High Desert Water Bank Water
INITIAL STUDY ADDENDUM NO. 2

Prepared for:

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1 INTRODUCTION

The Antelope Valley-East Kern Water Agency (the Agency) is proposing to construct an approximately 126 cubic feet per second (CFS) arsenic treatment facility that utilizes an oxidation, coagulation, sedimentation process in concrete-lined basins within a 55-acre area of its High Desert Water Bank (HDWB, Project) to reduce the arsenic levels in recovered water prior to pump-in to the State Water Project (Proposed Project Change). The proposed treatment facility would only be operated when the Project is in recovery operation, which is typically during dry years when customer demands exceed available supplies.

1.1 DESCRIPTION OF PREVIOUSLY APPROVED PROJECT

In December 2017 the Agency adopted a Mitigated Negative Declaration (MND, SCH Number 2017061030) that was based on an Initial Study prepared for the High Desert Water Bank.

The High Desert Water Bank involves the development and operation of a groundwater bank on approximately 1,500 acres of land in the western edges of the Antelope Valley. The Project would store State Water Project (SWP) water supplies from the Agency and other banking participants during wet weather year periods when supplies exceed demands and would recover the water for use by the Agency and its partners during dry weather years when demands exceed supplies and other times when there are disruptions to State Water Project supplies. Implementation of this project will require the construction of monitoring and production water wells, turnout(s) from the California Aqueduct, East Branch, underground and above ground pipelines, recharge basins, and water storage and booster pump facilities.

In October 2021, the Agency prepared Addendum No. 1 to the High Desert Water Bank Initial Study, in accordance with CEQA Guidelines Sections 15162 and 15164. The purpose of Addendum 1 was to evaluate various components of the Project design (identified in 2021 Addendum 1 as *2021 Revised Project Design*) that were changed and/or optimized since the time the environmental impacts of the original design were analyzed in 2017 (Project or 2017 Original Project Design). Addendum 1 concluded that none of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent Initial Study/Mitigated Negative Declaration had occurred with respect to any of the Environmental Subject Areas in the most current CEQA Guidelines. Therefore, the Agency could approve an Addendum to the Initial Study under CEQA Guidelines Section 15164. The Agency's board approved Addendum 1 on October 26, 2021 and filed a Notice of Determination for Addendum 1 on December 13, 2021 (SCH Number 2021269205).

1.2 DESCRIPTION OF PROPOSED PROJECT CHANGE

During implementation of the well drilling and testing phase of the HDWB project in 2021 and 2022, it was discovered that arsenic naturally occurs in deeper portions of the aquifer across a wider range of the Project Site than originally anticipated during the December 2017 Original Initial Study and 2021 Addendum 1 preparation. Water quality testing of newly drilled wells identified that arsenic was discovered below 500 feet below ground surface (bgs) at between 11 and 19 micrograms per liter (ug/L). Water returned from the HDWB must meet certain water quality standards prior to being pumped back into the SWP.

The Department of Water Resources (DWR) operates a Non-Project Pump-In Program to introduce non-SWP water into the California Aqueduct to supplement normal surface water supplies originating in the

Sacramento-San Joaquin Delta region. Pump-in projects which have the potential to degrade the baseline historical water quality in the State Water Project are referred to a facilitation group of State Water Contractors to determine the impacts of the pump-in proposal to the baseline water quality and ultimately approve or disapprove the pump-in program. According to DWR, the average and maximum arsenic concentrations historically found in the SWP are 2 and 4 micrograms per liter, respectively. However, there is no set limit on the maximum allowable concentrations of any constituent to be pumped in as part of a pump-in program and instead, the overall effects of the program are considered when implementing a pump-in program.

The 2017 Original Project Design and 2021 Revised Project Design understood that arsenic levels in the groundwater would be higher than the SWP baseline, but the assumption was that arsenic would occur at low enough levels that when introduced into the SWP, blending would occur such that minimal or no degradation of the SWP water would occur that would impact downstream State Water Contractors, and thus be approved by the facilitation group. The 2021 Revised Project Design identified a set-aside area for a potential treatment facility if needed in the future, but the physical attributes of the treatment facility were not evaluated in the CEQA Initial Study for the 2017 Original Project Design or Addendum No. 1 that evaluated the 2021 Revised Project Design.

Data from the 2021 and 2022 site development suggest a fairly consistent arsenic concentration in newly drilled wells across the Project Site that DWR is unlikely to allow to be directly pumped back into the SWP, therefore, for the HDWB to return water to the SWP, the water would need to have at least a percentage of arsenic removed to a level where blending within SWP water would meet DWR water quality requirements. To reduce arsenic concentrations in recovered water prior to pump-in to the SWP the Agency is now proposing to construct an arsenic treatment facility that utilizes an oxidation, coagulation, sedimentation process in concrete-lined basins within a 55-acre area of its HDWB. This Addendum No. 2 to the High Desert Water Bank Initial Study compiles the necessary information required to update the Agency's CEQA environmental review process for the Project's Treatment System in accordance with Sections 15162 and 15164 of the State CEQA Guidelines.

2 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The HDWB is being constructed on an approximately 1,500- acre site in Los Angeles County bounded by:

- Avenue A (Kern / Los Angeles County Line) on the north,
- 300th Street West on the west,
- 280th Street West on the east, and
- The California Aqueduct on the south.

This HDWB area is located in Sections 1, 2, 11, and 12 of Township 8 North, Range 17 West, northwest of the community of Neenach (**Figure 1: *HDWB Regional Location*** and **Figure 2: *HDWB Location - Aerial***).

The subject of this Addendum No. 2 to the HDWB Project Initial Study is the incorporation of a Treatment Facility (Proposed Project) specifically targeting the removal of naturally occurring arsenic from recovered groundwater. The Treatment Facility would be located within 55 acres of the HDWB, near the intersection of 294th Street West and Avenue B, south of the Oso Canyon Drainage Corridor and north of proposed groundwater recharge basins (**Figure 3: *Recharge, Recovery Facilities and New Treatment Plant Location***). The location of the treatment facility does not alter the Habitat Management Land environmental commitment made in the original HDWB CEQA documents (**Figure 4: *Habitat Management Lands***).

2.2 TREATMENT FACILITY DESCRIPTION

The Treatment Facility would be utilized during recovery operations, typically during dry years when demands exceed supplies, to meet arsenic concentrations allowable to be pumped in to the SWP in accordance with DWR's policies and the Pump-In Agreement approved by the SWP Facilitation Group. The treatment process/facility is expected to remove approximately 75 percent of the naturally occurring arsenic concentrations found in the recovered water. This would lower arsenic concentrations of the overall recovery water to an acceptable level for pump-in to the SWP East Branch. It is anticipated that recharge of SWP water into the groundwater basin may have a dilution effect such that recovered water quality improves over time with respect to arsenic concentrations. Should this occur, treatment operations may be further optimized, to allow for a blending strategy whereby treated recovered groundwater may be blended with untreated recovered groundwater to meet the required water quality prior to pump-in to the SWP. An approved Pump-In Agreement with DWR would outline the testing and modeling requirements to ensure the pump-in program impacts to downstream SWP water quality are acceptable to DWR.

The Treatment Facility would generally consist of a manually operated system of approximately 12 acres of concrete lined basins and various tanks of chemicals for treatment and have a capacity of approximately 126 cubic feet per second (CFS). The Treatment Facility would be situated on 55 acres that would be raised approximately 5 feet higher than the existing ground surface and contain rip rap edges for flood protection. The construction of the treatment area site would be accomplished by using existing on-site soils mined from adjacent areas being constructed for recharge basins. No additional soils imported from offsite are anticipated to be used for the construction of the Treatment Facility pad. Minor additional piping will be installed to move water into the treatment plant, support the treatment plant process, and

return treated water to the main recovery infrastructure. This 55-acre area would also be fenced for security purposes and maintain a physical barrier to keep wildlife from entering the treatment area. Components of the Treatment Facility include:

- Chemical Storage: Chemicals used for the Treatment Facility would be stored in 3,000-12,000-gallon tanks located within a concrete area that would serve as secondary containment. It is estimated that a maximum of approximately 8,500 gallons of 9 percent to 12.5 percent Sodium Hypochlorite solution, 11,800 gallons of 40 percent Ferric Chloride solution, and 2,900 gallons of Polymer would be stored at the Treatment Facility. The chemicals would be stored on site only when recovery operations are occurring.

- Headworks: As water enters the Treatment Facility through the headworks piping, it is injected with sodium hypochlorite, which oxidizes arsenic to arsenate. Next, ferric chloride would be added to promote the formation of floc particles. Chemical injection into the headworks is accomplished using injection quills directly into the headworks piping system.

- Flocculation and Sedimentation Basins: Two to three concrete-lined basins, approximately 800 feet long by 200 feet wide by 14 feet deep with vertical sidewalls. The first approximately 120 feet would serve as the flocculation basins with baffles to promote clumping of particles that can later be removed as "floc" or "flakes." The remaining approximately 680 feet would serve as the sedimentation basins which allow the floc to settle to the bottom of the basin for later removal.

- Pumping facilities: Water would enter the upstream inlet side of the treatment facility from existing recovery well pump pressure and flow by gravity until the finished water exits the sedimentation basin and is ready to return to the main pipelines for pump-in to the SWP. A low-lift pump station will be required to pump finished water back into the main pipeline for return to the SWP. This low-lift pump station is anticipated to consist of electric motor driven vertical turbine or axial flow pumps to be developed as part of the final design.

- Drying Beds: The sedimentation basins are anticipated to serve dual-purpose as drying beds. The facilities will be sized such that one sedimentation basin can be taken offline to allow the settled floc particles to dry and be hauled offsite. Prior to disposal, dried materials would be analyzed to determine if it is considered a hazardous or classified waste that would require special handling or disposal at a hazardous waste landfill. It is estimated that the drying beds would generate approximately one ton of dried material on an annual basis during periods of groundwater recovery. This will vary depending on the amount of water treated.

- Safety Measures: Safety measures, including a portable eyewash station(s), handrails, and fall prevention measures will be incorporated into the final design as required.

2.3 TREATMENT FACILITIES CONSTRUCTION

Construction of the Treatment Facility would occur concurrent with the overall project construction continuing through early-2026 and is anticipated to take approximately 9 months. Soil excavated from the water recharge basins would be moved to the pad area to achieve the desired elevation. It is estimated that approximately 67,000 cubic yards would be required to elevate the pad to above flood level.

Concrete required for the construction of the proposed treatment facility is assumed to be transported to the site via trucks. The assumed travel distance is approximately 30 miles and each truckload would contain approximately 10 cubic yards of concrete. The estimated total of concrete for the proposed treatment facility is 6,700 cubic yards and would require approximately 4.5 months for installation.

Alternatively, the Agency's contractor may elect to set up a small, portable concrete batch plant on site that could serve the Project's needs.

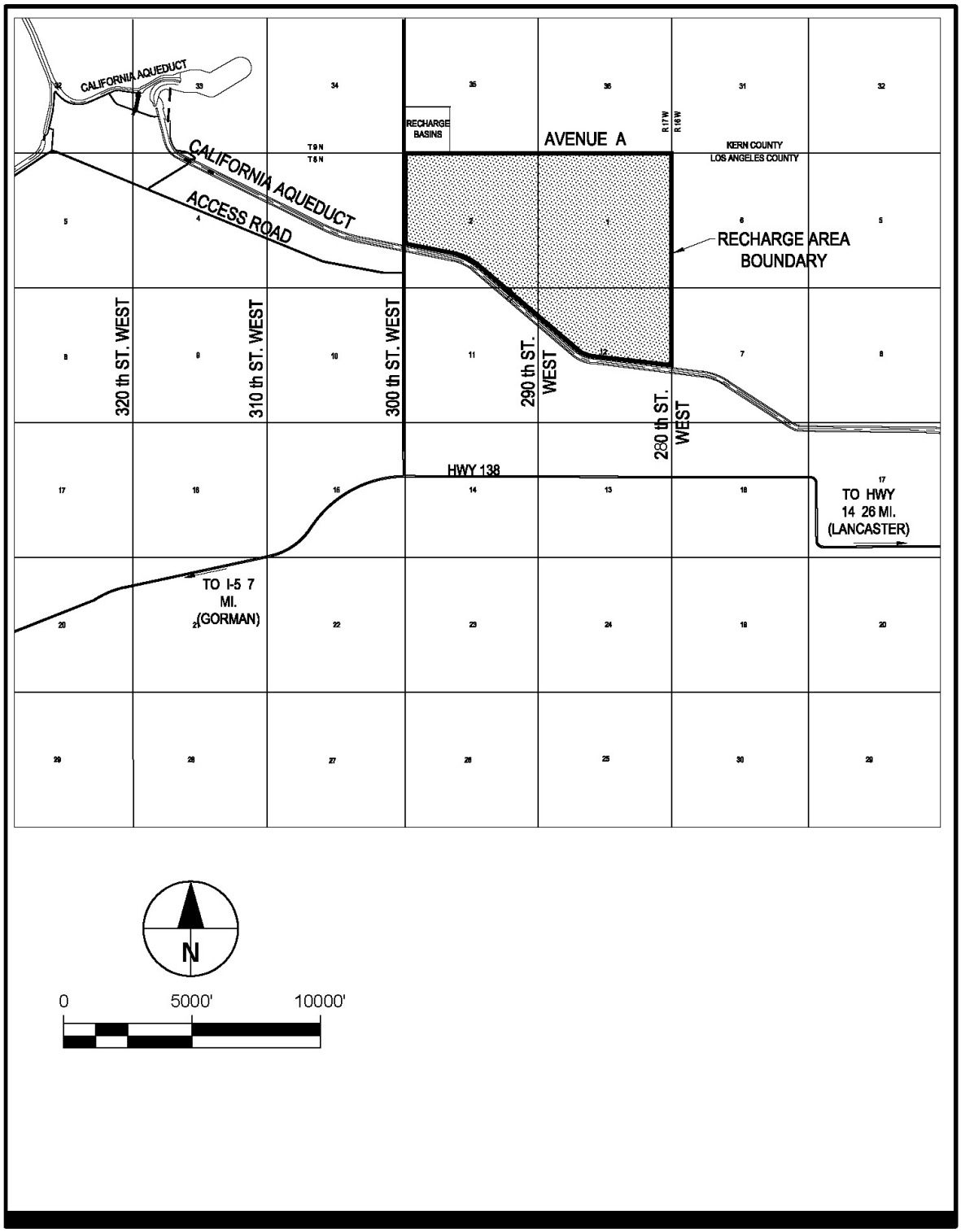
2.4 TREATMENT FACILITIES OPERATIONS

The Agency would develop an Operations and Maintenance Manual (O&MM) for the facility once it is designed and constructed. The O&MM would be prepared by a certified industrial hygienist or similar professional, in conjunction with the engineering team, to ensure compliance with all federal, state and local regulations regarding safe operations. The topics to be addressed in the O&MM would include but not be limited to safe operations, testing procedures, personnel training procedures, chemical handling, sludge management, and sedimentation basin maintenance procedures. Material Safety Data Sheets (MSDSs) for the chemicals used would be provided to employees as required by the California Occupational Safety and Health Administration (CAL/OHSA).

The treatment process for the removal of arsenic starts in the Headworks with the introduction of sodium hypochlorite to oxidize arsenic to arsenate followed by the addition of ferric chloride to develop the flocculation of the solids within the water column. Upon the development of floc, the remaining treatment consists of settlement of the floc to the bottom of the settling basin for collection and disposal after accumulation.

Each settling basin is anticipated to operate on a continuous basis for approximately 6 months, accumulating solids during that period of time. When approximately 1.5 to 3 feet of solids have accumulated in the settling basin, the influent flows would be diverted to the next settling basin to continue the treatment operations. Solids accumulated in the first basin would then be dewatered and allowed to dry within the basin. Once dry, solids would be removed and transported to an acceptable disposal site, including one accepting potentially hazardous waste materials dependent on testing results of the accumulated solids. If additional drying time is required, the solids would be relocated to the proposed drying beds, prior to transportation offsite. Any liquids removed during the dewater and drying process would be returned to the headworks of the treatment system and treated along with additional groundwater recovery flows.

Based on the current anticipated schedule, the Treatment Facility would likely operate for 1-2 years out of every five years, depending on the California's hydrological conditions. Cleaning of the settling basins and drying beds is anticipated to be accomplished by rubber wheeled loaders removing accumulated solids. The frequency of cleaning the solids from the basins is anticipated as annually, or as identified in the Agency's O&MM preparation.



ANTELOPE VALLEY-EAST KERN WATER AGENCY
HIGH DESERT WATER BANK
VICINITY MAP
60537613

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FIGURE 1A

Figure 1: HDWB Regional Location
Initial Study Addendum No. 2
High Desert Water Bank

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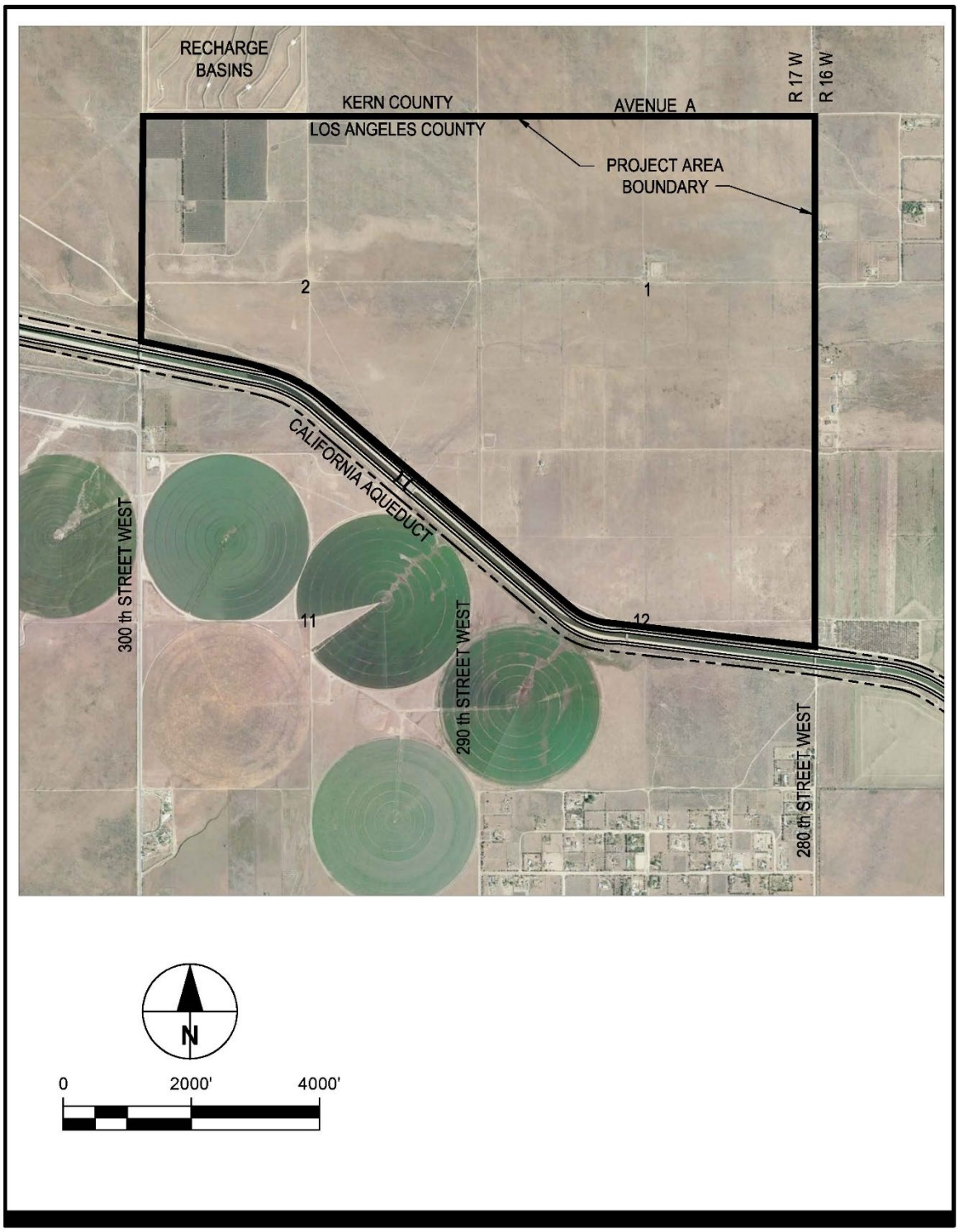

ANTELOPE VALLEY-EAST KERN WATER AGENCY
HIGH DESERT WATER BANK
AERIAL VICINITY MAP
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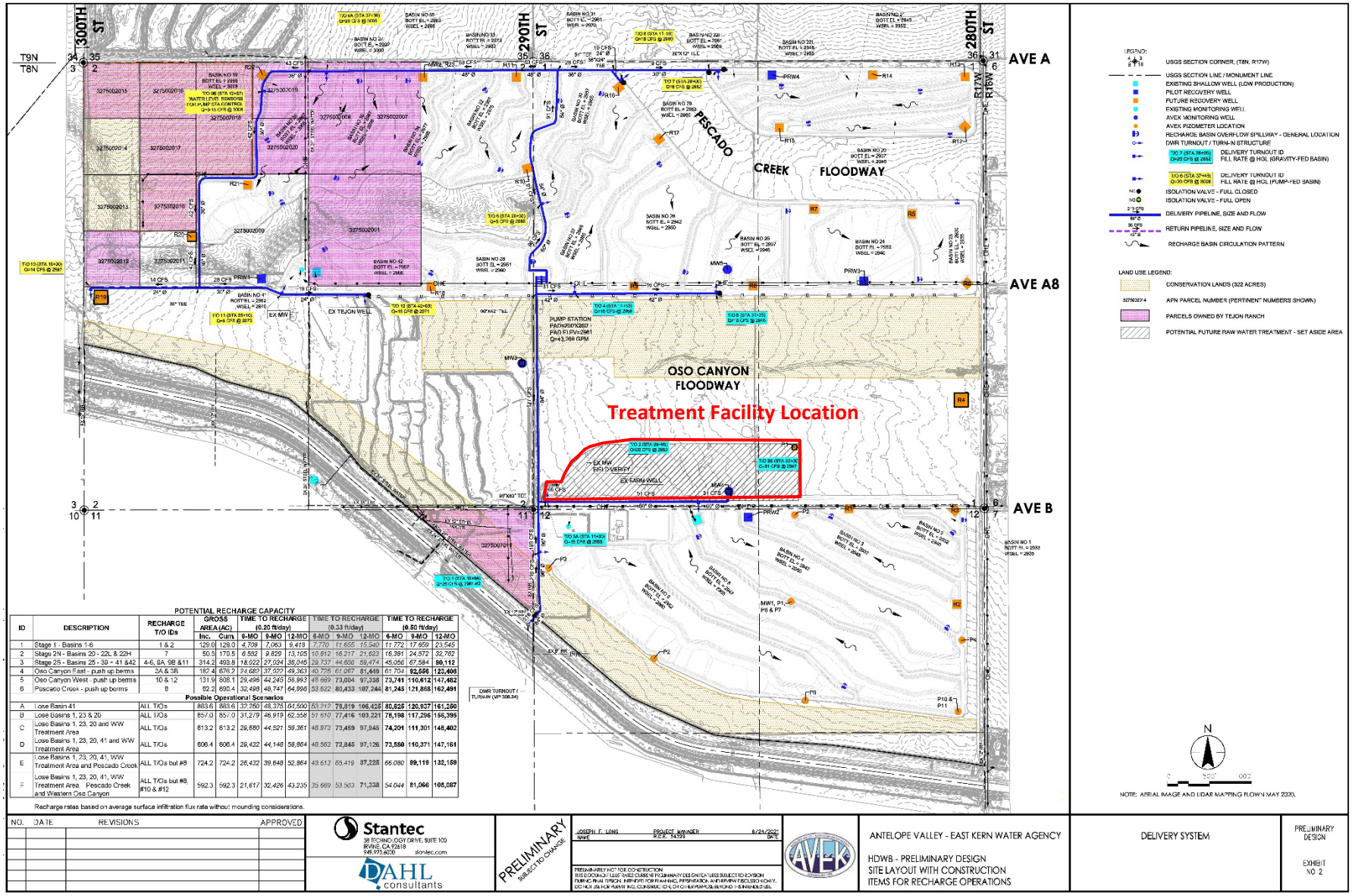
FIGURE 1B

Figure 2: HDWB Location - Aerial
Initial Study Addendum No. 2
High Desert Water Bank



POTENTIAL RECHARGE CAPACITY

ID	DESCRIPTION	RECHARGE T/O IDs	GROSS AREA (AC) Inc.	GROSS AREA (AC) Cum.	TIME TO RECHARGE (0.20 ft/day) 6-MO	9-MO	12-MO	TIME TO RECHARGE (0.33 ft/day) 6-MO	9-MO	12-MO	TIME TO RECHARGE (0.50 ft/day) 6-MO	9-MO	12-MO
1	Stage 1 - Basins 1-6	1 & 2	129.0	129.0	4,709	7,063	9,418	7,770	11,655	15,540	11,772	17,659	23,545
2	Stage 2N - Basins 20 - 22L & 22H	7	50.5	179.5	6,552	9,829	13,105	10,812	16,217	21,622	16,381	24,572	32,762
3	Stage 2S - Basins 25 - 39 - 41 &42	4-6, 9A, 9B &11	314.2	493.8	18,022	27,034	36,045	29,737	44,606	59,474	45,056	67,584	90,112
4	Oso Canyon East - push up berms	3A & 3B	182.4	676.2	24,683	37,025	49,363	40,735	61,097	81,449	61,704	92,556	123,408
5	Oso Canyon West - push up berms	10 & 12	131.9	808.1	29,496	44,245	58,993	48,669	73,004	97,338	73,741	110,612	147,482
6	Pescado Creek - push up berms	8	82.2	890.4	32,498	48,747	64,996	53,622	80,433	107,244	81,245	121,868	162,491
	Possible Operational Scenarios												
A	Lose Basin 41	ALL T/Os	883.6	883.6	32,250	48,375	64,500	53,212	79,819	106,425	80,625	120,937	161,250
B	Lose Basins 1, 23 & 20	ALL T/Os	857.0	857.0	31,279	46,919	62,558	51,610	77,416	103,221	78,198	117,296	156,395
C	Lose Basins 1, 23, 20 and WW Treatment Area	ALL T/Os	813.2	813.2	29,680	44,521	59,361	48,973	73,459	97,945	74,201	111,301	148,402
D	Lose Basins 1, 23, 20, 41 and WW Treatment Area	ALL T/Os	806.4	806.4	29,432	44,148	58,864	48,563	72,845	97,126	73,580	110,371	147,161
E	Lose Basins 1, 23, 20, 41, WW Treatment Area and Pescado Creek	ALL T/Os but #8	724.2	724.2	26,432	39,648	52,864	43,612	65,419	87,225	66,080	99,119	132,159
F	Lose Basins 1, 23, 20, 41, WW Treatment Area Pescado Creek and Western Oso Canyon	ALL T/Os but #8, #10 & #12	592.3	592.3	21,617	32,426	43,235	35,669	53,503	71,338	54,044	81,066	108,087

Recharge rates based on average surface infiltration flux rate without mounding considerations.

Figure 3: Recharge, Recovery Facilities and New Treatment Plant Location

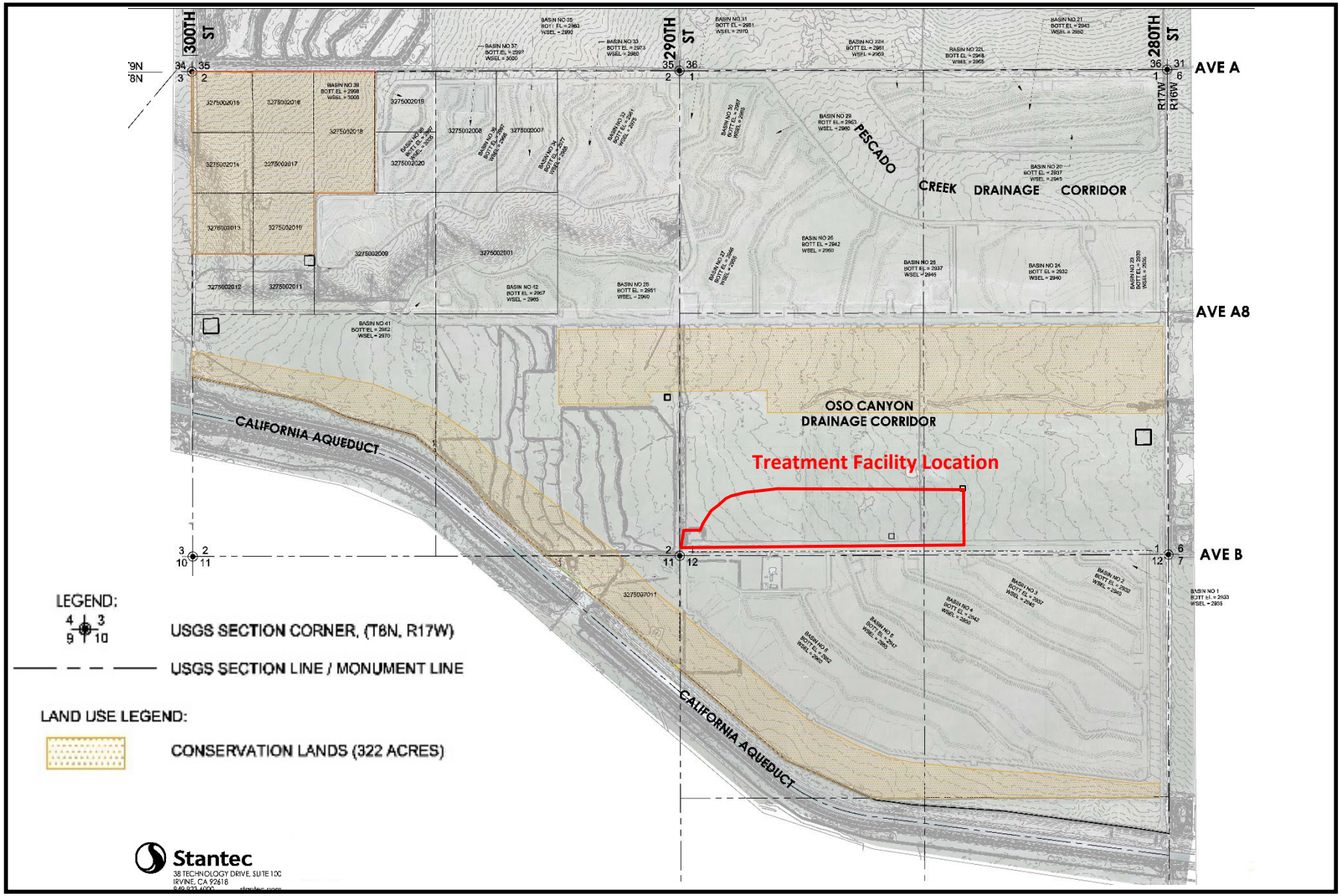


Figure 4: Habitat Management Lands – 2021 Revised Design

3 ENVIRONMENTAL REVIEW PROCESS

3.1 SUMMARY OF PROJECT CHANGES

The subject of this Addendum No. 2 to the HDWB Project Initial Study is the addition of a Treatment Facility (Proposed Project). Based on the concept design, construction and operations of the Proposed Project, the key considerations for environmental review include:

- Approximately 55 acres of an area formerly dedicated to push up berms would be dedicated for the Treatment Facility.
- The Treatment Facility would store various chemicals to use in the treatment process.
- The Treatment process would utilize heavy equipment to clean out the basins on a frequency of approximately annually.
- Approximately 5,000 cubic yards of residual material would be generated annually in the drying beds and may require disposal at a hazardous waste landfill.
- The Treatment Facility would be utilized to reduce naturally occurring arsenic in recovered water to a level acceptable to DWR for pump back to the SWP East Branch. When determining acceptable levels DWR will consider the in-situ blending effect of pumped-in water with SWP water.

3.2 REGULATORY FRAMEWORK

In December 2017 the Agency adopted a Mitigated Negative Declaration (2017 MND, SCH Number 2017061030) for the High Desert Water Bank Project (Project). The Agency's board approved an Addendum 1 on October 26, 2021, and filed a Notice of Determination for Addendum 1 on December 13, 2021 (SCH Number 2017061030). Due to the need to add a Treatment Facility, the Agency is required to reassess potential impacts and determine if the Project revisions require an Amendment or an Addendum to the 2017 MND.

3.2.1 Initial Study/MND Amendment

CEQA Guidelines Section 15162 states that when a negative declaration has been adopted for a project, no subsequent negative declaration shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

> *(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;*
>
> *(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or*

> *(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:*
>
> > *(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;*
> >
> > *(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;*
> >
> > *(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or*
> >
> > *(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.*

The guidelines further state that if changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the lead agency shall prepare a subsequent negative declaration if required under subdivision (a). Otherwise, the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation.

3.2.2 Initial Study/MND Addendum

CEQA Guidelines Section 15164 sets out the conditions in which an adopted MND can be revised or amended:

> *(a) The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.*
>
> *(b) An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred.*
>
> *(c) An addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.*
>
> *(d) The decision-making body shall consider the addendum with the final EIR or adopted negative declaration prior to making a decision on the project.*
>
> *(e) A brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in an addendum to an EIR, the lead agency's required findings on the project, or elsewhere in the record. The explanation must be supported by substantial evidence.*

3.3 INITIAL STUDY CHECKLIST

This Initial Study Addendum No. 2 is based on an Environmental Checklist Form (Form), as suggested in Section 15063(d)(3) of the State CEQA Guidelines, as amended, and includes a series of questions about

the Project for each of the listed environmental topics. The format of the Form has been revised to evaluate the categories in terms of any changed condition (e.g., changed circumstances, project changes, or new information of substantial importance) that may result in a changed environmental result (e.g., a new significant impact or substantial increase in the severity of a previously identified significant effect) (CEQA Guidelines § 15162[a]).

Pursuant to Public Resources Code Section 21166, and CEQA Guidelines Sections 15162 and 15164, subd. (a), Addendum No. 1 utilized the most current CEQA Checklist Form to evaluate the 2021 Revised Project Design. This Addendum No. 2 utilizes the Addendum No. 1 checklist Form to evaluate the proposed Treatment Facility as there have been no major revisions to the Form since the time of the preparation of the 2021 Amendment No. 1.

Based on the Treatment Facility design and operations identified in Section 2 of this document, implementation of the Treatment Facility would require additional environmental evaluation in the only in following categories:

- Air Quality
- Biological Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality

Refer to **Table 1: *CEQA Evaluation Topics Not Applicable to Addendum No. 2*** for the rationale for the elimination of evaluation of various topics.

Table 1: CEQA Evaluation Topics Not Applicable to Addendum No. 2

2017 CEQA Initial Study Document Section	2021 Initial Study Addendum No. 1 Document Section	CEQA	Topic	Rationale
2.2	Not Addressed/Not Applicable	I	Aesthetics	Not applicable – no scenic highways in the area and the Treatment Facility tanks would be typically 8 to 9 feet high and situated in the middle of a 1,500 acre site, the tanks would not be visible from any roadway or neighborhood. No further discussion is warranted.
2.3	4.1	II	Agriculture and Forestry	The Treatment Facility would not be located in an area of Prime or other designated Farmland within the HDWB lands. No further discussion is warranted.
2.6	4.4	V	Cultural Resources	A cultural resource program of monitoring that is applicable to the HDWB would also apply to the area of the proposed Treatment Facility. No further discussion is warranted.
Not Addressed	4.5	VI	Energy	Not applicable – The Project is a public-benefit project and would not be inconsistent with law or policies regarding energy regulation. The Treatment Facility, which would use electricity, would only be operable during times of recovery where water is needed to be treated prior to discharge into the SWP aqueduct, which would not represent a wasteful, inefficient use or unnecessary consumption of electricity. No further discussion is warranted.
2.7	4.6	VII	Geology and Soils	Not applicable. The Treatment Facility construction and operation would be required to comply existing Mitigation Measures GEO-1, GEO-2, GEO-3 and GEO-4 which requires preparation of a SWPPP to manage soil erosion during construction and operation, using seismic design, installing shut-off valves for major pipelines, and establishment of a groundwater monitoring plan. No additional mitigation would be required. No further discussion is warranted.
2.8	4.7	VIII	Greenhouse Gas Emissions	Not applicable. The HDWB activities were found to represent approximately 0.08 percent of the Antelope Valley Air Quality Management District (AVAQMD) thresholds. The Treatment Facility construction would not increase greenhouse gas emissions because the overall Project emissions were extremely low and the addition of a 55-acre Treatment Facility would represent a nominal increase in emissions, but that would still be well under the AVAQMD thresholds. No further discussion is warranted.
2.11	Not Addressed/Not Applicable	XI	Land Use and Planning	Not applicable. The Treatment Facility location is within the existing HDWB property that has been previously analyzed. No further discussion is warranted.
2.12	Not Addressed/Not Applicable	XII	Mineral Resources	Not applicable. The Treatment Facility location is within the existing HDWB property that has been previously analyzed. No further discussion is warranted.

2017 CEQA Initial Study Document Section	2021 Initial Study Addendum No. 1 Document Section	CEQA	Topic	Rationale
2.13	4.10	XIII	Noise	Not applicable. The Treatment Facility is within the existing HDWB property, and noise measures for the Project would also apply to the Treatment Facility. No further discussion is warranted.
2.14	Not Addressed/Not Applicable	XIV	Population and Housing	Not applicable. The Treatment Facility location is within the existing HDWB property that has been previously analyzed. No further discussion is warranted.
2.15	Not Addressed/Not Applicable	XV	Public Services	Not applicable. The Treatment Facility location is within the existing HDWB property that has been previously analyzed. No further discussion is warranted.
2.16	Not Addressed/Not Applicable	XVI	Recreation	Not applicable. The Treatment Facility location is within the existing HDWB property that has been previously analyzed. No further discussion is warranted.
2.17	4.11	XVII	Transportation/Traffic	Not applicable. The Treatment Facility would not generate a permanent impact on traffic/transportation. Construction traffic for the Treatment Facility would be consistent with that which was analyzed in the 2017 Original Project Design and is considered a temporary impact. No further discussion is warranted.
2.18	4.12	XVIII	Tribal Cultural Resources	Not applicable. The Treatment Facility construction would be required to comply with existing Mitigation Measures TCR-1 and TCR-2 to accommodate unanticipated resources. No further mitigation would be required. No further discussion is warranted.
2.19	4.13	XIX	Utilities and Service Systems	Not applicable. The Treatment Facility construction would be required to comply with existing Mitigation Measure UTIL-1 that requires working with the electric utility on power needs for the overall HDWB project. No further mitigation would be required. No further discussion is warranted.
Not Addressed	4.14	XX	Wildfire	Not applicable. The Treatment Facility location is within the existing HDWB property that has been previously analyzed. No further discussion is warranted.

3.4 MITIGATION MONITORING AND REPORTING PROGRAM

The 2017 MND included a Mitigation Monitoring and Reporting Program (MMRP) that identified mitigation measures, timing and compliance requirements that would reduce impacts to less than significant. The MMRP adopted is included in **Appendix A – *Mitigation Monitoring and Reporting Program***. The Mitigation Measures are summarized in **Table 1: *Mitigation Measure Summary*.**

Addendum No. 1 of the Initial Study identified that there were no additional mitigation measures required but did provide modification and/or clarifications of several measures identified in the 2017 MND. Therefore, in accordance with CEQA Guidelines Section 15162 (3)(C) and (D), Addendum No. 1 identified that all mitigation measures from the 2017 Initial Study were found feasible, and no mitigation measures or alternatives were considerably different from those analyzed in the 2017 Initial Study/MND.

Table 2: Mitigation Measure Summary

Topic Area	MM Number	Summary Description
General	Pre Construction Training	Determine the need for a pre-construction training program
Ag Resources	AG-1	Prime Farmland Avoidance.
Air Resources	AQ-1	Minimization Measure for NOx Related Emissions
Biological Resources	BIO-1	Burrowing Owls (Pre-Construction Surveys)
Biological Resources	BIO-2	Desert Kit Fox and American Badger (Pre-Construction Surveys)
Biological Resources	BIO-3	Nesting Birds (Pre-Construction Surveys)
Biological Resources	BIO-4	Animal Movement and Entrapment (Trenches)
Biological Resources	BIO-5	Animal Movement and Entrapment (Pipes)
Biological Resources	BIO-6	Erosion and Sediment Control
Biological Resources	BIO-7	Special-Status Plants
Biological Resources	BIO-8	Swainson's Hawk (focused surveys prior to recharge basin construction)
Biological Resources	BIO-9	Tri-colored Blackbirds (focused surveys prior to recharge basin construction)
Biological Resources	BIO-10	Jurisdictional Drainages and Wetlands and Permitting (prior to recharge basin construction)
Biological Resources	BIO-11	Habitat Mitigation (prepare Habitat Mitigation Management Program)
Biological Resources	BIO-12	General (construction crew training, site and staging guidelines)
Cultural Resources	CR-1	Cultural Resources Monitoring (develop a Cultural Resources Monitoring and Mitigation Plan prior to start of ground disturbance)
Cultural Resources	CR-2	Regulation Compliance (accidental discovery of human remains)
Geology and Soils	GEO-1	Stormwater Pollution Prevention Plan (SWPPP)
Geology and Soils	GEO-2	Seismic Design
Geology and Soils	GEO-3	Pipeline Shut Off Valves
Geology and Soils	GEO-4	Groundwater Monitoring Plan
Hazards and Haz Materials	HAZ-1	Spill Prevention Plan
Hazards and Haz Materials	HAZ-2	Bird Strike Hazard Notification

Topic Area	MM Number	Summary Description
Hazards and Haz Materials	HAZ-3	Bird Strike Hazard Minimization Measures
Hazards and Haz Materials	HAZ-4	Mosquito Borne Disease Minimization Measures
Hydrology and Water Quality	HWQ-1	Drainage Design (Construct recharge areas so that they will not divert sheet flooding and other runoff away from the recharge areas)
Hydrology and Water Quality	HWQ-2	Stormwater Pollution Prevention Plan (SWPPP)
Hydrology and Water Quality	HWQ-3	Spill Prevention Plan
Hydrology and Water Quality	HWQ-4	Protection of Off Site Wells
Hydrology and Water Quality	HWQ-5	Management of Herbicides and Pesticides
Noise	NOISE-1	Construction Noise Monitoring and Minimization Measures (near and along 280th Street West)
Noise	NOISE-2	Operation Noise Minimization Measures (near and along 280th Street West)
Tribal Cultural Resources	TCR-1	Inadvertent Finds
Utilities	UTIL-1	Electrical Service Upgrade Minimization Measures (expansion of grid for Project)

3.5 DETERMINATION SUMMARY

This High Desert Water Bank Initial Study Amendment No. 2 and attached documents constitute substantial evidence supporting the conclusion that preparation of a supplemental or subsequent EIR is not required prior to approval because the conditions described in CEQA Guidelines Section 15162 are not met. There are no substantial changes in Project design or in the circumstances in which the Treatment Facility would be undertaken that require major revisions of the 2017 Initial Study/Mitigated Negative Declaration or be inconsistent with the 2021 Addendum No. 1. As illustrated herein, the proposed Treatment Facility is consistent with the previous 2017 Initial Study/Mitigated Negative Declaration and Addendum No. 1 and would involve only minor changes; therefore, an Initial Study Addendum No. 2 is appropriate CEQA compliance for the Proposed Project and can be prepared pursuant to CEQA Guidelines Section 15164

3.6 FINDING

Based on an examination of the analysis, findings, and conclusions of the 2017 Initial Study/MND and 2021 Addendum No. 1, the potential impacts of the Proposed Project Change of implementation of a Treatment Facility remains within the impacts previously analyzed and disclosed in the 2017 Initial Study/MND and 2021 Addendum No. 1, and none of the conditions in CEQA Guidelines Section 15162 exist (CEQA Guidelines § 15164). Therefore, an addendum to the 2017 MND is the appropriate environmental document to approve and implement the Treatment Facility, and no further analysis is required under CEQA before undertaking the Proposed Project Change.

Therefore, I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	Date
Name	Title

4 ENVIRONMENTAL ANALYSIS

The purpose of the checklist is to evaluate the categories in terms of any changed condition (e.g., changed circumstances, project changes, or new information of substantial importance) that may result in a changed environmental result (e.g., a new significant impact or substantial increase in the severity of a previously identified significant effect) (CEQA Guidelines § 15162).

The questions posed in the checklist come from Appendix G of the CEQA Guidelines and the 2017 MND. A "no" answer does not necessarily mean that there are no potential impacts relative to the environmental category, but that there is no change in the condition or status of the impact since it was analyzed and addressed with mitigation measures in the 2017 MND.

EXPLANATION OF CHECKLIST EVALUATION CATEGORIES

Environmental Subject Area

The checklist utilized is from Appendix G of the 2021 CEQA Guidelines. Only those categories that are applicable to implementation of the Proposed Treatment Facility (Proposed Project) are identified.

Conclusion in 2017 MND and Related Documents

This column identifies the conclusion of the 2017 Initial Study relative to the Environmental Subject Area listed under each topic as identified in the 2017 Initial Study.

Do the Proposed Changes Involve New Impacts?

Pursuant to CEQA Guidelines Section 15162, subd. (a)(1), this column indicates whether the Proposed Treatment Facility would result in new significant environmental impacts not previously identified or mitigated by the 2017 Initial Study and 2021 Addendum No. 1 or whether the Proposed Treatment Facility would result in a substantial increase in the severity of a previously identified significant impact.

New Circumstances Involving New Impacts?

Pursuant to CEQA Guidelines Section 15162, subd. (a)(2), this column indicates whether the Proposed Treatment Facility would result in substantial changes with respect to the circumstances under which the project is undertaken that will require major revisions to the 2017 Initial Study and 2021 Addendum No. 1 due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

New Information Requiring New Analysis or Verification?

Pursuant to CEQA Guidelines Section 15162, subd. (a)(3)(A-D), this column indicates whether new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the 2017 MND was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

If the additional analysis completed as part of this environmental review were to find that the conclusions of the 2017 Initial Study and 2021 Addendum No. 1 remain the same and no new significant impacts are identified, or identified impacts are not found to be substantially more severe, or additional mitigation is not necessary, then the question would be answered "no," and no additional environmental document would be required.

Mitigation Measures Implemented or Address Impacts

Pursuant to CEQA Guidelines Section 15162, subd. (a)(3), this column indicates whether the 2017 Initial Study and 2021 Addendum No. 1 provides mitigation measures to address effects in the related impact category. Any previously adopted mitigation measures will be identified. The response will also address proposed revisions to previously adopted mitigation measures. These mitigation measures will be implemented with the construction of the project, as applicable. If "NA" is indicated, the 2017 MND and 2021 Addendum No. 1 have concluded that the impact either does not occur with this project or is not significant, and therefore no additional mitigation measures are needed.

Discussion

The Discussion section provides a narrative of the assumptions and conclusions identified for the Original Project Design, the 2017 Initial Study and the 2021 Addendum No. 1, and analyzes how those conclusions compare to the implementation of the Proposed Treatment Facility.

Mitigation Measures

Applicable mitigation measures from the 2017 MND identified in each environmental category where the 2017 MND identified mitigation. Any revisions or new measures are also identified in this section.

Conclusions

A discussion of the conclusion relating to the analysis is contained in each section.

4.1 AIR QUALITY

Environmental Subject Area	Conclusion in 2017 MND And 2021 Addendum No. 1	Do the Proposed Changes Involve New or More Severe Impacts?	New Circumstances Involving New or More Severe Impacts?	New Information Requiring New Analysis or Verification?	Mitigation Measures
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	Less Than Significant	No	No	No	None
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Less Than Significant With Mitigation Incorporated	No	No	No	AQ-1
c) Expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant	No	No	No	None
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	Less Than Significant	No	No	No	None

4.1.1 Discussion

Summary of 2017 MND

Project impacts were determined to be less than significant, except for potentially NOx emissions during construction of overlapping activities. As such, Mitigation Measure AQ-1 which requires Tier 4 equipment be used for site construction was developed to reduce impacts to less than significant.

Summary of 2021 Addendum No. 1

The emissions for the 2021 Revised Project were calculated using the 2017 MND Mitigation Measure AQ-1, which requires the use of off-road construction diesel engines that meet Tier 4 interim California Emission Standards. The 2021 Addendum No. 1 assessed overlapping activities of the 2017 Original Project Design and 2021 Revised Design in the 2021 Addendum No. 1 as Table 4.2-1: *Air Quality Emissions Project Comparison*, as follows:

Table 4.2 1: Air Quality Emissions Project Comparison

Activity	Pollutant Emissions (lbs/day)				
	VOC	**NOx**	**CO**	**PM10**	**PM2.5**
Activity 3: Transmission Facility / Underground Pipeline					
2017 Original Project Design[2]	1.36	21.76	39.21	10.05	2.98
2021 Revised Project Design - Unmitigated	4.47	38.71	44.65	4.19	2.21
2021 Revised Project Design - Mitigated	1.84	26.26	56.09	2.65	0.08
Mitigated Emission Change	0.48	4.50	16.88	-7.40	-2.90
Activity 4: Recharge Facility / Recharge Basin, Grading, Above-ground Pipeline Install					
2017 Original Project Design[2]	0.61	4.43	12.02	3.01	1.73
2021 Revised Project Design - Unmitigated	6.89	66.94	59.23	6.38	3.31
2021 Revised Project Design - Mitigated	2.29	32.24	70.63	3.73	0.89
Mitigated Emission Change	1.68	27.81	58.61	0.72	-0.84
Activity 5: Recovery Facilities / Extraction Wells / Recovery					
2017 Original Project Design[2]	2.79	45.12	77.05	38.47	5.67
2021 Revised Project Design - Unmitigated	9.71	88.81	74.32	6.45	3.78
2021 Revised Project Design - Mitigated	5.10	73.69	150.70	3.92	1.42
Mitigated Emission Change	2.31	28.57	73.65	-34.55	-4.25
Subtotal of Activities 1,2,5 (overlap Year 1, months 1-3)					
2017 Original Project Design[2]	5.79	88.06	146.07	57.3	10.56
2021 Revised Project Design - Unmitigated	12.71	131.75	143.34	25.28	8.67
2021 Revised Project Design - Mitigated	8.10	116.63	219.72	22.75	6.31
Subtotal of Activities 3,5 (overlap Year 1, months 11,12)					
2017 Original Project Design[2]	4.15	66.88	116.26	48.52	8.65
2021 Revised Project Design - Unmitigated	14.18	127.52	118.97	10.64	5.99
2021 Revised Project Design - Mitigated	6.94	99.95	206.79	6.58	1.50
Subtotal of Activities 3,5,6 (overlap Year 2, months 1-5)					
2017 Original Project Design[2]	30.99	97.09	153.59	70.08	13.11
2021 Revised Project Design - Unmitigated	41.02	157.73	156.30	32.20	10.45
2021 Revised Project Design - Mitigated	33.78	130.16	244.12	28.14	5.96
Subtotal of Activities 4.5,6 (overlap Year 2, month 6)					
2017 Original Project Design[2]	30.24	79.76	126.4	63.05	11.86
2021 Revised Project Design - Unmitigated	43.44	185.96	170.89	34.39	11.54
2021 Revised Project Design - Mitigated	34.23	136.14	258.65	29.23	6.77
2017 Maximum Daily Construction Emissions[2]	30.99	97.09	153.59	70.08	13.11
2021 Unmitigated Maximum Daily Construction Emissions	43.44	185.96	170.89	34.39	11.54
2021 Mitigated Maximum Daily Construction Emissions	**34.23**	**136.14**	**258.65**	**29.23**	**6.77**
Change in Maximum Daily Construction Emissions - Unmitigated	12.45	88.87	17.30	-35.69	-1.57
Change in Maximum Daily Construction Emissions - Mitigated	3.24	39.05	105.06	-40.85	-6.34
AVAQMD Thresholds	**137**	**137**	**548**	**82**	**65**
Exceeds Thresholds	No	**No**	No	No	No

Notes:

[1] Source: CalEEMod Version 2020.4.0

[2] Source: 2017 AECOM – Air Quality Technical Memorandum

The analysis identified that implementation of Mitigation Measure AQ-1 was sufficient to maintain a less than significant impact.

Proposed Project Change – Treatment Facility Implementation

The Treatment Facility would be constructed in conjunction with other HDWB components, and as such, also be subject to Mitigation Measure AQ-1. Though the Air Quality Impacts of the Treatment Facility were not modeled in either the 2017 Initial Study/MND or the 2021 Addendum No. 1, it is assumed that construction of some of the overlapping activities, such as the underground piping and basin construction, would not occur at the same time as the construction of the Treatment Facility. Additionally, construction of the pump station described in Addendum 1 has been delayed such that the construction will not occur concurrently with other components of the project, including the Treatment Facility. Therefore, the construction emissions associated with the construction of the Treatment Facility would be consistent with the emissions as analyzed in the 2021 Addendum No. 1 and would not exceed the AVAQMD standards.

Soil excavated from the basins that are planned throughout the facility would be redirected from other parts of the facility to create the 55-acre pad for the treatment facility. Therefore, the implementation of the Treatment Facility would not require import or export of soil to the HDWB that would increase emissions in the region or at the HDWB site.

Sediment generated by the treatment process will be left in the basins until dry, the timing of which is not known at this time. The drying sediment is not anticipated to generate substantial odors regularly but may emit a mild odor during warmer months. There are two rural residential developments near the HDWB. One development is located approximately 1.5 miles south of the Treatment Facility and the second one consisting of the community of Neenach is located about 2 miles east of the HDWB's eastern boundary. The Treatment Facility would be located approximately in the middle of the HDWB's 1,500-acre facility. Therefore, it is not anticipated that the mild odor that might be generated from the drying beds would reach any residential area. Additionally, the Treatment Facility is anticipated to be operational only during recovery, which is estimated to be 1-2 years out of every five years depending on California's hydrological conditions. Therefore, the impacts of potential odor would be less than significant.

4.1.2 Mitigation Measures

The 2017 MND identified the following mitigation measure to reduce impacts to less than significant:

AQ-1 **Minimization Measure for NOx Related Emissions -** Construction contractor shall use off road construction diesel engines that meet, at a minimum, the Tier 4 interim California Emissions Standards, unless such an engine is not available for a particular item of equipment. Tier 3 engines will be allowed on a case-by-case basis when the contractor has documented that no Tier 4 interim equipment, or emissions equivalent retrofit equipment is available for a particular equipment type that must be used to complete construction. Documentation shall consist of signed written statements from at least two construction equipment rental firms.

Revisions to Mitigation Measures:

The Proposed Project Change of the implementation of a Treatment Facility would be required to comply with Mitigation Measure AQ-1, and the Agency agrees that this is a feasible mitigation. The Proposed Project Change does not require a modification of the existing mitigation measure nor does require any new measures to reduce impacts to Air Quality to less than significant.

4.1.3 Conclusion

The Proposed Project Change does not change the type or extent of development analyzed in the 2017 Initial Study or the 2021 Addendum No. 1. Applicable mitigation measures previously identified in the 2017 MND and 2021 Addendum No. 1 will be required as set forth in the MMRP, and no considerably different mitigation measures that may substantially reduce impacts have been identified or rejected. The Proposed Project Change of implementing the Treatment Facility would not involve new significant or more severe impacts to Air Quality than those previously identified and analyzed in the 2017 Initial Study or 2021 Addendum No. 1. Therefore, none of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR have occurred with respect to Air Quality resources.

4.2 BIOLOGICAL RESOURCES

Environmental Subject Area	Conclusion in 2017 MND And 2021 Addendum No. 1	Do the Proposed Changes Involve New or More Severe Impacts?	New Circumstances Involving New or More Severe Impacts?	New Information Requiring New Analysis or Verification?	Mitigation Measures
IV. BIOLOGICAL RESOURCES: Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Less Than Significant With Mitigation Incorporated				BIO-1, through BIO-5, BIO-7 through BIO-9 BIO-11 BIO-12
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Less Than Significant				None
c) Have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means	Less Than Significant With Mitigation Incorporated				BIO-6, BIO-7 BIO-10, BIO-12
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less Than Significant				None
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less Than Significant				None

Environmental Subject Area	Conclusion in 2017 MND And 2021 Addendum No. 1	Do the Proposed Changes Involve New or More Severe Impacts?	New Circumstances Involving New or More Severe Impacts?	New Information Requiring New Analysis or Verification?	Mitigation Measures
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Less Than Significant	No	No	No	None

4.2.1 Discussion

Summary of 2017 MND

Based on the results of the CNDDB search and the field surveys, the Project site is known to or expected to support sensitive biological resources and native habitats which will be disrupted or removed by the proposed Project. Potential impacts include destruction of nests and disruption of natural nesting behaviors in nesting birds, including raptors, and removal of potentially suitable habitats for sensitive and special-status wildlife species, including American badger, desert kit fox, burrowing owls, and others.

The 2017 Initial Study identified that the Agency would provide approximately 322 acres of undisturbed native and naturalized vegetation communities that would provide habitat for both common and special-status plant and wildlife species within the Project site. Similar habitats also are common within the Project vicinity. Thus, loss of habitat due to permanent impacts associated with the Project and temporary loss due to inundation of the recharge basins does not represent a substantial impact to any species.

Wildlife species may use the open spaces within the Project site for dispersal and transitory movement, and may be subject to potential injury or entrapment in open trenches and open-ended pipes. To prevent entrapment, injury, and mortality, mitigation measures are required to reduce impacts to less than significant.

Additional mitigation measures to protect habitat and species included general crew training, staging guidelines and preparation of a Habitat Mitigation Management Program (HMMP).

Criteria IV(c): State and Federal wetlands

The 2017 MND identified that there were no federally protected waters occur within the Project site. None of the potential wetland and waters features exhibit hydrologic connection to any Traditional Navigable Waters (TNWs). Thus, there will be no impacts to federally protected wetlands. Mitigation Measure BIO-10 requires a formal jurisdictional delineation for both State and Federal waters. Prior to the 2017 MND adoption, the Agency fulfilled the requirements of BIO-10 and conducted the jurisdictional waters assessment. The results of that assessment were also included in the final 2017 MND that was adopted.

The 2017 Jurisdictional Delineation identified that the Project site supported two intermittent streams and two potential wetland features, and the features are potential CDFW-jurisdictional streambeds,

subject to CDFW regulatory authority under section 1600 *et seq.* of the California Fish and Game Code. Refer to **Figure 5: *Potential Water Features Identified in Biological Studies*** for the location of the drainages from the 2017 Biological Resources Report that supported the 2017 MND.

However, should the Project implementation require impacts to waters of the State, the Agency would obtain all applicable regulatory permits prior to any fill or alteration of waters features, including submission of a Notification of Lake or Streambed Alteration application, in order to support the CDFW in determining the need for a Lake and Streambed Alteration Agreement (LSA).

Summary of 2021 Addendum No. 1

The 2017 Original Project Design identified that the original design would disturb 1,200 acres, with 400 acres of recharge basins in use at all times, rotating throughout the HDWB property. The revised 2021 Revised Project Design would permanently disturb 890 acres of fixed recharge basins, for a shorter time frame. With the revised design being fixed basins of approximately 890 acres, and recharge occurring over a shorter time frame, wildlife would have a fixed, consistent landscape in which to forage and nest as well as fixed areas for water sources. Therefore, the 2021 Revised Project Design was found to provide a benefit of stability to the on-site wildlife.

Further, the 2021 Revised Project Design also included an assessment of the re-location of the 322 acres designated for habitat management in the 2017 Initial Study/MND. The relocation essentially eliminated the original southern block of habitat and reduced the northern block but provided a wider corridor of preservation in the drainage located in the middle of the site, as well as a wider strip along the aqueduct to facilitate wildlife movement between the northern and southern portions of the site, as well as good habitat in the central drainage area. The larger blocks of habitat, along with the constructed basins, were found to provide higher quality local wildlife movement opportunities across the site, while providing potential watering holes.

The 2017 Original Design eliminated approximately 12 acres of habitat to support groundwater recovery and monitoring wells, above ground piping, and related infrastructure.

Proposed Project Change – Treatment Facility Implementation

Habitat Availability: The Proposed Project Change of implementing the Treatment Facility would not overlap with, and would therefore preserve, the 322 acres of habitat management lands (Figure 4) previously identified. The Treatment Facility would be fenced to prevent wildlife access, therefore, implementation of the Treatment Facility would remove approximately 55 acres of the 1,500 acres available for forage and nesting. The treatment area represents approximately 0.03 percent of the entire HDWB that would be not be available for wildlife forage or water. This is considered nominal compared to the other areas that are available on site.

Other fenced areas included the 28 extraction well areas of each approximately 100 feet wide by 100 feet wide, located throughout the site representing approximately 6.42 acres in total. Therefore, with the Treatment Facility, the HDWB would remove from wildlife service approximately 61 total acres of land available for wildlife, or approximately 0.04 percent of the entire HDWB site.

The Treatment Facility is proposed to be located in the area of the intersection of 294th Street and Avenue B, both of which are established non-public unpaved roadways. Basins are located immediately south of Avenue B, which are approximately 6 feet deep with a minimal bottom slope of one-half percent and sideslopes that would be hardened with rock to protect the basin berms from drainage flows conveying through the project site. Immediately north of the Treatment Facility, "push up" or sacrificial, gentle, berms. Both of these immediately adjacent areas would be suitable alternatives for wildlife forage and/or nesting.

Therefore, removal of an additional 0.03 percent of the HDWB site from wildlife habitat would be a less than significant impact because there is suitable habitat in the immediate vicinity of the Proposed Treatment Facility.

Avian Attraction to Treatment Basins: According to Section 2.9.3.4 of the 2017 Initial Study/MND, shorebirds are typically attracted to shallow ponds while ducks and migratory geese and birds typically prefer deeper ponds. The flocculation and sedimentation basins are anticipated to be approximately 800 feet wide by 200 feet long, and approximately 14 feet deep each with a total of three basins. Use of these basins by wildlife, including migratory birds such as ducks and geese poses no impact to water quality since the water is being discharged to a surface water source in the SWP which is regularly used by avian wildlife. Conversely, the water detained in the treatment basins pose no threat to avian wildlife since chemicals being used will be approved for use in drinking water treatment and consumed or diluted once introduced to the source water. The Treatment Facility is expected to be in operation over a 1-2 year period every five years, or during times of recovery. Once operational, the Agency would monitor for potential avian usage and take appropriate bird deterrent measures, if needed. The treatment basins will have vertical walls, which provide a deterrent to potential shorebirds.

Implementation of the Treatment Facility would have a less than significant impact on wildlife.

4.2.2 Mitigation Measures

The 2017 MND identified the following mitigation measure to reduce impacts to less than significant:

For brevity, these measures are summarized below, and the full text is included in Appendix A.

- BIO-1 Burrowing Owls (Pre-Construction Surveys)
- BIO-2 Desert Kit Fox and American Badger (Pre-Construction Surveys)
- BIO-3 Nesting Birds (Pre-Construction Surveys)
- BIO-4 Animal Movement and Entrapment (Trenches)
- BIO-5 Animal Movement and Entrapment (Pipes)
- BIO-6 Erosion and Sediment Control
- BIO-7 Special-Status Plant surveys
- BIO-8 Swainson's Hawk (focused surveys prior to recharge basin construction)
- BIO-9 Tri-colored Blackbirds (focused surveys prior to recharge basin construction)
- BIO-10 Jurisdictional Drainages and Wetlands and Permitting (prior to recharge basin construction)
- BIO-11 Habitat Mitigation (prepare Habitat Mitigation Management Program)
- BIO-12 General (construction crew training, site and staging guidelines)

Revisions to Mitigation Measures:

The Proposed Project Change of the implementation of a Treatment Facility would be required to comply with Mitigation Measures BIO-1 through BIO-12, as identified in the 2017 Initial Study/MND, and the Agency agrees that these are feasible mitigation measures that would apply to the Proposed Treatment Facility. The Proposed Project Change therefore does not require a modification of any existing measure nor does it require any new measures be developed to reduce impacts to Biological Resources to less than significant.

4.2.3 Conclusion

The Proposed Project Change does not change the type or extent of development analyzed in the 2017 Initial Study or the 2021 Addendum No. 1. Applicable mitigation measures previously identified in the 2017 MND and 2021 Addendum No. 1 will be required as set forth in the MMRP, and no considerably different mitigation measures that may substantially reduce impacts have been identified or rejected. The Proposed Project Change of implementing the Treatment Facility would not involve new significant or more severe impacts to Biological Resources than those previously identified and analyzed in the 2017 Initial Study or 2021 Addendum No. 1. Therefore, none of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR have occurred with respect to Biological resources.

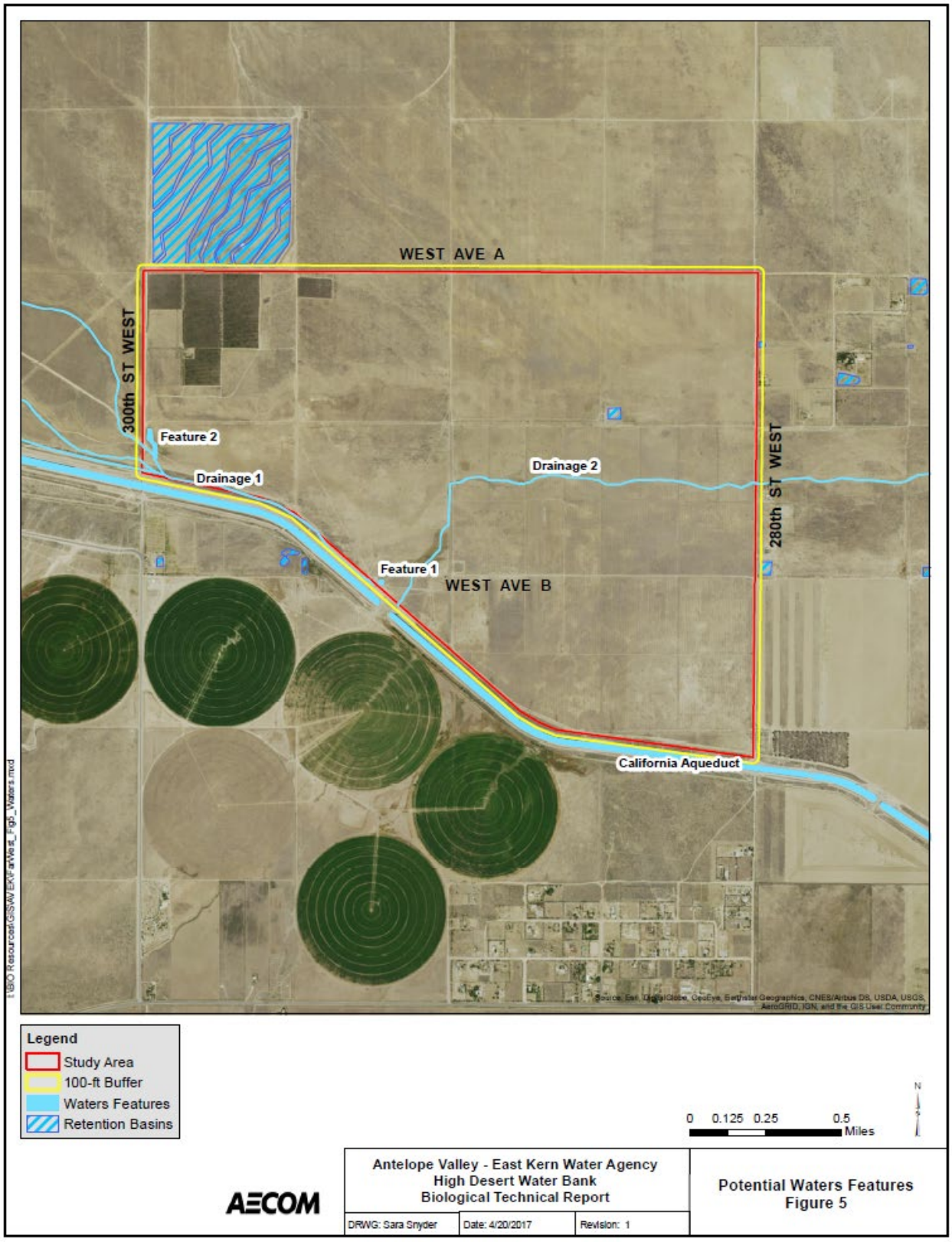


Figure 5: Potential Natural Water Features

4.3 HAZARDS AND HAZARDOUS MATERIALS

Environmental Subject Area	Conclusion in 2017 MND And 2021 Addendum No. 1	Do the Proposed Changes Involve New or More Severe Impacts?	New Circumstances Involving New or More Severe Impacts?	New Information Requiring New Analysis or Verification?	Mitigation Measures
V. HAZARDS AND HAZARDOUS MATERIALS: Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant With Mitigation Incorporated	No	No	No	HAZ-1
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less Than Significant With Mitigation Incorporated	No	No	No	HAZ-4
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less Than Significant	No	No	No	None
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Less Than Significant	No	No	No	None
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	Less Than Significant With Mitigation Incorporated	No	No	No	HAZ-2 and HAZ-3

Environmental Subject Area	**Conclusion in 2017 MND And 2021 Addendum No. 1**	**Do the Proposed Changes Involve New or More Severe Impacts?**	**New Circumstances Involving New or More Severe Impacts?**	**New Information Requiring New Analysis or Verification?**	**Mitigation Measures**
~~f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?~~	Less Than Significant	(NA - Removed from Guidelines)	NA - Removed from Guidelines)	NA - Removed from Guidelines)	NA - Removed from Guidelines)
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less Than Significant	No	No	No	None
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires? ~~including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?~~	Less Than Significant	No	No	No	None

4.3.1 Discussion

Summary of 2017 MND

The Project is not located near a school or on a hazardous waste site. Additionally, the Project would not interfere with an emergency response plan or expose people or structures to wildland fires. Therefore, the 2017 MND identified that these impacts were less than significant.

During construction and operation of the proposed Project facilities, hazardous materials such as fuels and lubricants would be used and have the potential to be released into the environment, causing environmental and/or human exposure to these hazards. Though given the small quantity and the remote nature of the project area, any effects would be less than significant, although the 2017 MND identified a mitigation measure to ensure less than significant impacts.

Because the recharge basins will retain water, the Project has the potential to attract and breed mosquitos and birds. Mosquitos can carry diseases, and residences are located within one-half mile to the south and approximately 2 miles to the east. As such a mitigation measure was required to reduce potential mosquito breeding.

The Project is also located in an area associated with low level (200 to 1,500 feet) military flight paths for Edwards Air Force Base. The 2017 MND cited a Tulare Lake Drainage District (TLDD) study that found that shorebirds such as avocets and stilts have been found to use the shallow-water (generally 0 to 12 inches in depth with gently sloping upland habitat) created by TLDD in managing its system of drainage ponds.

The shallow-water areas did not attract small birds such as doves and larks. At the same time, deeper ponds were found to be used by a variety of ducks.

The 2017 MND concluded that based on the Project type, the recharge areas will not likely attract larger birds such as ducks, geese, and swans but that there is some potential to attract smaller shorebirds. In the Lancaster Palmdale Edwards Air Force Base area, there were no bird strikes recorded in the National Wildlife Strike Database for ducks, geese, swans, hawks, eagles, vultures, falcons, ravens, or gulls. There was also no bird strikes associated with shorebirds. The database does have records of strikes on pigeons, doves, swifts, larks, and sparrows. This is consistent with Edwards AFB bird/aircraft strike hazard (BASH) data suggesting most bird strikes are of small birds and occur near the runways and during low-altitude flight. As such, the 2017 MND identified measures to minimize potential impacts to Edwards Air Force Base during the recharge operations.

2021 Revised Project Analysis

The Project is in the same location and will be constructed as the original project was analyzed by the 2017 MND. Recharge operations will occur in a variety of basins, as assumed by the 2017 MND, and therefore poses a similar attractant for mosquitos and birds.

Proposed Project Change – Treatment Facility Implementation

As discussed in the 2017 Initial Study/MND, the principal federal regulatory agency responsible for the safe use and handling of hazardous materials is the EPA. Other applicable federal regulations are contained primarily in CFR Titles 29, 40, and 49. The federal Resource Conservation and Recovery Act enables the EPA to administer a regulatory program that extends from the manufacture of hazardous materials to their disposal, thus regulating the generation, transportation, treatment, storage, and disposal of hazardous waste at all facilities and sites in the nation.

California regulations are equal to or more stringent than federal regulations. The EPA has granted the State of California primary oversight responsibility to administer and enforce hazardous waste management programs. State regulations require planning and management to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human and environmental health.

State law requires that:

- Businesses using hazardous materials prepare a plan that describes their facilities, inventories, emergency response plans, and training programs.
- Generators of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the California Department of Toxic Substances and Control.
- Development and implementation of Spill Prevention and Control Plans for facilities using hazardous materials.

On a local or regional scale, the Los Angeles Environmental Health Departments manage many local hazardous materials concerns. Emergency response is often delegated to local fire departments.

Hazardous Materials Use and Transport. The chemicals used for the Treatment Facility would be stored in 3,000-12,000-gallon tanks located within its own concrete containment area that would serve as a secondary containment for spill prevention. Chemical storage and handling areas will require safety equipment (portable eyewash stations) as required for similar facilities The chemicals to be used include:

- Sodium Hypochlorite solution – a maximum of approximately 8,500 gallons of 9 percent to 12.5 percent. Sodium hypochlorite is a clear, slightly yellow or green liquid with a strong chlorine odor. It is usually mixed with water and used as a household cleaner and in water treatment as a disinfectant and a bleaching agent. Hazardous gases/vapors produced are hypochlorous acid, chlorine and hydrochloric acid. Composition depends upon temperature and pH. Additional decomposition products, which depend on pH, temperature and time, are sodium chloride and chlorate, and oxygen. Impacts to humans and animals include immediate pain. Treatment is irrigation with water.

- Ferric Chloride solution – approximately 11,800 gallons of 40 percent. Ferric chloride is an odorless, clear to dark amber colored liquid which can emit toxic fumes of Hydrogen Chloride and Chlorine gas when heated to decomposition. Ferric chloride is within the family of inorganic iron salts and is considered highly corrosive to metals. It is designated as a hazardous substance under Section 311(b)(2)(A) of the Federal Water Pollution Control Act and regulated by the Clean Water Act Amendments of 1977 and 1978. This chemical is subject to regulations regarding its discharge.

- Polymer – approximately 2,900 gallons. Polymers are generally not hazardous as defined by the Occupational Safety and Health Administration (OSHA). It is generally considered a non-irritant and not corrosive.

A percentage of these chemicals ultimately would be concentrated in the settling basins as residual content from the treatment operations, and where the residual material would be cleaned out of the basin concurrent with the recovery schedule of the HDWB, which is estimated at once every five years. Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user to determine whether a substance should be classified as a hazardous waste at the time of disposal. This is due to the fact that product use, transformation, synthesis, mixtures, etc. may change the nature of the product. Therefore, the residual material would be tested prior to disposal to determine if the residual material can be disposed of in a standard landfill or if special handling and disposal would be required.

Implementation of the Treatment Facility includes the Agency's preparation of an Operations and Maintenance Manual (O&MM) would be developed by a certified industrial hygienist, or similarly skilled professional, that would describe safe storage and operations of the Treatment Facility and its chemicals. In addition, implementation of the Treatment Facility would include the implementation of existing Mitigation Measure HAZ-1 which requires the preparation of a Spill Prevention Control and Countermeasures Plan (SPCCP) to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during construction activities and operations.

Treatment Facility Basins Bird Attraction Hazards to Aircraft: As discussed in Section 4.2 of this document, the flocculation and sedimentation basin and drying beds may become a bird attraction. However, the Agency would monitor avian usage and implement deterrent measures as required. Edwards Air Force Base lies roughly 35 miles to the east of the site. The 2017 Initial Study/MMD identified Mitigation Measures HAZ-2 and HAZ-3 to reduce potential impacts of bird attraction conflicts between the HDWB operations and Edwards Air Force Base. Implementation of the Treatment Facility requires minor modifications to Mitigation Measures HAZ-2 and HAZ-3 to ensure that the Treatment Facility operations are included. Implementation of Mitigation Measures HAZ-2 and HAZ-3, as modified, would reduce potential impacts of the implementation of the Treatment Facility to less than significant.

Therefore, because the Treatment Facility would be operated in accordance with all federal, State and local regulations, and existing mitigation measures to reduce HDWB project impacts are also applicable to the Project Change of implementing a Treatment Facility, the impact is less than significant.

4.3.2 Mitigation Measures

The 2017 MND identified the following mitigation measure to reduce impacts to less than significant:

HAZ-1 **Spill Prevention Plan** – Consistent with Agency's existing practices, the Agency will require from its construction contractors the preparation and implementation of a Spill Prevention Control and Countermeasures Plan (SPCCP) to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during construction activities and operations. The plan and methods shall be in conformance with all State and Federal regulations. The Agency shall provide for routine inspection of the construction and operations areas to verify that the measures specified in the SPCCP are properly implemented and maintained and further ensure that contractors are notified immediately if there is a noncompliance issue and will require compliance.

HAZ-2 **Bird Strike Hazard Notification** – The Agency will notify the Flight Safety Office at Edwards Air Force Base and all local airports of the potential bird strike hazard as follows:

- Prior to application of water to the recharge basins, and
- If large birds or large concentrations of small birds are observed in or near the recharge area.

HAZ-3 **Bird Strike Hazard Minimization Measures –** The Agency will implement actions to reduce the attractiveness of the recharges basins to birds by:

- Use of recharge basins with shallow water depths which will be generally unsuitable for the larger migratory birds.
- Monitor recharge area water and if aquatic macroinvertebrates are found to be developing in large numbers and/or foraging by shorebirds is observed, temporarily dry

out recharge areas, thereby reducing the insect and aquatic macroinvertebrate forage that would attract and hold shorebirds.

- Whenever water is present in the recharge basins, the project operator will monitor the basins daily for bird activity and if found discourage their use via means acceptable to the Department of Fish and Wildlife.

HAZ-4 Mosquito Borne Disease Minimization Measures – The Agency will consult with the Antelope Valley Mosquito and Vector Control District to develop and implement a mosquito management plan. The plan would consist of a Project specific mosquito abatement program that would include quantitative abatement thresholds. The Agency and/or its representative would monitor mosquito larvae production in the recharge basins, drainages, and distribution. Larvae populations would be tracked using methods and thresholds approved by the Mosquito Abatement District, and suppression measures would be employed when thresholds are exceeded. The primacy mode of suppression would be to monitor for mosquito presence and if mosquito larvae are found, to cycle recharge temporarily so that units of recharge would be dried.

Revisions to Mitigation Measures:

The Project Change of the implementation of a Treatment Facility would require the modification of the following mitigation measures to ensure impacts are less than significant. These modifications are not significant and serve to strengthen the existing measure, not replace it or reject it. Underlined text (<u>underlined</u> text) represents additions to the measure and strikeout text (~~strikeout~~ text) represents deleted text as follows:

HAZ-2 Bird Strike Hazard Notification – The Agency will notify the Flight Safety Office at Edwards Air Force Base and all local airports of the potential bird strike hazard as follows:

- Prior to application of water to the recharge basins, <u>and prior to beginning recovery operations where use of the Treatment Facility begins</u>, and

- If large birds or large concentrations of small birds are observed in or near the recharge <u>and/or Treatment Facility</u> area<u>s</u>.

HAZ-3 Bird Strike Hazard Minimization Measures – The Agency will implement actions to reduce the attractiveness of the recharge <u>and flocculation/sedimentation basins</u> to birds by:

- Use of recharge basins with shallow water depths which will be generally unsuitable for the larger migratory birds.

- Monitor recharge area water and if aquatic macroinvertebrates are found to be developing in large numbers and/or foraging by shorebirds is observed, temporarily dry

out recharge areas, thereby reducing the insect and aquatic macroinvertebrate forage that would attract and hold shorebirds.

- Whenever water is present in the recharge basins and Treatment Facility basins and drying beds, the project operator will monitor the basins daily for bird activity and if found discourage their use via means acceptable to the Department of Fish and Wildlife.

4.3.3 Conclusion

The Proposed Project Change does not change the type or extent of development analyzed in the 2017 Initial Study or the 2021 Addendum No. 1. Applicable mitigation measures previously identified in the 2017 MND and 2021 Addendum No. 1 will be required as set forth in the MMRP. Although Mitigation Measures HAZ-2 and HAZ-3 have been slightly modified to clarify that these measures would also apply to implementation of the Treatment Facility, no considerably different mitigation measures that may substantially reduce impacts have been identified or rejected. The Proposed Project Change of implementing the Treatment Facility would not involve new significant or more severe impacts to Hazards and Hazardous Materials than those previously identified and analyzed in the 2017 Initial Study or 2021 Addendum No. 1. Therefore, none of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR have occurred with respect Hazards and Hazardous Materials.

4.4 HYDROLOGY AND WATER QUALITY

Environmental Subject Area	Conclusion in 2017 MND And 2021 Addendum No. 1	Do the Proposed Changes Involve New or More Severe Impacts?	New Circumstances Involving New or More Severe Impacts?	New Information Requiring New Analysis or Verification?	Mitigation Measures
VI. HYDROLOGY AND WATER QUALITY: Would the project:					
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less Than Significant With Mitigation Incorporated	No	No	No	HWQ-4
b) Substantially ~~deplete~~ decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin ~~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)~~?	Less Than Significant With Mitigation Incorporated	No	No	No	HWQ-4
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:	Less Than Significant With Mitigation Incorporated (also applies to all subcriteria)	No (also applies to all subcriteria)	No (also applies to all subcriteria)	No (also applies to all subcriteria)	HWQ-1, HWQ-2, HWQ-3, HWQ-5 (also applies to all subcriteria)
• result in substantial erosion or siltation onsite or offsite;					
• substantially increase the rate or amount of surface water runoff in a manner which would result in flooding on or offsite;					

Environmental Subject Area	**Conclusion in 2017 MND And 2021 Addendum No. 1**	**Do the Proposed Changes Involve New or More Severe Impacts?**	**New Circumstances Involving New or More Severe Impacts?**	**New Information Requiring New Analysis or Verification?**	**Mitigation Measures**
• create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or					
• impede or redirect flood flows?					
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Less Than Significant	No	No	No	None
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less Than Significant	No	No	No	None
~~d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?~~	Refer to Criterion X(c)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)
~~e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?~~	Refer to Criterion X(c)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)
~~f) Otherwise substantially degrade water quality?~~	Refer to Criterion X(a)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)
~~g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?~~	Refer to Criterion X(c)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)

Environmental Subject Area	Conclusion in 2017 MND And 2021 Addendum No. 1	Do the Proposed Changes Involve New or More Severe Impacts?	New Circumstances Involving New or More Severe Impacts?	New Information Requiring New Analysis or Verification?	Mitigation Measures
~~h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?~~	Refer to Criterion X(c)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)
~~i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?~~	Refer to Criterion X(c)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)
~~j) Inundation by seiche, tsunami, or mudflow?~~	Refer to Criterion X(c)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)	(N/A – Guidelines Revised)

4.4.1 Discussion

Summary of 2017 MND

Water Quality. The 2017 MND identified that the SWP water would be blended with the regional groundwater as it is absorbed into the ground. Based on various testing data, both recharged water and indigenous water are generally suitable for drinking water purposes. Considering that the blending of the indigenous and SWP water supplies is not likely to change the water quality significantly such that it would result in concentrations above the Maximum Contaminant Levels (MCLs), operations related to groundwater recovery and delivery of the recovered water back to the California Aqueduct are not anticipated to cause any adverse impact. No external treatment system is needed for either the SWP supply or the groundwater. The 2017 MND identified that the Agency will work with and comply with DWR's requirements in the development and implementation of a pump in program including monitoring of water quality of water being pumped into the Aqueduct.

The 2017 MND identified that recharge operations have the potential to raise groundwater levels to where it may interfere with the few septic systems in the surrounding area. Mitigation was implemented to monitor and change recharge operations as necessary to maintain the groundwater level below 75 ft. (100 ft is the level considered a greater risk of nitrate contamination).

Groundwater Supplies and Recharge: The 2017 MND identified that groundwater recharge will generally raise groundwater levels when compared to no project conditions and will benefit adjacent private well owners by reducing the cost of pumping supplies. The 2017 MND also identified that the Agency's recovery operations during drought may result in lower water levels in nearby wells and localized declines in water levels may reduce well production somewhat and raise well pumping costs. Mitigation was required to ensure that net extractions of groundwater by the Agency and its partners will not exceed 90 percent of the volume of water recharged.

Change in Drainage Patterns. The Project site has seven major tributary streams. The slope of the land in the vicinity of project drains from southwest to east. The Project would preserve existing topography and not significantly alter existing drainage patterns.

The 2017 MND identified that "a typical recharge program, involving the construction of large, permanent berms to retain flow would result in a significant change in the drainage patterns in the area and in particular would preclude flood flows from passing through the recharge area, thus diverting flows to adjacent properties." The 2017 Original project design proposed not to isolate the site from flood flows but, instead, the design would utilize flood irrigation methods to where only temporary berms of not greater than about 36 inches in height would be installed to retain some stormwater for recharge, but in general, be sacrificial, or wash away, to mimic natural flood conditions. Drainage flows would enter the recharge area, temporarily be constrained by the low berms, and then overtop and flow from one berm to the next until breaching the last berm on the eastern end of the property. A beneficial effect of the sacrificial berms was identified as that it would temporarily detain flood flows, allow for some percolation of these flows into the ground, and then allow flow to exit the site in a manner similar to pre-project conditions. Berms will also retain and recharge low flow storm runoff.

Consistency with Groundwater Plans. The 2017 MND identified that the Project (a) does not affect the beneficial use of the stored supplies, at any blend of SWP and indigenous groundwater and (b) has somewhat greater benefits than adverse impacts associated with mass loading of minerals as the concentration (mg/l) in the blended water is such that it does not change the intended beneficial use of the water.

2021 Revised Project Analysis

Water Quality. The SWP water would still be blended with the regional groundwater as it is absorbed into the ground, and there is no change to this feature. The 2017 MND identified that the SWP and the regional groundwater are compatible, and neither need treatment. A rise in groundwater is also anticipated with the revised project design, and operations will be adjusted as needed based on monitoring as with the original design. Therefore, there is no change.

Groundwater Supplies and Recharge: The recharge operations will also generally raise groundwater levels when compared to no project conditions, creating the same benefit of reduced pumping costs for adjacent private well owners. Additionally, the Agency's recovery operation during drought may also result in lower water levels in nearby wells and localized declines in water levels may reduce well production somewhat and raise well pumping costs. Mitigation was required to reduce potential impacts to adjacent private wells, and the revised design incorporates the monitoring requirement.

Change in Drainage Patterns. The Project site has seven major tributary streams. The 2017 MND identified that "a typical recharge program, involving the construction of large, permanent berms to retain flow would result in a significant change in the drainage patterns in the area and in particular would preclude flood flows from passing through the recharge area, thus diverting flows to adjacent properties." The 2021 Revised Project Design constitutes a "typical recharge program…" as described by the 2017 MND.

However, a Drainage Evaluation was prepared for the 2021 Revised Project Design (Appendix E) that further defined flood flow across the Project site. The revised design focuses the fixed basins outside of

the areas where storm flows are heaviest and provides protection for some of the basins, removing the sacrificial nature of the basins. As such, the basin placement throughout the Project area are designed in a manner that will still allow the main flood flows to pass through the Project area, continuing in normal patterns, and not divert flows onto adjacent properties.

The 2021 Revised Project Design constitutes a hybrid recharge program with some "typical" basins and some sacrificial basins. A Drainage Evaluation was prepared for the 2021 Revised Project Design (Appendix E) that defined flood flow across the Project site. The revised design focuses the fixed basins outside of the areas where storm flows are heaviest and provides protection for these basins, removing the sacrificial nature of these basins. Basins within the floodways will remain as sacrificial as intended in the original design. As such, the basin placement throughout the Project area is designed in a manner that will still allow the main flood flows to pass through the Project area, continuing in normal patterns, and not divert flows onto adjacent properties. Flood flows will still enter the sacrificial berm area, recharge during small storm events, and overtop the berms in larger storm events. Sheet flows will likely not enter the flood protected basins.

Consistency with Groundwater Plans. The 2017 MND identified that the Project (a) does not affect the beneficial use of the stored supplies, at any blend of SWP and indigenous groundwater and (b) has somewhat greater benefits than adverse impacts associated with mass loading of minerals as the concentration (mg/l) in the blended water is such that it does not change the intended beneficial use of the water.

Proposed Project Change – Treatment Facility Implementation

Water Quality. During implementation of the well drilling and testing phase of the HDWB project in 2021 and 2022, it was discovered that arsenic naturally occurs in deeper portions of the aquifer across a wider range of the Project Site than originally anticipated during the December 2017 Original Initial Study/MND and 2021 Addendum 1 preparation. Water quality testing of newly drilled wells identifies that arsenic was discovered below 500 feet below ground surface (bgs) at between 11 and 19 micrograms per liter (ug/L).

According to DWR, the average and maximum arsenic concentrations historically found in the SWP are 2 and 4 micrograms per liter, respectively. There is no set limit on the maximum allowable concentrations of any constituent to be pumped in as part of a pump-in program and instead, the overall effects of the program are considered when implementing a pump-in program. Data from the 2021 and 2022 site development suggest a fairly consistent arsenic concentration in newly drilled wells across the Project Site that are above the maximum historical background SWP level and therefore would require referral to DWR's Pump-In Facilitation Group for analysis and acceptance. The arsenic levels are high enough that it is unlikely that the Facilitation Group would accept the recovered water in most cases without treatment. Therefore, for the HDWB to operate and return water to the SWP, the water would need to have at least a percentage of arsenic removed to a level that would be acceptable to the Facilitation Group based on review of the DWR Water Quality Policy and Implementation Process for Acceptance of Non-Project Water into the State Water Project (October 2012).

The treatment facility is expected to remove approximately 75 percent of the naturally occurring arsenic concentrations found in the recovered water. Conceptually, this would bring maximum arsenic levels down to levels would be within the range acceptable for Pump-In to the DWR aqueduct. Treatment operations would be balanced with a blending strategy where treated water may be blended in the

pipelines with untreated recovered water prior to pump-in to the SWP. An approved Pump-In Agreement with DWR would outline the testing and modeling requirements to ensure pump-in program impacts to downstream SWP water quality are acceptable to DWR.

Prior to pump-in to the SWP, the Agency would complete water quality tests and make adjustments as necessary to ensure compliance with the DWR Pump-In Agreement. The Treatment Facility construction is subject to a SWPPP and the preparation of a Spill Pollution and Prevention Plan which would reduce potential impacts to surface waters. Therefore, implementation of the Treatment Facility would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Existing Drainage Pattern Alteration. The 55-acre treatment facility would be located in the area of the intersection of 294th Street and Avenue B, south of the Oso Canyon Floodway and north of proposed groundwater recharge basins. The Hydrology Report prepared for the HDWB Project identifies that the Treatment Facility would be located within FEMA Zone X, defined as "Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from the 1% annual chance flood", with the "areas of 1% annual chance flood with average depths of less than 1 foot" definition being the most applicable at this location (**Figure 6 -** ***FEMA Flood Insurance Rate Map***, refer to 2021 Addendum No. 1 - Initial Drainage Evaluation for AVEK-High Desert Water Bank, Final Report, Stantec, March 1, 2021).

To ensure the Treatment Facility is not inundated by any flood flows in the area, a 5-foot-high pad area would be constructed from the native soil onsite. Rip rap would be installed around the edges for additional protection.

As the Project Change which is the implementation of the Treatment Facility is not within a major floodway or drainage course, the impacts of implementing the Treatment Facility are less than significant.

4.4.2 Mitigation Measures

The 2017 MND identified the following mitigation measure to reduce impacts to less than significant, and the 2021 Addendum No 1 modified Mitigation Measure HWQ-1 (as identified in underlined type below):

HWQ-1 **Drainage Design** - Recharge areas in Pescado Creek and Oso Canyon floodways will be constructed so that they will not divert sheet flooding and other runoff away from the low, earthen berms that will be constructed within the creek areas that will be used to enhanced the fixed recharge areas. This will allow flood water to flow into the creek areas ~~recharge areas~~ where flows will be somewhat retarded by the recharge berms. Berms will be designed with berm heights below the calculated flood depth elevations and intended to be sacrificial. Flood flows would enter the site, be primarily channeled through the floodways go through the berms that are installed within the floodways, overtop or destroy the berms in sequence, and eventually exit the project site along the eastern boundary of the proposed project in a manner similar to pre-project conditions.

HWQ-2 **Stormwater Pollution Prevention Plan (SWPPP)** - To reduce or eliminate Construction related water quality effects, before onset of any construction activities, the Agency or its contractor will prepare a Storm Water Pollution Prevention Plan. The SWPPP will include

temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover). These measures will be employed to control erosion from disturbed areas. Measures for the control of pollutants during construction include:

- Use of existing access points to minimize dust and tracking materials onto Public Streets,
- Designated Parking, Storage, and Service Areas protected by silt fence and oil absorbents and sloped to control drainage,
- Minimize diesel storage,
- Stockpile spill cleanup materials,
- Regular vehicle inspection for leaks.
- Fuel off-channel with a secondary containment system for spills,
- Use quick connects whenever possible,
- Fueling by authorized personnel only, and
- Spill cleanup materials readily available.

The SWPPP shall include a Fugitive Dust Control Plan (FDCP) that will include extensive measures to control and manage soil erosion. The FDCP will provide for management of open soils that will contribute to management of runoff.

Consistent with the SWPPP and the Agency's current construction management practices, the Agency or its agent will perform routine inspections of the construction area to verify that the BMPs specified in the SWPPP are properly implemented and maintained. The Agency will notify its contractors immediately if there is a noncompliance issue and will require compliance.

HWQ-3 **Spill Prevention Plan** - Consistent with Agency's existing practices, the Agency will require from its construction contractors the preparation and implementation of a Spill Prevention Control and Countermeasures Plan (SPCCP) to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during construction activities and operations. The plan and methods shall be in conformance with all State and Federal regulations. The Agency shall provide for routine inspection of the construction and operations areas to verify that the measures specified in the SPCCP are properly implemented and maintained and further ensure that contractors are notified immediately if there is a noncompliance issue and will require compliance.

HWQ-4 **Protection of Off-Site Wells**. To address potential impacts to groundwater and adjacent well owners, the Agency will develop a monitoring program to monitor changes in water

levels and well production in the area affected by groundwater recharge operations. The program will specify that:

- Extractions of groundwater shall not exceed 90% of the amount of water recharged,
- Water quality in recovered water and in groundwater flowing away from the Project will be monitored to ensure that water quality remains appropriate for designated beneficial uses,
- During recharge operations, water levels will be monitored and recharge operations will be suspended in the event that offsite water levels rise to within 75 feet of the ground surface, and
- During recovery operations, water levels in offsite wells will be monitored and operations will be adjusted if offsite wells are found to be adversely affected by project operations,

HWQ-5 **Management of Herbicides and Pesticides** - The Agency will comply with all regulations of the California Department of Pesticide Regulation regarding the use of herbicides and pesticides in areas designated for groundwater recharge.

Revisions to Mitigation Measures:

The Proposed Project Change of the implementation of a Treatment Facility would be required to comply with Mitigation Measures HWQ-1 through HWQ-5, and the Agency agrees that these are feasible mitigation. The Proposed Project Change does not require a modification of the existing mitigation measures nor does it require any new measures to reduce impacts to Hydrology and Water Quality to less than significant.

4.4.3 Conclusion

The Proposed Project Change does not change the type or extent of development analyzed in the 2017 Initial Study or the 2021 Addendum No. 1. Applicable mitigation measures previously identified in the 2017 MND and 2021 Addendum No. 1 will be required as set forth in the MMRP, and no considerably different mitigation measures that may substantially reduce impacts have been identified or rejected. The Proposed Project Change of implementing the Treatment Facility would not involve new significant or more severe impacts to Hydrology and Water Quality than those previously identified and analyzed in the 2017 Initial Study or 2021 Addendum No. 1. Therefore, none of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR have occurred with respect to Hydrology and Water Quality resources.

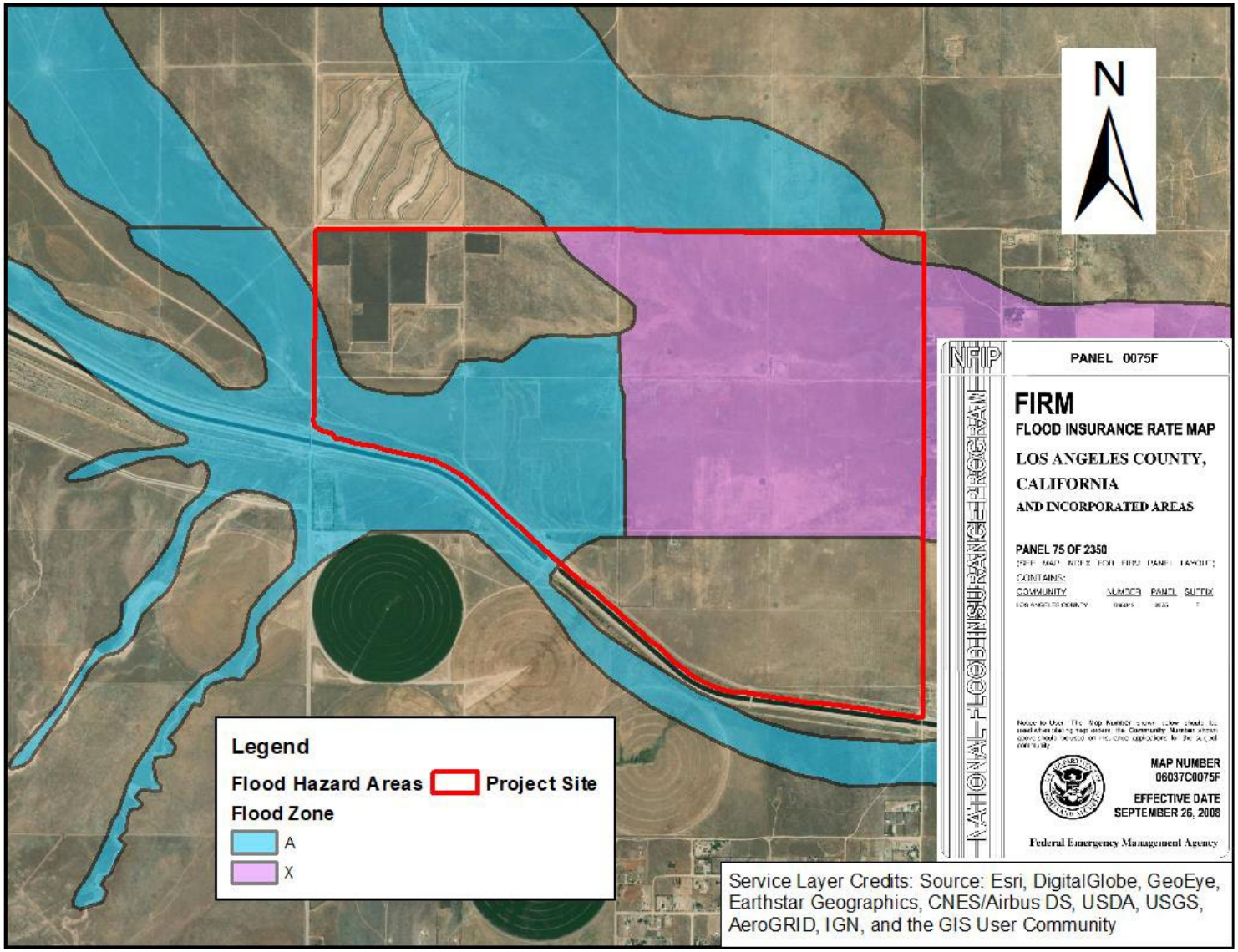


Figure 6: FEMA Flood Insurance Rate Map
Initial Study Addendum No. 2
High Desert Water Bank