater Technical Advisory Committee (M.D. Stoner) and Geochemical Technologies Corporation (R.L. Bassett).

[TTEMI] Tetra Tech EM Inc.
2003 *Groundwater Management in the Indian Wells Valley Basin, Ridgecrest, California*.