

DRAFT

East Highline Reservoir and Intake Channel Project Environmental Impact Report SCH No. 2019011070

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ACRONYMS AND ABBREVIATIONS

| Acronym/ Abbreviation | Definition |
|--------------------------|---|
| AAC | All-American Canal |
| AB | Assembly Bill |
| ADRP | Archeological Data Recovery Program |
| AF | acre-feet |
| amsl | above mean sea level |
| APCD | Air Pollution Control District |
| APE | area of potential effect |
| AQAP | Air Quality Attainment Plan |
| ARB | Air Resources Board |
| AVR | average vehicle ridership |
| BACT | Best Available Control Technology |
| Basin | Colorado River Basin |
| BAU | Business As Usual |
| BCC | U.S. Fish and Wildlife Service bird of conservation concern |
| BLM | Bureau of Land Management |
| BMP | best management practice |
| CAA | Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| CalARP | California Accidental Release Prevention Law |
| CalOSHA | California Occupational Safety and Health Administration |
| Caltrans | California Department of Transportation |
| CARB | California Air Resources Board |
| CCR | California Code of Regulations |
| CDCA | California Desert Conservation Area |
| CDFG | California Department of Fish and Game |
| CEQA | California Environmental Quality Act |
| CFC | California Fire Code |
| CFR | Code of Federal Regulations |
| cfs | cubic feet per second |
| CH ₄ | methane |
| CNEL | Community Noise Equivalent Level |
| CO | carbon monoxide |
| CO ₂ | carbon dioxide |
| CO ₂ e | carbon dioxide equivalent |
| County | Imperial County |

| Acronym/ Abbreviation | Definition |
|--------------------------|--|
| CPRMTP | Cultural and Paleontological Resources Monitoring and Treatment Plan |
| CRHR | California Register of Historical Resources |
| CRPR | California Rare Plant Rank |
| CVWD | Coachella Valley Water District |
| CWA | Clean Water Act |
| dB | decibel |
| dBA | A-weighted decibel |
| DOT | Department of Transportation |
| DPM | diesel particulate matter |
| DRECP | Desert Renewable Energy Conservation Plan |
| DTSC | California Department of Toxic Substances Control |
| EA | Environmental Assessment |
| EHL | East Highline |
| EIR | Environmental Impact Report |
| EO | Executive Order |
| EPA | U.S. Environmental Protection Agency |
| ESA | Endangered Species Act |
| FHWA | Federal Highway Administration |
| FTA | Federal Transit Administration |
| FTHL | Flat-tailed Horned Lizard |
| GHG | greenhouse gas |
| GIS | geographic information system |
| GPS | Global Positioning System |
| HCP | Habitat Conservation Plan |
| HFC | hydrofluorocarbon |
| I-8 | Interstate Highway 8 |
| IA | Implementation Agreement |
| ICAPCD | Imperial County Air Pollution Control District |
| ICFD | Imperial County Fire Department |
| IID | Imperial Irrigation District |
| IRWMP | Integrated Regional Water Management Plan |
| ITP | Incidental Take Permit |
| LCR | Lower Colorado River |
| LCR MSCP | Lower Colorado River Multi-Species Conservation Program |
| L _{eq} | equivalent sound level |
| MBTA | Migratory Bird Treaty Act |

| Acronym/ Abbreviation | Definition |
|--------------------------|--|
| MLD | most likely descendant |
| MM | Mitigation Measure |
| MT | metric tons |
| MMT | million metric tons |
| mph | miles per hour |
| MSCP | Multiple Species Conservation Program |
| MT | metric tons |
| MW | megawatts |
| MWD | Metropolitan Water District of Southern California |
| N ₂ O | nitrous oxide |
| N/A | not applicable |
| NAAQS | National Ambient Air Quality Standards |
| NAHC | Native American Heritage Commission |
| NCCP | Natural Community Conservation Plan |
| NEPA | National Environmental Protection Act |
| NF ₃ | nitrogen trifluoride |
| NHPA | National Historic Preservation Act |
| NHTSA | National Highway Traffic Safety Administration |
| NIMS | National Incident Management System |
| NO ₂ | nitrogen dioxide |
| NOP | Notice of Preparation |
| NO _x | oxides of nitrogen |
| NPDES | National Pollutant Discharge Elimination System |
| NRHP | National Register of Historic Places |
| O ₃ | ozone |
| OEHHA | Office of Environmental Health Hazard Assessment |
| OES | Office of Emergency Services |
| PDF | project design feature |
| PEIR | Program Environmental Impact Report |
| PFC | perfluorocarbon |
| PFYC | Potential Fossil Yield Classification |
| PI | Principal Investigator |
| PM _{2.5} | fine particulate matter |
| PM ₁₀ | coarse particulate matter |
| PRC | Public Resources Code |

| Acronym/ Abbreviation | Definition |
|--------------------------|---|
| PV | Photovoltaic |
| QSA | Quantification Settlement Agreement |
| Reclamation | United States Bureau of Reclamation |
| RCRA | Resource Conservation and Recovery Act |
| ROW | right-of-way |
| RPS | Renewables Portfolio Standard |
| RTP/SCS | Regional Transportation Plan/Sustainable Communities Strategy |
| RWQCB | Regional Water Quality Control Board |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| SDCWA | San Diego County Water Authority |
| SHPO | State Historic Preservation Officer |
| SIP | State Implementation Plan |
| SO ₂ | sulfur dioxide |
| SPCCC | spill prevention control and countermeasures |
| SR-98 | State Route 98 |
| SSAB | Salton Sea Air Basin |
| SSC | California species of special concern |
| SSU | shovel scrape unit |
| STP | shotel test pit |
| SWRCB | State Water Resources Control Board |
| SWP | State Water Project |
| SWPPP | Storm Water Pollution Prevention Plan |
| TAC | toxic air contaminant |
| TCR | Tribal cultural resource |
| TMDLs | total maximum daily levels |
| UFC | Uniform Fire Code |
| U.S. | United States |
| USACE | United States Army Corps of Engineers |
| USCB | United States Bureau of Labor Statistics |
| USFWS | United States Fish and Wildlife Service |
| VOC | volatile organic compound |
| VRI | visual resource inventory |
| VRM | visual resource management |
| WDR | Waste Discharge Requirement |
| WEAP | Worker Environmental Awareness Program |

EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

This chapter provides a summary of the draft environmental impact report (Draft EIR) for the proposed East Highline Reservoir and Intake Channel Project (Proposed Project or Project). Included in this summary are areas of known controversy and issues to be resolved, a summary of Project alternatives, a summary of all project impacts and associated mitigation measures, and a statement of the ultimate level of significance after mitigation is applied.

ES.1 DOCUMENT PURPOSE

This Draft EIR was prepared by the Imperial Irrigation District (IID), as the responsible agency for primarily carrying out the full Project. IID is acting as lead agency to inform decision makers and the public of the potential significant environmental effects associated with the Proposed Project. This EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 (California Public Resources Code, Section 21000 et seq.) and CEQA's implementing guidelines (CEQA Guidelines; 14 CCR 15000 et seq.) published by the Resources Agency of the State of California. CEQA Guidelines Section 15123 requires that the summary identify each significant impact, recommended mitigation measures, and alternatives that would reduce or avoid the project's significant impacts on the environment. The summary also is required to identify areas of controversy, including issues raised by public agencies and the public, and the issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant impacts of the Proposed Project. This Executive Summary provides the brief summary required by CEQA Guidelines Section 15123.

ES.2 PROJECT LOCATION

The Proposed Project is located in the southern region of Imperial County, California, east of Calexico and southeast of Holtville. The Project is specifically located on five parcels (Assessor's Parcel Numbers 055-250-020, 059-310-005, 055-310-007, 055-310-006, 059-310-006), cumulatively totaling approximately 556 acres. The All-American Canal (AAC) is located approximately 1.3 miles south of the Proposed Project site. The Project is located approximately 1.1 miles north of State Route 98 (SR-98), and 2 miles south of Interstate 8. To the east of the Proposed Project site, is open and vacant desert land with desert shrubbery and patches of ground cover owned by the United States Bureau of Land Management (BLM). Agricultural fields are to the northwest, west and south of the Project site, with the East Highline (EHL) Canal (owned and operated by IID) directly adjacent to the west of the Project site.

Land Use and Zoning

The Proposed Project site is primarily flat land zoned as A-2 (General Agriculture) and A-3 (Heavy Agriculture), with a small portion that crosses a parcel of federal lands withdrawn to the United

States Bureau of Reclamation (Reclamation). According to the Imperial County (County) General Plan Land Use Element, the Proposed Project site is designated as both Agriculture and Recreation/Open Space.

ES.3 PROJECT DESCRIPTION

ES.3.1 Project Background

IID is a limited-purpose public agency, formed under the laws of the State of California. IID holds rights to take water from the Colorado River and deliver it to its water service area within the County. IID's operational activities are associated with irrigation (i.e., the diversion, measurement, conveyance, and delivery of Colorado River water to customers within the IID water service area through its canal system), drainage (i.e., the collection, removal, measurement, and transport of drainage waters to the Salton Sea), hydroelectric power, and energy services. IID provides agricultural water to approximately 475,000 acres of some of the most intensively farmed land in the nation. IID delivers 97 percent of its water to agricultural operations.

To improve system efficiencies, IID currently uses 11 independent regulating reservoirs to level out the variability in water supply and demand. The Quantification Settlement Agreement (QSA) completed in 2003 enabled California to implement major Colorado River water conservation and transfer programs, stabilizing water supplies for 75 years and reducing the state's demand on the Colorado River to its 4.4 million acre-foot entitlement. The QSA includes water conservation/transfer and exchange projects among IID, including San Diego County Water Authority (SDCWA), Coachella Valley Water District (CVWD), and Metropolitan Water District of Southern California (MWD). The Proposed Project is a mechanism to increase water management efficiency and thus the water supply for the County, in accordance with the QSA.

ES.3.2 Project Summary

The Proposed Project includes a single cell reservoir facility (with a split cell design option), covering approximately 370 acres, within a 417-acre Project footprint, which would manage up to 3,400 acre-feet of water. The water managed in the proposed reservoir would then gravity flow into the EHL Canal, one of three main canals (all owned and operated by IID) that branch off the AAC, a facility owned by the United States Department of the Interior through Reclamation. The Proposed Project also includes an intake channel, which would branch off the north side of the AAC into a new proposed right-of-way (ROW), approximately 1.3 miles in length, to convey the operational water flows from the AAC through the open channel and to the proposed reservoir at a flow rate of up to 1,500 cubic feet per second (cfs). Stored water would be delivered through an automated gate outlet and structure with a gravity flow capacity of approximately 1,500 cubic feet per second for delivery into the EHL Canal. Two potential staging areas are anticipated in the northwest and northeast portions of the Proposed Project site within 35 acres of IID owned land.

ES.3.3 Proposed Project Objectives

The purpose of the Proposed Project is to augment IID’s current levels of operational flexibility while creating an additional tool to assist in meeting main-system and on-farm conservation program goals consistent with IID’s Water Conservation Plan. The Project is also consistent with the State of California’s water conservation objectives established under Executive Order B-37-16 and the Reclamation Reform Act. Objectives are as follows:

- The Project will increase delivery flexibility and provide conservation opportunities within the district to accommodate in-valley water demand. These efforts are consistent with the objectives set forth in IID’s 2016 Water Conservation Plan. Mid lateral and off line reservoirs are an integral part of the IID System Conservation Program.
- The Project will help support IID’s 12-Hour Delivery Program via maximized operational storage capacity and flexibility, enabling farmers to match crop water requirements and conserve water. The reservoir will help balance supply-demand mismatches due in part to conveyance travel time, peak demands, unavailable storage, and rain events.
- The Project will provide consistency with the 2018 California Water Plan goals: Goal 2-Strengthen Resiliency and Operational Flexibility of Existing and Future Infrastructure; Goal 4-Empower California’s Under-Represented and Vulnerable Communities; and, Goal 6-Support Real-time Decision-making, Adaptive Management, and Long-term Planning.
- The Project will be in support of the Reclamation Reform Act of 1982 to “. . . encourage . . . consideration and incorporation of prudent and responsible water conservation measures . . .by . . . recipients of irrigation, municipal and industrial water . . .”

The specific project design objectives are described below.

- Optimal reservoir placement that will benefit the greatest number of downstream IID water users and on-farm water conservation efforts.
- Utilize a route with the most beneficial hydrologic conditions to accommodate gravity flow (i.e., avoiding/minimizing pumping).
- Minimize the length of the intake channel from AAC and the outflow channel to EHL Canal.
- Minimize displacement of existing IID and farming infrastructure.

ES.3.4 Required Permits and/or Approval

Implementation of the Proposed Project would require discretionary approvals by federal, state and local agencies, including but not limited to those shown in Table ES-1. Discretionary approvals would include certification of the Final EIR under CEQA, and approval and adoption of the Proposed Project by IID.

**Table ES-1
Project Approvals**

| Authorizing Jurisdiction or Agency | Action |
|---|--|
| U.S. Bureau of Reclamation | Issuance of a license |
| State Water Resources Control Board | Construction General Permit (NPDES/SWPPP) |
| California Department of Transportation | Approval of Encroachment Permit/Temporary Detour SR-86 |
| California Department of Fish and Wildlife | Approval of Section 1602 Streambed Alteration Agreement |
| California Regional Water Quality Control Board | Clean Water Act Section 402 Permit NPDES Certification |
| Imperial County Public Works Department | Road Abandonment of Holdridge Road Holdridge Road Realignment Design Approval |
| Imperial County Air Pollution Control District | Approval of Authority to construct and/or permits to operate; Approval of Dust Control Plan |

Notes: SWPPP= Storm Water Pollution Prevention Plan; NPDES = National Pollutant Discharge Elimination System

ES.4 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table ES-2 provides a summary of the impact analysis related to the Proposed Project, including potential significant environmental impacts expected to result from the Proposed Project pursuant to CEQA Guidelines Section 15123(b)(1). These impacts are applicable for the single cell reservoir design as well as for the split cell reservoir design option. For more detailed discussion, please see Chapter 4, Environmental Analysis, of this EIR. Table ES-2 also lists the applicable mitigation measures related to the identified significant impacts, as well as the level of significance after mitigation is identified. As stated in Chapter 2, Environmental Setting, of this Draft EIR, the Initial Study prepared and circulated with the Notice of Preparation (NOP) for public review on the Proposed Project concluded that the Proposed Project would not result in significant impacts to agricultural and forestry resources or mineral resources. As a result, these topics are not addressed in the EIR and not summarized in Table ES-2.

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|--|--|--|
| <i>Aesthetics</i> | | |
| Would the project have a substantial adverse effect on a scenic vista? | N/A | No Impact |
| Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | N/A | No Impact |
| Would the project substantially degrade the existing visual character or quality of the site and its surroundings? | N/A | Less than significant |
| Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | N/A | Less than significant |
| <i>Air Quality</i> | | |
| Would the project conflict with or obstruct implementation of the applicable air quality plan? | <p>MM-AQ-1: Discretionary Mitigation Measures for Fugitive PM₁₀ Control</p> <ol style="list-style-type: none"> 1. Water exposed soil with adequate frequency for continued moist soil. 2. Replace ground cover in disturbed areas as quickly as possible. 3. Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site. <p>MM-AQ-2: ICAPCD Standard Measures</p> <p>Pursuant to Imperial County's APCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII-Fugitive Dust Control Measures. These mitigation measures listed below shall be implemented prior to and during construction. The County Department of Public Works will verify implementation and compliance with these measures.</p> <p>ICAPCD Standard Measures for Fugitive Dust (PM₁₀) Control</p> <ul style="list-style-type: none"> • All disturbed areas, including Bulk Material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emissions by using water, | Less than significant |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|--|--|
| | <p>chemical stabilizers, dust suppressants, tarps or other suitable material such as vegetative ground cover.</p> <ul style="list-style-type: none"> • All on site and off site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering. • All unpaved traffic areas one (1) acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emission shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering. • The transport of Bulk Materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of Bulk Material. In addition, the cargo compartment of all Haul Trucks is to be cleaned and/or washed at delivery site after removal of Bulk Material. • All Track-Out or Carry-Out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an Urban area. • Movement of Bulk Material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers or by sheltering or enclosing the operation and transfer line. • The construction of any new Unpaved Road is prohibited within any area with a population of 500 or more unless the road meets the definition of a Temporary Unpaved Road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering. <p>ICAPCD Standard Measures for Construction Combustion Equipment</p> <ul style="list-style-type: none"> • Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum. • Limit, to the extent feasible, the hours of operation of heavy duty equipment and/or the amount of equipment in use. | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---|--|--|
| | <ul style="list-style-type: none"> • Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set). • Construction equipment operating onsite should be equipped with two to four degree engine timing retard or precombustion chamber engines. • Construction equipment used for the project should utilize EPA Tier 2 or better engine technology. • Keep vehicles well maintained to prevent leaks and minimize emissions, and encourage employees to do the same. <p>ICAPCD “Discretionary” Measures for Fugitive Dust (PM₁₀) Control</p> <ul style="list-style-type: none"> • Water exposed soil with adequate frequency for continued moist soil, including a minimum of three wettings per day during grading activities. • Replace ground cover in disturbed areas as quickly as possible. • Automatic sprinkler system installed on all soil piles. • Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. • Implement the trip reduction plan to achieve a 1.5 AVR for construction employees. • Implement a shuttle service to and from retail services and food establishments during lunch hours. <p>Enhanced Mitigation Measures for Construction Equipment</p> <ul style="list-style-type: none"> • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways. • Implement activity management (e.g. rescheduling activities to reduce short-term impacts). | |
| Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation? | MM-AQ-1 and MM-AQ-2 (see above) | Less than significant |
| Would the project result in a cumulatively considerable new increase of any criteria pollutant for which the project region is non- | MM-AQ-1 and MM-AQ-2 (see above) | Less than significant |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|--|---|--|
| attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative threshold emissions which exceed quantitative thresholds for ozone precursors)? | | |
| <i>Biological Resources</i> | | |
| Would the project 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 Game (CDFG) or U.S. Fish and Wildlife Service (USFWS)? | <p>MM-BIO-1: General Avoidance and Minimization Measures</p> <p>The following avoidance and minimization measures shall be implemented during project construction and operations and maintenance.</p> <p>Work Hours</p> <ul style="list-style-type: none"> Construction and operations and maintenance activities within 50 feet of the outside edge of the construction zone or work area containing habitat for special-status wildlife will be prohibited between sunset and sunrise, and all construction-related or maintenance-related lighting will be turned off during that period, with the exception of lighting for maintenance during operations and maintenance and emergencies (defined as an imminent threat to life or significant property) activities. If necessary, lighting for maintenance during operations and maintenance and emergencies within 50 feet of habitat for special-status wildlife will be directed away from natural areas. <p>Debris/Non-native Vegetation/Pollution</p> <ul style="list-style-type: none"> Fully covered trash receptacles that are animal-proof will be installed and used during construction to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles will be removed at least once a week from the Proposed Project site. No litter, construction materials, or debris will be discharged into state-jurisdictional waters. Construction work and operations and maintenance areas shall be kept clean of debris, trash, and construction materials. <p>Vehicle and Equipment Restrictions and Maintenance</p> | Less than significant |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|---|--|
| | <ul style="list-style-type: none"> Night-time construction should be minimized to the extent possible. However, if night-time activity (e.g., equipment maintenance) is necessary, then the speed limit shall be 10 mph. Vehicle operation within state-jurisdictional waters when surface water is present will be prohibited. Any equipment or vehicles driven and/or operated within or adjacent to a state-jurisdictional channel will be checked and maintained by the operator daily to prevent leaks of oil or other petroleum products that could be deleterious to aquatic life if introduced to the watercourse. During construction, vehicles and equipment access will be limited to the identified impact areas, and ingress and egress will be limited to existing roads. During operations and maintenance, vehicles and equipment will be limited to maintenance access roads and the minimal area necessary to perform the work. Staging and storage areas for spoils, equipment, materials, fuels, lubricants, and solvents will be located outside the state-jurisdictional channels and within the designated impact area. Stationary equipment, such as motors, pumps, generators, compressors, and welders, located within or adjacent to state-jurisdictional waters shall be positioned over drip-pans or other containment. Prior to refueling and lubrication, vehicles and other equipment shall be moved away from the state-jurisdictional channels. <p>Other Restrictions on Activities and Personnel</p> <ul style="list-style-type: none"> No pets, such as cats or dogs, should be permitted on the Proposed Project site during construction or operations and maintenance. Any contractor, employee, or agency personnel who is responsible for inadvertently killing, injuring, or trapping a listed species shall immediately report the incident to the project biologist during construction and the operations manager during operations and maintenance. The project biologist or operations manager shall contact the USFWS (for federal Endangered Species Act species) and California Department of Fish and Wildlife (CDFW) (for California Endangered Species Act species) immediately in the case of a dead, injured, or entrapped listed species. The Sacramento USFWS Office and CDFW shall be notified in writing within 3 working days of the accidental death or injury to a listed species during | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|--|--|
| | <p>project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS office that covers Imperial County is located at 2177 Salk Avenue, Suite 250, Carlsbad, California 92008, 760.431.9440. The CDFW Inland Desert Region office is located at 3602 Inland Empire Boulevard, Suite C-220, Ontario, California 91764, 909.484.0167.</p> <ul style="list-style-type: none"> • To prevent inadvertent entrapment of special-status wildlife during construction, all excavated, wells, steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day, or be provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped wildlife. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape. • All pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site for one or more overnight periods shall be covered at all times or shall be thoroughly inspected for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the project biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by the project biologist. If a federally or state-listed species is discovered, that section of pipe shall not be moved until the USFWS and/or CDFW has been consulted. If necessary, under the direct supervision of the project biologist, the pipe may be moved once to remove it from the path of construction activity until the species has escaped. <p>MM-BIO-2: Environmental Awareness Training, Biological Monitoring, and Compliance</p> <p>Worker Environmental Awareness Program and Ongoing Training</p> <p>Prior to the initiation of any on-site grading, all construction/contractor personnel working on site must complete training through a Worker Environmental Awareness Program (WEAP). New construction workers engaged in construction</p> | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|--|--|
| | <p>activities (e.g., grading, utility installation, etc.) shall complete WEAP training within the first week of deployment on the site. Additionally, operational staff shall complete WEAP training prior to deployment on the site.</p> <p>The training shall include the following:</p> <ul style="list-style-type: none"> • Provide the training materials for WEAP training. These materials shall include the measures and mitigation requirements for protected plant and wildlife species (e.g., avoidance and buffer requirements, night-time construction limitations, etc.); and the location and mitigation requirements for waters of the state. WEAP training will also include driver training to avoid and minimize collision risks with protected species, and reporting protocols in the event that any dead or injured wildlife are discovered. • Copies of mitigation measures and permits from resource agencies, such as the CDFW and Regional Water Quality Control Board (RWQCB), will be made available. <p>Biological Monitoring and Compliance Documentation</p> <p>The project biologist shall perform the biological monitoring and compliance documentation for the project during construction, including the following:</p> <ul style="list-style-type: none"> • Prior to the initiation of any on-site grading, the project biologist will document that required pre-construction surveys and/or relocation efforts have been implemented. • The project biologist will periodically monitor activities during initial grading. • The project biologist will note any evidence of trash or microtrash and, if present, communicate the presence and requirement to remove the trash to the construction manager. <p>MM-BIO-3: Focused Surveys and Avoidance and Minimization Measures for Special-Status Plants</p> <p>Focused Surveys</p> <p>Focused surveys shall be conducted for spring-blooming special-status plant species the season prior to construction (e.g., April 2020). Focused surveys for</p> | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|---|--|
| | <p>special-status plant species shall be conducted by a qualified biologist according to: the CNPS Botanical Survey Guidelines (CNPS 2001); Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities (CDFG 2009); and USFWS General Rare Plant Survey Guidelines (Cypher 2002). The focused survey shall be conducted during a period when the target species would be observable and identifiable (e.g., blooming period for annuals). The target species list will include Wiggins' croton, slender cottonheads, and sand food that have a moderate potential to occur in the Proposed Project study area. If special-status plants are not observed during focused surveys, no additional mitigation is required.</p> <p>Avoidance, Minimization, and Mitigation Measures</p> <p>If a special-status plant species is detected, the full extent of the occurrence within the study area shall be recorded. The location of each special-status plant occurrence shall be mapped and number of individuals for each occurrence documented. If impacts to special-status plants cannot be avoided, the following measures will be implemented:</p> <ol style="list-style-type: none"> 1. Special-status plants in the vicinity of the disturbance will be temporarily fenced or prominently flagged and a 50-foot buffer established around the populations to prevent inadvertent encroachment by vehicles and equipment during the activity; 2. Seeds will be collected and stored in appropriate storage conditions (e.g., cool and dry), and dispersed/transplanted following the construction activity and reapplication of salvaged topsoil; and 3. The top 6 inches of topsoil will be salvaged, stockpiled, and replaced as soon as practicable after project completion. The salvaged topsoil shall be redistributed at the same depth and contoured to blend with surrounding grades. <p>Additionally, while it is not expected that a federally or state-listed plant would be observed during these surveys, the applicant shall consult with the applicable agency (i.e., CDFW and/or USFWS) and written concurrence for measures required for federally or state-listed plant species, if observed.</p> | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|---|--|
| | <p>MM-BIO-4: Restoration of Temporary Impacts to Riparian and Uplands with Non-invasive Species</p> <p>Site construction areas subjected to temporary ground disturbance grading and excavations, storage and staging areas, and temporary roads, shall be recontoured to natural grade (if the grade was modified during the temporary disturbance activity), and revegetated with an application of a native riparian or upland seed mix, if necessary, prior to or during seasonal rains to promote passive restoration of the area to pre-project conditions (except that no invasive plants will be restored). An area subjected to “temporary” disturbance means any area that is disturbed but will not be subjected to further disturbance as part of the project. This measure does not apply to situations that are urban/developed that are temporarily impacted and will be returned to an urban/developed land use. Prior to seeding temporary ground disturbance areas, the project biologist will review the seeding palette to ensure that no seeding of invasive plant species, as identified in the most recent version of the California Invasive Plant Inventory for the region, will occur.</p> <p>A revegetation plan shall be prepared and outline the specific revegetation, monitoring, and success criteria for these areas.</p> <p>MM-BIO-5: Dust Control Plan</p> <p>Prior to grading or construction activities, the project proponent shall submit the dust control plan to Imperial County Air Pollution Control District (ICAPCD) for review and approval, and shall provide the plan to Imperial County, to demonstrate compliance with ICAPCD Regulation VIII (Fugitive Dust Rules), Rules 800 through 806. The plan shall address construction-related dust as required by ICAPCD.</p> <p>MM-BIO-6: Flat-Tailed Horned Lizard (FTHL) Survey and Avoidance and Minimization Measures</p> | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|---|--|
| | <p>Focused surveys shall be conducted within the Proposed Project study area prior to start of ground-disturbing activities between April and September to determine the status of FTHL on site. The surveys shall be conducted in accordance to the FTHL Interim Survey Protocol in order to provide an assessment of FTHL presence or absence at a specific site. Surveys should be conducted between April and September when surface temperatures are between 95° F and 122° F (FTHL Working Group of Interagency Coordinating Committee 2003).</p> <p>If the FTHL is found during the 2020 survey, pre-construction surveys shall be conducted prior to ground-disturbing construction activities. Surveys and relocation (if needed) shall be conducted in accordance with the Fencing and Removal Survey Protocols (Appendix 7 of the FTHL Interagency Coordinating Committee 2003).</p> <p>To the extent feasible, methods to find FTHLs will be designed to achieve a maximal capture rate and will include, but not be limited to, using strip transects, tracking, and raking around shrubs. During construction, the minimum survey effort will be 30 minutes per 0.40 hectare (1 acre). Persons that handle flat-tailed horned lizards will first obtain all necessary permits and authorization from the CDFW. FTHL removal surveys also will include:</p> <ol style="list-style-type: none"> 1. Accurate records maintained by the biological monitor(s) for each relocated flat-tailed horned lizard including sex, snout-vent length, weight, air temperature, location, date, time of capture and release, a close-up photo of the lizard, and a photo of the habitat where it was first encountered. To the extent feasible, a sample of the lizard scat will be collected. A Horned Lizard Observation Data Sheet and a Project Reporting Form, from Appendix 8 of the FTHL Rangewide Management Strategy (FTHL Interagency Coordinating Committee 2003) will be completed. During construction, quarterly reports describing FTHL removal activity will be submitted to the IID and CDFW. 2. The removal of FTHLs out of harm's way, including those found on access or maintenance roads, will include their relocation to nearby suitable burrowing habitat away from Proposed Project components and roads. Relocated FTHLs will be placed in the shade of a large shrub in undisturbed | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|--|--|
| | <p>habitat. The Project Biologist or biological monitor will be allowed some judgment and discretion when relocating lizards to maximize survival of FTHL found on the Proposed Project site.</p> <p>MM-BIO-7: Burrowing Owl Surveys and Avoidance/Relocation.</p> <p>No less than 14 days prior to ground-disturbing activities (vegetation clearance, grading), a qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction take avoidance surveys on and within 200 meters (656 feet) of the construction zone to identify occupied breeding or wintering burrowing owl burrows. The take avoidance burrowing owl surveys shall be conducted in accordance with the Staff Report on Burrowing Owl Mitigation (2012 Staff Report; CDFG 2012) and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any burrows with fresh burrowing owl sign or presence of burrowing owls. As each burrow is investigated, biologists shall also look for signs of American badger and desert kit fox. Copies of the burrowing owl survey results shall be submitted to the CDFW.</p> <p>If burrowing owls are detected on site, no ground-disturbing activities shall be permitted within 200 meters (656 feet) of an occupied burrow during the breeding season (February 1 to August 31), unless otherwise authorized by CDFW. During the nonbreeding season (September 1 to January 31), ground-disturbing work can proceed near active burrows as long as the work occurs no closer than 50 meters (165 feet) from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with CDFW.</p> | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|---|--|
| | <p>If avoidance of active burrows is infeasible during the nonbreeding season, then, before breeding behavior is exhibited and after the burrow is confirmed empty by site surveillance and/or scoping, a qualified biologist shall implement a passive relocation program in accordance with Appendix E (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 CDFW Staff Report on Burrowing Owl Mitigation (CDFG 2012). Passive relocation consists of excluding burrowing owls from occupied burrows and providing suitable artificial burrows nearby for the excluded burrowing owls. A burrowing owl monitoring and mitigation plan will be prepared that outlines how passive relocation would occur and where the replacement burrows would be constructed. It would also outline the monitoring and maintenance requirements for the artificial burrows.</p> <p>MM-BIO-8: Nesting Bird Pre-construction Surveys and Avoidance Plan.</p> <p>This measure would protect these nesting special-status species and more common species protected under the Migratory Bird Treaty Act (MBTA), which prohibits the “take” of any migratory bird or any part, nest, or eggs of any such bird. The MBTA applies to over 800 species of birds, including rare and common species. Burrowing owl is addressed separately in a species-specific biological resource protection measure (MM-BIO-7).</p> <p>The project biologist shall conduct pre-construction surveys no earlier than 7 days prior to any on-site grading and construction activities within each construction area and a 500-foot buffer that occurs during the nesting/breeding season of special-status bird species potentially nesting on the site, with the exception of burrowing owl, which is addressed in MM-BIO-7. The pre-construction surveys shall be conducted between March and September, or as determined by the project biologist.</p> <p>The purpose of the pre-construction surveys will be to determine whether occupied nests are present in the construction zone or within 500 feet of the construction zone boundary.</p> | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|--|---|--|
| | <p>If occupied nests are found, then limits of construction to avoid occupied nests shall be established by the project biologist in the field with flagging, fencing, or other appropriate barriers (e.g., 250 feet around active passerine nests to 500 feet around active non-listed raptor nests), and construction personnel shall be instructed on the sensitivity of nest areas. The project biologist shall serve as a construction monitor during those periods when construction activities are to occur near active nest areas to avoid inadvertent impacts to these nests. The project biologist may adjust the 250-foot or 500-foot setback at his or her discretion depending on the species and the location of the nest (e.g., if the nest is well protected in an area buffered by dense vegetation). Once a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival, construction may proceed in the setback areas.</p> | |
| <p>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 Game or U.S. Fish and Wildlife Service.</p> | <p>MM-BIO-1, MM-BIO-2, MM-BIO-4 (see above).</p> <p>MM-BIO-9: To comply with the state regulations for impacts to “waters of the State,” the following agency permits are required, or verification that they are not required shall be obtained. The following permit and agreement shall be obtained, or provide evidence from the respective resource agency satisfactory to the director of Planning and Land Use that such an agreement or permit is not required:</p> <ol style="list-style-type: none"> 1. A Clean Water Act, Section 402 permit issued by the California RWQCB for all project-related disturbances of waters of the state and/or associated wetlands. 2. A Section 1602 Streambed Alteration Agreement issued by the CDFW for all project-related disturbances of any streambed. <p>MM-BIO-10: The IID will restore and enhance sensitive, riparian and wetland communities to mitigate for permanent impacts to 0.40 acres of arrow weed thickets and 0.08 acres of cattail marshes at a 1:1 mitigation ratio.</p> | <p>Less than significant</p> |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---|--|--|
| | A site-specific wetlands mitigation plan shall be prepared prior to disturbance activities. The wetlands mitigation plan shall include detailed information on installation, monitoring, success criteria, and monitoring of groundwater elevation within the mitigation area. | |
| <i>Cultural Resources</i> | | |
| Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? | <p>MM-CR-1: Cultural and Paleontological Resources Monitoring and Treatment Plan (CPRMTP)</p> <p>I. Prior to Start of Construction</p> <p>A. Preparation of CPRMTP</p> <ol style="list-style-type: none"> 1. Prior to the start of construction, the Principal Investigator (PI) archaeologist shall prepare a CPRMTP that specifies and describes: <ul style="list-style-type: none"> • the cultural resources Area of Potential Effect (APE) • roles and responsibilities • construction monitoring methods • Monitoring locations • reporting protocol • avoidance and protective measures for cultural resources • procedures for evaluating resource significance and/or data recovery for significant unanticipated discoveries that cannot be avoided • curation protocol • post construction requirements <p>MM-CR-2: Avoidance</p> <p>The following shall be implemented to protect known archaeological resources that have not been evaluated for significance or that have been evaluated as significant under Section 106 and CEQA:</p> <p>I. Prior to Start of Construction</p> <p>A. Identified cultural resources that have not been evaluated for significance or that have been evaluated as significant under Section 106 of the National Historic Preservation Act (NHPA) and CEQA, will be avoided through project design.</p> | Less than significant |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|--|--|
| | <ol style="list-style-type: none"> 1. Prior to the start of construction, the Principal Investigator (PI) archaeologist shall ensure that resource-specific avoidance measures are implemented to prevent unanticipated impacts. These measures may include exclusionary fencing, ESA signage, or other measures deemed appropriate and as specified in the Cultural and Paleontological Resources Monitoring and Treatment Plan. <p>MM-CR-3: Construction Monitoring</p> <p>The following shall be implemented to protect unknown archaeological resources and/or grave sites that may be identified during project construction phases.</p> <p>I. During Construction</p> <p>A. Monitoring of Grading/Excavation/Trenching</p> <ol style="list-style-type: none"> 1. The Archaeological Monitor shall be present full time during all soil disturbing and grading/excavation/trenching activities within 200 feet of previously identified and unevaluated cultural resources. 2. If cultural resources are encountered during the absence of an Archaeological Monitor, work shall stop within 200 feet of discovery until the PI can determine the significance of the discovery. 3. The Native American consultant/monitor shall determine the extent of their presence during soil disturbing and grading/excavation/trenching activities in consultation with the PI. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop until the PI can consult with the Native American monitor and determine the significance of the discovery. 4. The PI may suggest a modification to the monitoring program to IID when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present. 5. The Archaeological Monitor shall document field activity via the Daily Log. <p>B. Discovery Notification Process</p> <ol style="list-style-type: none"> 1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|--|--|
| | <p>not limited to digging, trenching, excavating or grading activities within 200 feet of the discovery and immediately notify the PI.</p> <ol style="list-style-type: none"> 2. If the PI determines that the resource is significant or requires further evaluation, the PI shall immediately notify IID by phone of the discovery, and shall also submit written documentation to IID within 24 hours by fax or email with photos of the resource in context, if possible. 3. If the resource is determined significant or requires further evaluation, the IID will notify Reclamation. 4. No soil shall be exported off site until a determination can be made regarding the significance of the resource. <p>C. Determination of Significance</p> <ol style="list-style-type: none"> 1. The PI and Native American consultant, where Native American resources are discovered, shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section II below. <ol style="list-style-type: none"> a. The PI shall immediately notify IID by phone to discuss significance determination and whether additional mitigation is required. b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) to IID and Reclamation. The ADRP and any mitigation must be approved by IID and Reclamation before ground-disturbing activities in the area of discovery will be allowed to resume. c. If the resource is not significant, the PI shall submit a letter or email to IID indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required. <p>II. Discovery of Human Remains</p> <p>If human remains are discovered, work shall halt in that area and no soil shall be exported off site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:</p> | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|--|--|
| | <ul style="list-style-type: none"> A. Notification <ul style="list-style-type: none"> 1. The Archaeological Monitor shall notify the PI immediately. 2. The PI will notify IID and Reclamation immediately by phone. 3. The PI shall notify the Medical Examiner after consultation with the IID. B. Isolate discovery site <ul style="list-style-type: none"> 1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains. 2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience. 3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin. C. If Human Remains ARE determined to be Native American <ul style="list-style-type: none"> 1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, ONLY the Medical Examiner can make this call. 2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendant (MLD) and provide contact information. 3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes. 4. The MLD will have 48 hours to make recommendations to IID and Reclamation, for the treatment or disposition with proper dignity, of the human remains and associated grave goods. 5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if: <ul style="list-style-type: none"> a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being notified by the Commission, OR; | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|---|--|
| | <ul style="list-style-type: none"> b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, THEN c. To protect these sites, the landowner shall do one or more of the following: <ul style="list-style-type: none"> (1) Record the site with the NAHC; (2) Record an open space or conservation easement; or (3) Record a document with the County. d. Upon the discovery of multiple Native American human remains during a ground-disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and items associated and buried with Native American human remains shall be reinterred with appropriate dignity. <p>D. If Human Remains are NOT Native American</p> <ul style="list-style-type: none"> 1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial. 2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98). 3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Archaeological Center for analysis. The decision for internment of the human remains shall be made in consultation with IID, Reclamation, any known descendant group, and the San Diego Archaeological Center. <p>III. Post Construction</p> <p>A. Submittal of Draft Monitoring Report</p> <ul style="list-style-type: none"> 1. The PI shall submit a Draft Monitoring Report which describes the results, analysis, and conclusions of all phases of the Archaeological | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|--|---|--|
| | <p>Monitoring Program to IID and Reclamation for review and approval following the completion of monitoring.</p> <p>a. Recording Sites with State of California Department of Parks and Recreation</p> <p>The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.</p> <p>B. Final Monitoring Report(s)</p> <p>1. The PI shall submit the approved Final Monitoring Report to IID and Reclamation.</p> | |
| Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <p>MM-CR-4: A literature review and paleontological field survey (as needed) will be conducted as part of site-specific CEQA review to identify potential impacts to rock units that may contain significant fossil remains (this report).</p> <ul style="list-style-type: none"> • Modify construction design, when feasible, to avoid impacts to all significant paleontological resources. • Construction monitoring by a qualified paleontologist may be recommended for locations within paleontologically sensitive sediments. If so, a Paleontological Monitoring Plan shall be prepared prior to ground disturbance in sensitive areas. • In the event of an unanticipated discovery during construction, all ground disturbance within 200 feet of the discovery will be halted or re-directed to other areas until the discovery has been recovered by a qualified paleontologist. • All paleontological resources recovered will be appropriately described, processed, and curated in a scientific institution such as a museum or university. | Less Than Significant |
| Would the project disturb any human remains, including those interred outside of dedicated cemeteries? | MM-CUL-3 (see above) | Less Than Significant |
| Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code | MM-CUL-3 (see above) | Less Than Significant |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---|--|--|
| <p>section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</p> <ul style="list-style-type: none"> a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe? | | |
| <i>Hazards and Hazardous Materials</i> | | |
| <p>Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</p> | <p>MM-HAZ-1: Due to past uses for agriculture, prior to grading activities, soil shall be sampled and analyzed for metals and residual pesticides. Sampling shall be conducted in accordance with California Department of Toxic Substances Control guidance documents. The soil testing will confirm the presence or absence of on-site contamination associated with past uses on the project site. Any soils qualifying as hazardous waste shall delineated, removed, and properly disposed of off site. Any soil that exceeds the California Human Health Screening Levels shall be either remediated on site to levels protective of human health or removed and properly disposed of off site. Should contaminants be identified, a qualified Reclamation Hazardous Materials Specialist for the project shall be retained to ensure appropriate remediation is conducted and completed in accordance to the regulations specific to the contaminants identified.</p> | <p>Less than significant</p> |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---------------------|--|--|
| | <p>MM-HAZ-2: A hazardous materials contingency plan shall be followed during demolition, excavation, and construction activities for the project. The hazardous materials contingency plan shall include, at a minimum, the following:</p> <ul style="list-style-type: none"> • Identification of known areas with hazardous waste and hazardous materials of concern • Procedures for temporary cessation of construction activity and evaluation of the level of environmental concern • Procedures for restricting access to the contaminated area except for properly trained personnel • Procedures for notification and reporting, including internal management and local agencies (e.g., Imperial County Fire Department, Imperial County Public Health Department), as needed • Health and safety measures for removal and excavation of contaminated soil • Procedures for characterizing and managing excavated soils • Procedures for certification of completion of remediation <p>Site workers shall be familiar with the hazardous materials contingency plan and should be fully trained on how to identify suspected contaminated soil.</p> <p>MM-HAZ-3: During construction, if aggregate aboveground oil/fuel storage capacity is greater than 1,320 gallons (or completely buried 42,000 gallons) and there is a reasonable expectation of an oil discharge into or upon navigable waters of the United States or adjoining shorelines, a spill prevention, control, and countermeasures (SPCC) plan pursuant to 40 CFR 112 (or, for small quantities, a spill prevention and response plan) shall be prepared and implemented during construction and, if applicable, during site operations. The SPCC plan (or spill prevention and response plan) shall identify best management practices for spill and release prevention and provide procedures for cleaning up and disposing of any spills or releases.</p> <p>MM-AQ-2: (see above)</p> | |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|--|---|--|
| <i>Hydrology and Water Quality</i> | | |
| Would the project violate any water quality standards or waste discharge requirements? | N/A | Less than significant |
| Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | N/A | No impact |
| Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | N/A | No impact |
| Would the project 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? | N/A | No impact |
| Would the project 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? | N/A | No impact |
| Would the project otherwise substantially degrade water quality? | N/A | Less than significant |
| Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance | N/A | No impact |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|--|---|---|
| Rate Map or other flood hazard delineation map? | | |
| Would the project 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? | N/A | No impact |
| Would the project result in inundation by seiche, tsunami, or mudflow? | N/A | No impact |
| <i>Land Use and Planning</i> | | |
| Would the project physically divide an established community? | N/A | No impact |
| Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | N/A | Less than significant |
| Would the project conflict with any applicable habitat conservation plan or natural community conservation plan? | N/A | Less than significant |
| <i>Noise</i> | | |
| Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | Project Design Feature-NOI-1: Noise-generating activities at the construction site or in areas adjacent to the construction site associated with the project in any way shall be restricted to the hours of 8:00 a.m. to 6:00 p.m. In addition, all construction activity shall comply with the following requirements: <ol style="list-style-type: none"> 1. Available noise suppression devices shall be used and loud construction equipment shall be properly maintained and muffled. 2. Unnecessary idling of equipment shall be avoided and construction equipment shall be staged as far as reasonable from residences. 3. Adjacent uses shall be notified of the construction schedule. | Less than significant |

Table ES-2
Summary of Environmental Impacts of the Proposed Project

| Environmental Topic | Mitigation Measures and Project Design Features | Level of Significance After Mitigation |
|---|--|--|
| | <ol style="list-style-type: none"> 4. A “noise disturbance coordinator” who would be responsible for responding to any local complaints about construction noise shall be designated. The disturbance coordinator would determine the cause of the noise complaints (e.g., starting too early, bad muffler) and would require that reasonable measures warranted to correct the problem be implemented. A telephone number for the disturbance coordinator shall be posted conspicuously at the construction site and included in the notice sent to neighbors regarding the construction schedule. 5. All noise-producing project equipment and vehicles using internal combustion engines shall be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment. 6. All mobile or fixed noise-producing equipment used on the project that are regulated for noise output by a local, state, or federal agency shall comply with such regulation while in the course of project activity. 7. Construction site and access road speed limits shall be established and enforced during the construction period. 8. The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. 9. Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners to contact the job superintendent if necessary. | |
| Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | N/A | Less than significant |
| Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | N/A | Less than significant |

Notes: ICAPCD = Imperial County Air Pollution Control District; AVR = average vehicle ridership; N/A = not applicable.

ES.5 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

Section 15123(b) (2) of the CEQA Guidelines requires that areas of controversy known to the lead agency be stated in the EIR summary. To determine the number, scope, and extent of the environmental topics to be addressed in this EIR, IID prepared an NOP and Initial Study and circulated the NOP and Initial Study to interested public agencies, organizations, and individuals in order to receive input on the Proposed Project. During the NOP comment period, which commenced on January 30, 2019, and closed March 1, 2019, four comment letters were received by IID. Comments and potential issues included that the proposed single cell reservoir meets the criteria for a dam in accordance with Section 6002 and 6003 of the California Water Code; Native American tribal consultation recommendations; the project's land use and applicable permits; details for maintenance driveways; and aesthetics and biological resources.

ES.6 SUMMARY OF PROJECT ALTERNATIVES

Section 15126.6 of the CEQA Guidelines identifies the parameters within which consideration and discussion of alternatives to the Project should occur. Alternatives are to include those that are reasonably feasible and would attain most of the basic objectives of the project. Alternatives should be capable of avoiding or substantially lessening any significant effects of the project. The rationale for selecting the alternatives to be evaluated and a discussion of the No Project Alternative are also required.

A reasonable range of alternatives were considered during the preliminary planning stages but rejected based on screening criteria used to evaluate alternatives during the early planning stages. Alternatives considered and rejected include a Multiple Smaller Reservoirs Alternative and the Single Reservoir Alternative Site Locations Alternative. Section 3.4.1 of this Draft EIR provides the rationale for excluding them from moving forward with further analysis in this EIR.

The EIR identifies three project alternatives developed during the conceptual planning phase of the Proposed Project for analysis. All three Alternatives, except for the No Project Alternative, would be able to accommodate the split cell design option within the respective alternative project footprint.

- **No Project Alternative.** This alternative is required by CEQA, and it compares the present existing condition of the Proposed Project site against the significant impacts that would result from implementation of the Proposed Project. Under this alternative, the existing agricultural would continue to be farmed, and similar to the surrounding agricultural uses, the site would continue receiving water supplies by diverting water from the EHL Canal and the AAC.
- **Reduced Size Reservoir Alternative.** Under this alternative, a 2,700 acre-foot reservoir, approximately 290 acres of agricultural land would be constructed. Compared to the

proposed 370-acre reservoir, the Reduced Size Reservoir would be approximately 70 acres smaller, with 700 acre-feet less water capacity.

- **Alternative Intake Route Alternative.** This alternative would entail the proposed reservoir in the same placement; however, the intake route to the AAC would be located farther east of where the proposed intake route is, through BLM land. This alternative would extend directly north from the AAC and roughly parallel the western boundary of the BLM lands, staying on the farmland, to the EHL Reservoir site as proposed at approximately the same connection location.

Table ES-3 provides a summary of the impacts of each alternative as it compares to the Proposed Project. The Reduced Size Reservoir Alternative would result in similar types of potentially significant impacts as the Proposed Project, although the impacts would be at a reduced severity due to the reduced size of this alternative. Additionally, the Reduced Size Reservoir Alternative would not fully meet the project objectives due, in part, to the reduced water capacity that would be provided under this alternative. The Alternative Intake Route Alternative would potentially increase the significance of impacts related to biological resources, cultural resources, land use and planning, and mineral resources.

The No Project Alternative, in comparison, would result in no potentially significant impacts. However, the No Project Alternative would not meet any of the project objectives. Of the other project alternatives, the Reduced Size Reservoir Alternative is the environmentally superior alternative because it would result in reduced impacts compared to the Proposed Project.

Table ES-3
Alternatives Matrix – Impacts Comparison

| Environmental Issue | Proposed Project | No Project Alternative | Reduced Size Reservoir Alternative | Alternative Intake Route Alternative |
|-------------------------------------|--|---------------------------------------|--|---|
| Aesthetics | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Increased severity compared to the project, less-than-significant impact |
| Agricultural and Forestry Resources | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Air Quality | Less than significant with incorporation of mitigation | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Less than Proposed Project, less-than-significant impact |
| Biological Resources | Less than significant with incorporation of mitigation | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Increased severity compared to the project, less-than-significant impact with mitigation incorporated |
| Cultural Resources | Less than significant with | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Increased severity compared to the project, |

Table ES-3
Alternatives Matrix – Impacts Comparison

| Environmental Issue | Proposed Project | No Project Alternative | Reduced Size Reservoir Alternative | Alternative Intake Route Alternative |
|---|--|---------------------------------------|---|---|
| | incorporation of mitigation | | | less-than-significant impact with mitigation incorporated |
| Energy | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Less than Proposed Project, less-than-significant impact |
| Geology and Soils | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Greenhouse Gases | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Less than Proposed Project, less-than-significant impact |
| Hazards and Hazardous Materials | Less than significant with incorporation of mitigation | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Less than Proposed Project, less-than-significant impact with mitigation incorporated |
| Hydrology and Water Quality | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Land Use and Planning | Less than significant | Less than Proposed Project, no impact | Similar impacts as Proposed Project, less-than-significant impact | Increased severity compared to the project, significant and unavoidable |
| Mineral Resources | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Noise | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Population and Housing | Less than significant | Less than Proposed Project, no impact | Similar impacts as Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Public Services | Less than significant | Less than Proposed Project, no impact | Similar impacts as Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Recreation | Less than significant | Less than Proposed Project, no impact | Similar impacts as Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Transportation/ Circulation | Less than significant | Less than Proposed Project, no impact | Similar impacts as Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Utilities and Service Systems | Less than significant | Less than Proposed Project, no impact | Similar impacts as Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Meets Most of the Basic Project Objectives? | Yes | No | Yes | Yes |

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CHAPTER 1 INTRODUCTION

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Appendix A NEPA Environmental Assessment

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CHAPTER 1 INTRODUCTION

This Draft EIR addresses the environmental impacts that could result from implementing the proposed East Highline Reservoir and Intake Channel Project (Proposed Project or Project). The Draft EIR was prepared in accordance with CEQA to inform the public and meet the needs of local, state, and federal permitting agencies.

The Imperial Irrigation District (IID) is acting as the state lead agency under CEQA, since IID is responsible for primarily carrying out the full Project. The lead agency has directed and supervised the preparation of this Draft EIR and has independently evaluated its information and findings. The County of Imperial (County) is the land use authority and would have to approve the abandonment of right-of-way (ROW) within the Project footprint and related discretionary permits. Reclamation is the federal agency that would have to approve a new ROW for the intake channel that crosses a parcel of Bureau of Land Management (BLM) lands withdrawn to Reclamation.

1.1 PROJECT LOCATION AND REGION OF INFLUENCE

The project's region of influence comprises the areas that would be affected by the Proposed Project. Based on the locations of the project components, the project's region of influence consists of the immediate area around the Proposed Project site, including farming activities in the Imperial Valley, BLM lands to the east, and the broader IID irrigation and drainage system. Figure 1-1, Project Location, identifies the project's region of influence, distinguishing the immediate from the broader regions. Figure 1-2, Vicinity Map, shows the five parcels of land on which the Proposed Project site is set. See Chapter 2, Environmental Setting, for more detail on the existing site conditions and surrounding land uses.

1.1.1 Lower Colorado River

The Lower Colorado River (LCR) covers over 202,000 square miles of the west with a focus on the lower 688 river miles of the Colorado River system from Lee's Ferry in northern Arizona to the border with the Republic of Mexico (Reclamation 2018). The Proposed Project would redirect a portion of IID's Colorado River water entitlement already channeled through the All-American Canal (AAC) to the Proposed Project site for temporary storage. Section 1.4, Other Proposed Projects Related to Resources Affected by the Proposed Project, provides an overview of the allocation of Colorado River water among water rights holders in California and the key LCR diversion facilities. The LCR is subject to compliance with the Clean Water Act (CWA), Colorado

River Basin Salinity Control Act, and the U.S. Environmental Protection Agency's (EPAs) Water Quality Standards for Salinity Control.

1.1.2 IID Water Service Area and All-American Canal

IID is a limited-purpose public agency, formed under the laws of the State of California. IID holds senior rights to divert water from the Colorado River and deliver it to farmers, tenants, and landowners in Imperial County. IID provides agricultural water to approximately 475,000 acres of some of the most intensively farmed land in the nation. IID does not have authority to approve or disapprove land use, water use, or crop selection by farmers. IID's operational activities are associated with irrigation, drainage, hydroelectric power, and energy services.

Irrigation

To deliver water to its service area, IID first diverts water from the Colorado River at Imperial Dam. This water is conveyed through the 82-mile AAC to three primary main canals. These primary canals (EHL, Central Main, and Westside Main) branch off the AAC as it moves across the southern portion of the Imperial Valley. The main canals supply water to numerous canals and laterals throughout IID's water service area. All canals and laterals are owned and operated by IID.

In total, IID operates and maintains a gravity flow water delivery system consisting of approximately 1,667 miles of main canals and lateral canals, including approximately 1,136 miles of concrete-lined canals, approximately 504 miles of unlined earthen canals and 27 miles of piped conveyance (IID 2019). To improve system efficiencies, IID currently uses 11 independent regulating reservoirs to level out the variability in water supply and demand. The supply of water must be ordered from Parker Dam one week in advance; the quantity is based on the estimated demand. Actual demand is affected by weather conditions.

In addition, lateral interceptor systems are in place to capture lateral operational discharge for reuse within the irrigation system, which conserves water and provides improved service to farmers. Each of these lateral interceptor systems discharges into one of the 11 aforementioned reservoirs. The captured discharge is used for water regulation and delivery purposes.

Drainage

IID's drainage operations include collection, conveyance, measurement, and discharge of drainage water through IID's main and lateral drain system to the New and Alamo Rivers and the Salton Sea. IID operates an extensive gravity flow agricultural drainage system consisting of 1,456 miles of earthen (1,334 miles), concrete lined (1 mile) and piped (121 miles) drains, 750 surface and subsurface drainage pumps, thousands of miles of subsurface drains (or tile drains) (which are

owned by Imperial Valley farmers), and associated collection pipelines and water recovery systems. As with the canal system, the drain system is composed of main and lateral drains.

1.2 BACKGROUND

This section provides the background and history of the Proposed Project, including an overview of the allocation of Colorado River water among water rights holders in California and the key LCR diversion facilities.

1.2.1 Colorado River

From its headwaters in the Rocky Mountains of Colorado, the Colorado River flows southwest for 1,470 miles to the Gulf of California in Mexico. It drains an area of approximately 242,000 square miles, and the river or its tributaries travel through parts of seven Colorado River Basin (Basin) states in the United States (U.S.). The Colorado River is also the international boundary between the U.S. and Mexico for approximately 17 miles between Arizona and Mexico. From the international boundary, it travels southward to form the boundary between the Mexican states of Baja California and Sonora before flowing into the Gulf of California.

The Upper Basin includes portions of Arizona, Colorado, New Mexico, Utah, and Wyoming; the Lower Basin consists of portions of Arizona, California, Nevada, and New Mexico. The dividing point between the Upper and Lower Basins, as defined in the Colorado River Compact of 1922, is at Lee's Ferry, Arizona, approximately 17 miles downstream of Glen Canyon Dam.

Two reservoirs—Lake Powell (behind Glen Canyon Dam) in the Upper Basin and Lake Mead (behind Hoover Dam) in the Lower Basin—have a combined active storage capacity of approximately 51 million acre-feet. Additional facilities on the Colorado River with relevance to California include the Davis, Parker, Headgate Rock, Palo Verde, Imperial, and Laguna Dams. Palo Verde Dam serves as the Colorado River diversion structure for irrigated agriculture in eastern Riverside County, California, and the Imperial Dam serves as the Colorado River diversion structure for the AAC in California, which supplies water to IID, CVWD, and the Gila Gravity Main Canal in Arizona (IID 2002).

1.2.2 Quantification Settlement Agreement

In 1999, the California Colorado River Water Use Plan was drafted to outline the state's proposed plan to maintain its use of Colorado River water at 4.4 million acre-feet per year. Key components of the plan were used as the framework for the Quantification Settlement Agreement (QSA) completed in 2003. The QSA enabled California to implement major Colorado River water conservation and transfer programs, stabilizing water supplies for 75 years and reducing the state's demand on the Colorado River to its 4.4 million acre-foot

entitlement. The QSA includes water conservation/transfer and exchange projects among IID, including the San Diego County Water Authority (SDCWA), CVWD, and MWD. The QSA provides part of the mechanism for California to reduce its water diversions from the Colorado River in normal years to its apportioned amount of 4.4 acre-feet per year under the California Plan. The implementation of the QSA, which includes water conservation and water transfers from agricultural use to principally urban use, would result in a net reduction of Colorado River diversions to California from its historic use. The water agencies that are affected by the implementation of the QSA are the participating agencies: CVWD, IID, MWD, State of California, SDCWA, and U.S. Department of the Interior (SDCWA 2018). As implemented through the QSA, the IID to SDCWA transfer would be limited to 200,000 acre-feet per year with an additional up to 100,000 acre-feet per year transferred to CVWD or MWD.

1.3 CEQA/NEPA DOCUMENTATION RELATED TO THE PROJECT

This section describes closely related water resources management actions and programs affecting the allocation and distribution of Colorado River water. These actions and programs have undergone environmental review. Actions and programs listed below may contribute to cumulative impacts in combination with those of the Proposed Project; these are further assessed in Chapter 6, Other CEQA Considerations.

1.3.1 Water Conservation and Transfer Project and Habitat Conservation Plan EIR

IID certified an EIR for the Water Conservation and Transfer Project and Habitat Conservation Plan in 2002, which evaluated the environmental impacts from water conservation measures and transfer transaction together. The Water Conservation and Transfer Project would conserve and transfer up to 300,000 acre-feet per year of Colorado River water, from the IID water service area, which IID is otherwise entitled to divert for use within IID's water service area in Imperial County. The conserved water would be transferred by IID to SDCWA, CVWD, and/or MWD. The IID Water Conservation and Transfer Project and Habitat Conservation Plan Final EIR was amended with the Amended and Restated Addendum to the EIR for the IID Water Conservation and Transfer Project and Habitat Conservation Plan approved in 2003. In 2008, IID prepared a Supplement to the Final EIR that provided additional environmental assessment required to implement the managed marsh complex required by permits and approvals for the Water Conservation and Transfer Project and Habitat Conservation Plan.

1.3.2 Program EIR for the Implementation of the Colorado River Quantification Settlement Agreement

The QSA authorizes a number of diverse programs and activities, including the Water Conservation and Transfer Project. IID, MWD, CVWD, and SDCWA are the co-lead agencies for

the preparation, in accordance with CEQA, of the QSA Program EIR (PEIR) (IID 2002). The QSA PEIR is a programmatic assessment of the environmental effects of implementation of the QSA by these California water agencies and provides an overall assessment of the multiple projects included in the QSA.

This Draft EIR will assess, at a project level, the effects of the Proposed Project that would conserve allocated LCR water and manage delivery thereof, within the IID water service area. Water conservation and water management is consistent with the goals and intent of both the Water Conservation and Transfer Project and Habitat Conservation Plan and the QSA. The Water Conservation and Transfer Project and Habitat Conservation Plan EIR evaluated project-level impacts of implementation regarding the effects of a change in the point of diversion on the Colorado River in order to transfer conserved water to SDCWA or MWD, and the effects of receipt and use of conserved water by SDCWA within the SDCWA Service Area. The effects of receipt and use by MWD within the MWD service area of conserved water transferred from IID to MWD were assessed at a programmatic level in the Water Conservation and Transfer Project and Habitat Conservation Plan EIR. A project-level assessment of MWD's receipt and use of transferred water is set forth in the QSA PEIR.

1.3.3 AAC Surface Water Seepage Recovery Project Draft MND

IID has a substantial seepage recovery program from main system laterals within the IID service area that are currently producing approximately 35,000 acre-feet of conserved water annually. IID began seepage recovery along the AAC in 1947, along the EHL Canal in 1967, and has been expanding these projects to meet QSA/Transfer Agreements obligations since 2009. There are 19 seepage recovery systems situated on the EHL Canal and three more currently in development. There is an additional seepage recovery pump located off the AAC and two others that are situated on the Westside Main Canal. IID has identified additional areas of seepage recovery opportunities that are emanating from the earthen sections of the AAC between Drop 3 and Drop 4. IID has proposed the development of up to nine shallow surface water seepage recovery wells to recover AAC water seeping from unlined portions of the canal. Based on the collected monitoring data and the modeling effort, there is the potential to conserve 30,000–35,000 acre-feet of additional seepage between Drop 3 and Drop 4. The AAC Surface Water Seepage Recovery Project would target recovery of those near surface seepage waters (with depths from 0 to approximately 180 feet) rather than groundwater (with depths of approximately 200 feet or greater). Water would be pumped up at the wells and conveyed northerly through pipelines to the existing drain which feeds back into the AAC. The primary goal would be to recover up to 22,000 net acre-feet annually of shallow subsurface seepage waters.

1.4 OTHER PROPOSED PROJECTS RELATED TO RESOURCES AFFECTED BY THE PROPOSED PROJECT

Lower Colorado River Multi-Species Conservation Program

The LCR Multi-Species Conservation Program (LCR MSCP) is a partnership of state, federal, tribal, and other public and private stakeholders with an interest in managing the water and related resources of the LCR Basin. The purposes of the LCR MSCP are as follows:

- Conserve habitat and work toward the recovery of covered species within the historic floodplain of the LCR, pursuant to the federal Endangered Species Act (ESA), and reduce the likelihood of additional species listings under the ESA.
- Accommodate current water diversions and power production and optimize opportunities for future water and power development, to the extent consistent with law.
- Provide the basis for federal ESA and California ESA compliance via incidental take authorizations resulting from the implementation of the first two purposes.

The LCR MSCP covers the mainstream of the LCR from below Glen Canyon Dam to the southerly international boundary with Mexico. Conservation measures focus on the LCR from Lake Mead to the international boundary. The comprehensive program is planned to be implemented over a 50-year period. It addresses future federal agency consultation needs under Section 7 of the federal ESA and non-federal agency needs for approval of incidental take authorization for endangered species under federal ESA Section 10. The LCR MSCP provides long-term federal ESA and California ESA compliance and incidental take authorization for a number of actions affecting the LCR. Reclamation is the implementing agency of the LCR MSCP. The actions covered by the LCR MSCP on a long-term basis include changes in the point of diversion of up to 1.574 acre-feet per year of Colorado River water.

1.5 PROJECT APPROVALS

This Draft EIR was prepared to meet environmental compliance requirements for federal, state and local agencies. IID is acting as the lead agency for CEQA compliance, and Reclamation is the lead agency for National Environmental Protection Act (NEPA) compliance. The lead agencies have directed and supervised the preparation of this Draft EIR and its associated Environmental Assessment (EA) (Appendix A), and have independently evaluated the respective information and findings. Although IID is the agency preparing the environmental documentation and responsible for construction, operation, and maintenance of the Proposed Action, Reclamation is considered the lead agency for NEPA because Reclamation has the authority to make permitting and project approvals.

This environmental process includes a public comment period, during which the public is asked to supply the lead agency with comments on this Draft EIR. During the public comment period, public meetings and/or hearings will be held so that the lead agency can receive the public's oral and written comments. Once the public comment period closes, the lead agency will consider and respond to the comments and produce a Final EIR. Each of the lead and/or responsible agencies described below will review the Final EIR prior to taking action on the project. The federal, state, and local permits and authorizations required for the project are further described below.

1.5.1 Federal

In order to implement the Proposed Project, the following federal agency permits and approvals are required:

- **Implementation Agreement for Construction and Operation.** Reclamation is requested to issue IID an Implementation Agreement (IA) to allow for construction and operation of an intake channel conveying water from the AAC to a proposed operational water storage reservoir and associated access facilities.
- **Federal Endangered Species Act Consultation.** Prior to issuing an IA, Reclamation will consult with the U.S. Fish and Wildlife Service (USFWS) to determine whether the Proposed Project could adversely affect threatened or endangered plants or wildlife.
- **National Historic Preservation Act Section 106 Consultation.** Prior to issuing an IA, Reclamation will consult with the California State Historic Preservation Officer (SHPO) to determine whether the Proposed Action could adversely affect cultural or historic resources.

1.5.2 State

To implement the Proposed Project, the following state agency permits and approvals are required:

- **Section 1602 Streambed Alteration Agreement.** At the time that construction is proposed, a Streambed Alteration Agreement would be requested from the California Department of Fish and Wildlife (CDFW), consistent with Section 1602 of the Fish and Game Code to authorize construction across the 0.4 acres of CDFW wetlands.
- **Section 402 NPDES Certification.** IID shall apply for a Clean Water Act 402 Permit issued by the California Regional Water Quality Control Board (RWQCB) for all project-related disturbances of waters of the state and/or associated wetlands.
- **Encroachment Permit.** The California Department of Transportation (Caltrans) is requested to issue an Encroachment Permit for intake channel crossing under State Route 98 (SR-98) and authorize a temporary detour of SR-98.

1.5.3 Local

To implement the Proposed Project, the following local agency permits and approvals are required:

- **Imperial County Air Pollution Control District Permit.** The Imperial County Air Pollution Control District (ICAPCD) is requested to issue approval of authority to construct and/or permits to operate and to issue approval of a Dust Control Plan.
- **Imperial County Vacation of Roadway.** The Imperial County Public Works Department (ICPWD) is requested to issue a ROW abandonment for a section of Holdridge Road which currently runs through the Proposed Project site.
- **Imperial County Design/Construction Permit for Roadway Realignment.** The ICPWD is requested to approve design, permit construction and accept new ROW associated with the realignment of Holdridge Road.

1.6 CONSULTATION AND COORDINATION

1.6.1 Agency Coordination and Consultation

IID coordinated with federal, state, and local agencies and Native American Tribes during preparation of this Draft EIR; potential concerns have been identified, addressed, and assessed. Ongoing coordination with identified agencies facilitated the environmental review and the approval and permitting process for the Proposed Project. As appropriate, consultation with agencies and Native American Tribes continues. The types of agencies included in the coordination and consultation activities are:

- Agencies and other interested parties that have jurisdiction over the Proposed Project by law.
- Agencies and other interested parties that have special expertise on the environmental issues that should be addressed in the Draft EIR.
- Agencies that are defined as Cooperating Agencies (40 CFR 1508.5) under NEPA or Responsible Agencies (40 CFR 15381) or Trustee Agencies (40 CFR 15386) under CEQA in relation to the Project.
- Federally recognized Native American Tribes whose interests may be affected by the Project.

The following lists the specific agencies that are considered Cooperating and Responsible Agencies for the purposes of this Draft EIR.

Cooperating Agencies

- U.S. Bureau of Reclamation (Reclamation)

Responsible Agencies

- County of Imperial (County)
- State Water Resources Control Board (SWRCB)
- Regional Water Quality Control Board (RWQCB)
- California Department of Transportation (Caltrans)
- California Department of Fish and Wildlife (CDFW)
- U.S. Fish and Wildlife Service (USFW)

1.6.2 Public Scoping

The scoping process for the Proposed Project was designed to solicit input on the issues related to the project description, the scope of the impact analysis, and the project alternatives to be assessed in the Draft EIR from (1) the public; (2) federal, state, and local agencies; and (3) other interested parties. The CEQA Notice of Preparation was published by the California State Clearinghouse January 30, 2019, and the scoping period lasted until March 1, 2019.

Four comment letters were received by the District.

- Steven Quinn, on behalf of the Native American Heritage Commission (NAHC), submitted a letter dated February 12, 2019, recommending consultation with California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the Proposed Project.
- The Imperial County Planning and Development Services Department submitted a letter dated February 28, 2019, regarding the project's land use, applicable permits, requesting a site plan detailing driveways for maintenance, concerns regarding aesthetics and biological resources.
- Chief Sharon Tapia, on behalf of the Department of Water Resources, Division of Safety of Dams, submitted a letter dated February 28, 2019, stating that the proposed single cell reservoir meets the criteria for a dam in accordance with Section 6002 and 6003 of the California Water Code.
- Melina Pereira, on behalf of the California Department of Transportation, District 11 Office, submitted a letter dated March 22, 2019, regarding discretionary review of any work performed within Caltrans ROW and recommended early coordination.

1.7 PROJECT SUMMARY

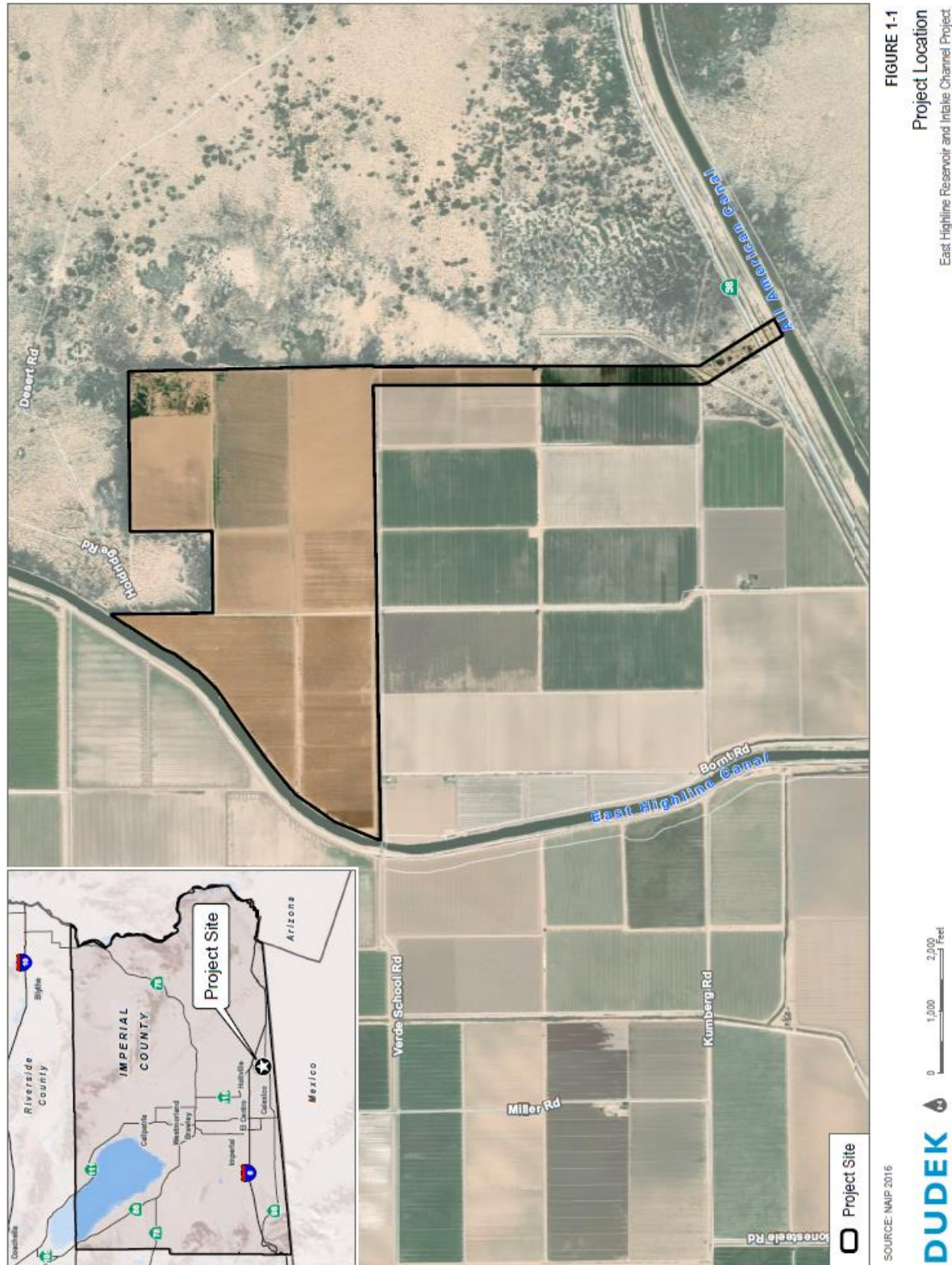
The potential effects of the Proposed Project are evaluated for the following resources in this Draft EIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise

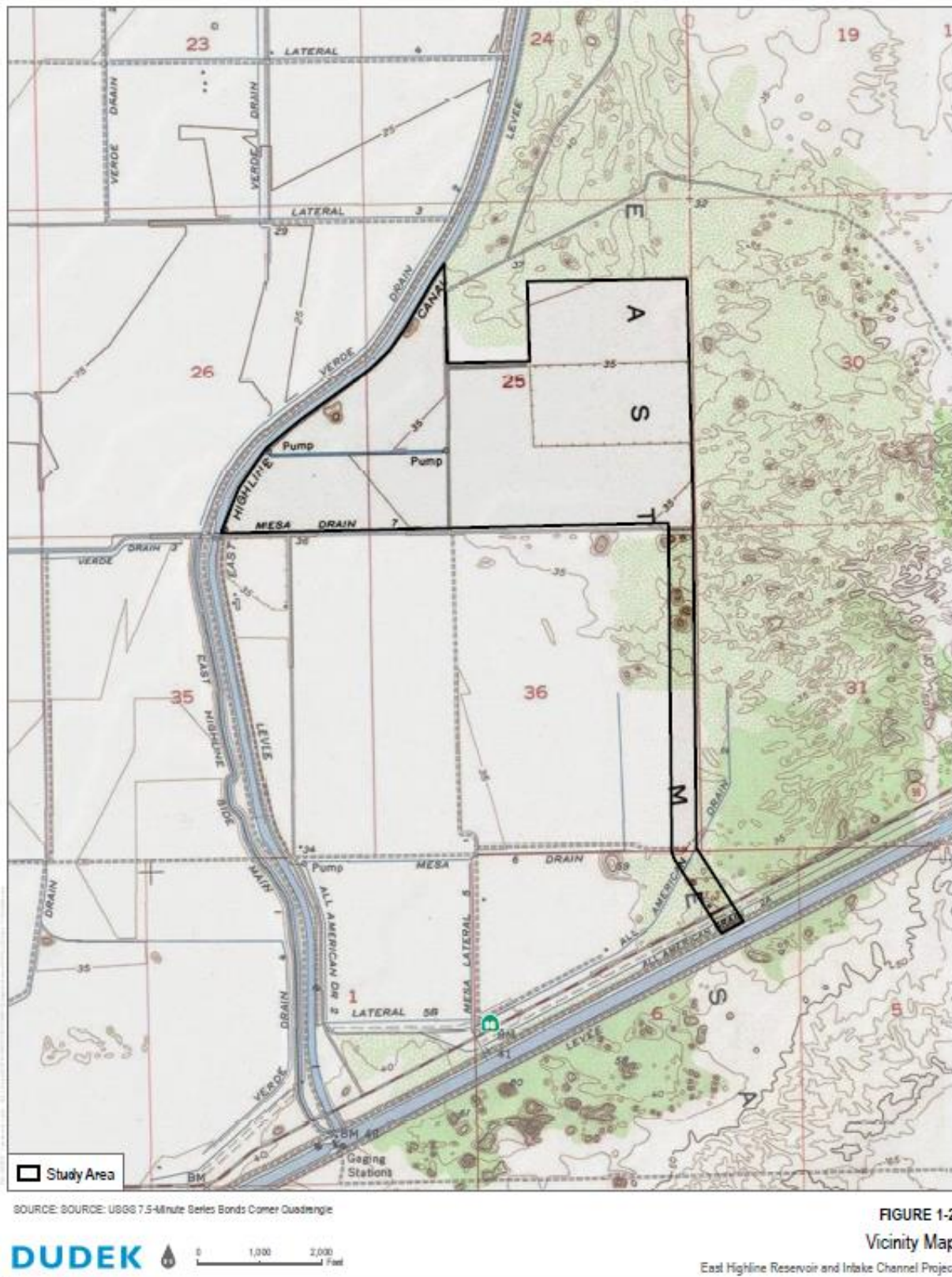
Refer to Table ES-2 for a summary, by resource area, of the potential effects for each component of the Proposed Project.

1.8 DRAFT EIR ORGANIZATION AND CONTENTS

The environmental setting, including the project's location, existing site conditions, and surrounding land uses is described in Chapter 2 of this EIR. The Proposed Project and the schedule for its implementation are described in detail in Chapter 3 of this EIR. The existing setting, environmental impacts of the Proposed Project, project alternatives, and mitigation measures for potentially significant effects are described in Chapters 4 and 5 for each resource considered. Other long-term CEQA considerations, including growth-inducing impacts, cumulative impacts, and significant irreversible environmental changes, are discussed in Chapter 6. Project alternatives, including alternatives eliminated from consideration and the No Project Alternative, are considered in Chapter 7. The remaining sections include references and a list of preparers.



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CHAPTER 2

ENVIRONMENTAL SETTING

In accordance with Section 15125 of the CEQA Guidelines (14 CCR 15000 et seq.), this chapter provides a description of the general environmental setting for the Proposed Project area, including existing site conditions and land uses and surrounding land uses at the time the notice of preparation was published. More detailed descriptions of the environmental setting for each environmental issue area are provided in the corresponding sections in Chapter 4, Environmental Analysis, of this Draft EIR.

2.1 LOCATION

The proposed reservoir site consists of a combined total of approximately 556 acres of primarily agricultural land located within Imperial County, approximately 8 miles southeast of Holtville, California, and approximately 11 miles east of Calexico, California (Figure 1-1, Project Location). The proposed reservoir site is located on five parcels (Assessor's Parcel Numbers 055-250-020, 059-310-005, 055-310-007, 055-310-006, and 059-310-006), cumulatively totaling approximately 556 acres (Figure 1-2, Vicinity Map). The AAC is located approximately 1.3 miles south of the proposed reservoir site. The proposed reservoir site is located approximately 1.1 miles north of SR-98 and 2 miles south of Interstate 8. To the northeast and east of the proposed reservoir site is open and vacant desert land with desert shrubbery and patches of groundcover owned by BLM. Agricultural fields are to the northwest, west, and south of the proposed reservoir site, with the EHL Canal directly adjacent to the west and a few scattered single-family dwellings and farming structures to the south and west. The proposed intake channel would run north–south, connecting the proposed reservoir to the AAC, crossing under SR-98. The Proposed Project site is primarily flat land zoned as A-2 (General Agriculture) and A-3 (Heavy Agriculture), with a small portion that crosses a parcel of federal lands withdrawn to the Reclamation.

The major arterial roads within the project vicinity are Bonds Corner Road, which runs north and south, and SR-98, which runs east and west. Access to the project site is provided via Verde School Road, a dirt road running east–west, and Holdridge Road, a dirt road running north–south. The nearest active airport is the Calexico International Airport, located 13.5 miles west of the Proposed Project site. The nearest residence is located approximately 150 feet south, across Verde School Road. The nearest school is Emmett S. Finley Elementary School, located approximately 7.5 miles northwest of the Proposed Project.

2.2 EXISTING SITE CONDITIONS

The Proposed Project site is southeast of the Salton Sea. The Proposed Project site is located within the Sonoran Desert, which is bounded on the west by the Peninsular Ranges and on the east by the Colorado River. The Proposed Project site is relatively flat and ranges from approximately 30 feet above mean sea level (amsl) at its western extent to 50 feet amsl near SR-98. The dominant topography of the Proposed Project site consists of flat fallow agriculture fields.

There are no current commercial or industrial operations conducted at the site. Utilities for the adjacent residence consist of overhead power, telephone, and cable lines. The Imperial Valley has historically been used for farming and water infrastructure since irrigation was brought to the area in 1901. The project site has historically been used for agriculture and is currently dominated by levelled agricultural land and linear earthworks; however, there is a section of unmodified desert land that would be bisected by the proposed intake channel.

2.2.1 Vegetation and Land Covers

The dominant topography of the Proposed Project site consists of flat fallow agriculture fields and disturbed areas (roads) irrigation canals, drains and small amounts of scrub habitat. Vegetation communities consists of arrow weed thickets, bush seepweed scrub, cattail marshes, creosote bush scrub, mesquite bosque/mesquite thicket, and tamarisk thickets; there are two land covers (disturbed habitat and open water). Descriptions of additional on-site physical features, such as biological, cultural, and water resources, are provided in Section 4.3, Biological Resources; Section 4.4, Cultural Resources; and Chapter 5, Effects Found Not to Be Significant, of this Draft EIR.

2.2.2 Hydrological Setting

The Proposed Project site is located within the Sonoran Desert, which is bounded on the west by the Peninsular Ranges and on the east by the Colorado River. The Proposed Project site is relatively flat and ranges from approximately 30 feet amsl at its western extent to 50 feet amsl near SR-98. The project is located within the Imperial Valley Planning Area, which comprises 2,500 square miles within the Colorado River Basin (RWQCB 2017). Surface flows from the Imperial Valley drain north towards the Salton Sea. The project is located within the Brawley Hydrologic Area. The Colorado River is the main feature found within the Colorado River Basin and is located approximately 40 miles east of the Proposed Project site. Water is diverted to the AAC at the Imperial Dam along the Colorado River. The 82-mile AAC runs along the south side of the Imperial Valley. The EHL Canal runs north and receives water from the AAC and distributes it to agricultural fields downstream. The AAC is the only source used for irrigation, industrial, and domestic purposes in the Imperial Valley (RWQCB 2017). The AAC also diverts water into the Coachella Canal located approximately 18 miles east of the Project site. Other major hydrologic

features of the region include the New and Alamo Rivers, which convey irrigation drainage from agricultural and surface runoff and wastewater from Imperial Valley.

Colorado River

Except for a small volume from Lower Colorado Water Supply Project pumping, Colorado River surface water is Imperial Valley's sole water resource. The Colorado River's unregulated flow is subject to great annual variation, and reservoirs have been constructed on the Colorado River to regulate this variability. Drought conditions have impacted the Colorado River watershed. At the beginning of water year 2018, total system storage in the Colorado River Basin was 32.9 million acre-feet (55% of 59.6 million acre-feet total system capacity). This is an increase of 2.7 million acre-feet over the total storage at the beginning of water year 2017, when total system storage was 30.2 million acre-feet (51% of capacity) (Reclamation 2018). Palo Verde Dam serves as the Colorado River diversion structure for irrigated agriculture in eastern Riverside County, California, and the Imperial Dam serves as the Colorado River diversion structure for the AAC in California, which supplies water to IID, CVWD, and the Gila Gravity Main Canal in Arizona and Mexico.

2.3 SURROUNDING LAND USES

The project site is primarily surrounded by agricultural farmland to the west and south. There is one residence located approximately 150 feet south of the project site, across Verde School Road, as shown on Figure 1-2. To the north and east of the project site, the undeveloped land with natural vegetation is maintained by BLM. Directly adjacent to the west of the project site is the EHL Canal, which is a large earthen canal that redirects water from the AAC to the south and directs the water north to agricultural fields throughout the eastern Imperial Valley. Approximately 1.2 miles south of the proposed reservoir site is the AAC, from which the proposed intake channel would divert water.

2.4 GENERAL PLAN DESIGNATION AND ZONING

The County's General Plan, adopted in 1993 and revised and adopted in 2015 by the Imperial County Board of Supervisors, is a comprehensive, long-term planning document that prescribes overall goals and policies for development in the County. The land use designation for the Proposed Project location is Agriculture (County of Imperial 2007). The County's Zoning Map has designated the Proposed Project location as A-2 (General Agricultural Zone) and A-3 (Heavy Agricultural). Both the A-2 and the A-3 zones permit agricultural accessory structures outright. The Proposed Project would be considered an accessory structure to IID's current irrigation and distribution system which contains similar accessory reservoir structures throughout which are designed for operational flexibility and increase IID's water delivery efficiency, of which 97 percent of its water goes to agricultural operations.

CHAPTER 3 PROJECT DESCRIPTION

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CHAPTER 3 PROJECT DESCRIPTION

3.1 INTRODUCTION

This chapter describes the objectives and alternatives of the East Highline Reservoir and Intake Channel Project and provides a detailed description of project characteristics as required by CEQA. This chapter also describes the discretionary actions required for the Proposed Project. Considering the Proposed Project is located partially under federal jurisdiction, the Proposed Project alternatives were developed in accordance with both NEPA and CEQA requirements for analysis of a reasonable range of alternatives (see Section 3.4, Alternatives). IID is acting as the state lead agency under CEQA, and Reclamation is the federal lead agency under NEPA. The lead agencies have directed and supervised the preparation of this Draft EIR, and the Environmental Assessment (EA) (Appendix A of this Draft EIR), and have independently evaluated its information and findings. Although IID is the agency preparing the environmental documentation and is responsible for construction, operation, and maintenance of the Proposed Action, Reclamation is considered the lead agency under NEPA because Reclamation is the federal agency with the authority to make permitting and project approvals.

This Draft EIR assesses the Proposed Project and alternatives to the Proposed Project as described below:

- No Project Alternative
- Reduced Size Reservoir Alternative
- Alternative Intake Route Alternative

The Proposed Project is discussed in detail in Section 3.2, Project Purpose and Objectives. The alternatives are discussed in Section 3.3, Proposed Project. Chapter 7, Alternatives, includes a discussion of the methodology used to screen alternatives and the rationale used to reject alternatives from further consideration and to identify the alternatives to be assessed in the EIR.

3.2 PROJECT PURPOSE AND OBJECTIVES

The underlying purpose for the Proposed Project is to facilitate in achieving state and regional water management and conservation goals. With these goals in mind, IID intends to augment current levels of operational flexibility while creating an additional tool to assist meeting main-system and on-farm conservation program goals. The Project is also consistent with the State of California's water conservation objectives established under Executive Order B-37-16 to use water more wisely, eliminate water waste, strengthen local drought resilience and improve agricultural water use efficiency. and The Proposed Project will assist the region in achieving the following objectives listed in the 2012 Imperial Integrated Regional Water Management Plan (IRWMP): (1) meet 100% of future

water demands without adverse impact to existing users that are not mitigated; (2) implement projects or programs that will provide a firm, verifiable, and sustainable supply of 50 to 100 thousand acre-feet per year for municipal, commercial, or industrial demands by 2025; and, (3) ensure equitable and appropriate cost sharing among water users who would receive benefits from any proposed water management project (Imperial Water Forum 2012). The Imperial IRWMP is part of the California Department of Water Resource's Integrated Regional Water Management Program, which was created to identify and implement water management solutions on a regional scale that increase regional self-reliance, reduce conflict, and manage water to concurrently achieve social, environmental, and economic objectives.

IID also has in place a comprehensive 2016 Water Conservation Plan, updated every five years, and actively implements Water Conservation Programs. Reservoirs are situated throughout IID's water distribution system as part of the ongoing Water Conservation Program. IID currently uses 11 independent regulating reservoirs to level out the variability in water supply and demand. The supply of water must be ordered from Parker Dam one week in advance; the quantity is based on the estimated demand. Actual demand is affected by weather conditions. In addition, three lateral interceptor systems are in place, with several more planned. These systems capture lateral operational discharge for reuse within the irrigation system. Each of the three lateral interceptor systems discharges to one of the 11 reservoirs. The captured discharge is used for water regulation, flexibility and delivery purposes. Like the regulating reservoirs, lateral interceptor systems conserve water and provide improved service to farmers. The Proposed Project would maximize operational flexibility and augment this existing system for a highly efficient water delivery system, while assisting the region and state in reaching the respectively adopted water conservation goals. In addition, the Proposed Project provides public benefit because it allows for improved management of Colorado River water within IID's distribution system to maximize water conservation and on-farm efficiency.

This section presents the objectives of the Proposed Project, in accordance with CEQA. Under CEQA, an EIR must include a "statement of objectives sought by the Proposed Project" (14 CCR 15124(b)). These objectives are used to establish the range of alternatives to be considered in the Draft EIR for the purposes of CEQA (14 CCR 15126(d)). For IID, the underlying objective of the Proposed Project is to augment current levels of operational flexibility while creating an additional tool to assist meeting main-system and on-farm conservation program goals. The specific objectives for IID are further described below:

- The Project will increase delivery flexibility and provide conservation opportunities within the district to accommodate in-valley water demand. These efforts are consistent with the objectives set forth in IID's 2016 Water Conservation Plan. Mid lateral and off line reservoirs are an integral part of the IID System Conservation Program.

- The Project will help support IID’s 12-Hour Delivery Program via maximized operational storage capacity and flexibility, enabling farmers to match crop water requirements and conserve water. The reservoir will help balance supply-demand mismatches due in part to conveyance travel time, peak demands, unavailable storage, and rain events.
- The Project will provide consistency with the 2018 California Water Plan goals: Goal 2-Strengthen Resiliency and Operational Flexibility of Existing and Future Infrastructure; Goal 4-Empower California’s Under-Represented and Vulnerable Communities; and, Goal 6-Support Real-time Decision-making, Adaptive Management, and Long-term Planning.
- The Project will be in support of the Reclamation Reform Act of 1982 to “. . . encourage . . . consideration and incorporation of prudent and responsible water conservation measures . . .by . . . recipients of irrigation, municipal and industrial water . . .”

The specific project design objectives are described below.

- Optimal reservoir placement that will benefit the greatest number of downstream IID water users and on-farm water conservation efforts.
- Utilize a route with the most beneficial hydrologic conditions to accommodate gravity flow (i.e., avoiding/minimizing pumping).
- Minimize the length of the intake channel from AAC and the outflow channel to EHL Canal.
- Minimize displacement of existing IID and farming infrastructure.

3.3 PROPOSED PROJECT

3.3.1 Location

The Proposed Project is located in the southern region of Imperial County, east of Calexico and southeast of Holtville (Figure 1-1, Project Location). The Proposed Project is located on five parcels (Assessor’s Parcel Numbers 055-250-020, 059-310-005, 055-310-007, 055-310-006, 059-310-006), cumulatively totaling approximately 573 acres (Figure 1-2, Vicinity Map). The Proposed Project is within the Bonds Corner Geological Survey 7.5-minute quadrangles, with latitude and longitude coordinates of 32°43’35”N and 115°16’52”W. The Proposed Project is located directly east of the EHL Canal and directly west of BLM land. The proposed reservoir site is located approximately 1.3 miles north of the AAC, approximately 1.1 miles north of SR-98, and approximately 2 miles south of Interstate 8. To the east of the Proposed Project site is open and vacant desert land with desert shrubbery and patches of groundcover owned by BLM. Agricultural fields are to the northwest, west, and south of the Proposed Project site, with the EHL Canal directly adjacent to the west of the Proposed Project site.

Land Use and Zoning

According to the Imperial County General Plan Land Use Element, the land use designations of the Proposed Project is Agriculture and Recreation/Open Space (County of Imperial 2015). Under the County of Imperial Land Use Ordinance, the Proposed Project site is primarily flat land zoned as A-2 (General Agriculture) and A-3 (Heavy Agriculture), with a small portion that crosses a parcel of federal lands withdrawn to Reclamation. The current land use is agricultural. The Proposed Project would be consistent with agricultural land uses. The A-2 zone permitted uses include agricultural accessory structure(s), buildings, and uses. The A-3 zone permitted uses include agricultural accessory structures, miscellaneous uses including water storage or groundwater recharge facilities, and water systems (County of Imperial 1998). The proposed reservoir would be an agricultural accessory structure to IID's current irrigation and distribution system which spans over 1,667 miles of canals, contains similar accessory reservoir structures throughout which are designed to enable increased operational flexibility. IID delivers 97 percent of its water to agricultural operations.

3.3.2 Project Summary

The Proposed Project consists of an agricultural single cell water reservoir (with a split cell design option), covering approximately 370 acres, within a 417-acre footprint, for the operational management of up to approximately 3,400 acre-feet of water. The reservoir would have concrete-lined inside embankments and a geo-membrane liner on the base floor and extending up under the embankment concrete. The maximum water depth of the reservoir would be approximately 11 feet and a maximum below grade depth of 5 feet. Water temporarily stored in the proposed reservoir would be delivered to serve downstream agricultural demands through an automated gate outlet with a maximum gravity flow capacity of approximately 1,500 cfs for delivery into the EHL Canal. Water managed by the proposed reservoir would be delivered to agricultural water users. IID does not provide treated water service.

Water would be gravitationally conveyed from the AAC to the proposed reservoir via an open intake channel within a new proposed right-of-way (approximately 1.3 miles in length) for the temporary storage of water. Water from the reservoir would be ultimately delivered through an automated gate outlet and structure into the EHL Canal which serves the eastern Imperial Valley. Approximately 36 acres of the proposed intake channel would be constructed on agricultural land and approximately 11 acres of the proposed channel would cross Reclamation federally managed lands, at the southern end of the proposed intake channel route off the AAC.

The proposed intake channel will run from the north side of the AAC within the proposed 300-foot width of new ROW. The right-of-way would include the channel, embankments on either side, 24-foot-wide operation and maintenance roads on either side (top of embankment), and respective setbacks on either side (70-foot setback on the east side and 30-foot setback on the west

side). The actual channel would have a bottom of approximately 20 feet with a total open channel width of approximately 70 feet (concrete edge to concrete edge) and a depth of 10 to 15 feet from the top of the embankments. The intake channel would convey water flows at a flow rate of up to 1,500 cubic feet per second (cfs). Impacts to the AAC include the cutting of the AAC bank to allow a direct connection to the open intake channel. The intake structure would alter approximately 150 feet of the AAC bank with a maximum AAC disturbance area width of 250 feet. The embankments of the proposed intake channel embankment would have a height of approximately 10 feet above existing grade.

If the split cell design option is selected, the design would require a dividing embankment that would split the single cell reservoir diagonally from the southeast corner to the northwest corner of the reservoir (within the same Project footprint) the addition of a separate fore- and after-bay, would also be required within each cell. There would be two additional sets of automated gates needed in the fore-bay which would be situated in the north and west embankments that would deliver water to each cell. The after-bay would be located in the northwest corner of the reservoir where discharge into the EHL Canal is proposed. The after-bay would allow either cell to discharge into the EHL Canal through it. Additional automated gates would be installed in the fore-bay and after-bay. The split cell design option would facilitate long-term operation and maintenance.

Two potential staging areas are anticipated in the northwest and northeast portions of the Proposed Project site, as indicated on Figure 3-1, Project Description within an estimated 35 acres owned by IID. The construction and use of the Proposed Project is primarily for agricultural purposes to have a large operational reservoir that will allow for the management of fluctuating downstream agricultural demands due to increases in requests for shorter 12-hour water deliveries or any reductions from the normal 24-hour water delivery period. The Proposed Project would also allow for water conservation by creating a more efficient canal system with this additional water management facility upstream of most of IID's water service area. The Proposed Project will be beneficial to the public as it allows for the improved management of Colorado River water deliveries to agricultural users within IID's distribution system to maximize water conservation opportunities, efforts which are consistent with the Reclamation Reform Act of 1982, California's 2018 California Water Plan Goals and IID's 2016 Water Conservation Plan.

Required Permits and/or Approval

Implementation of the Proposed Project would require discretionary approvals by state and local agencies, as shown in Table 3-1, Project Approvals. Discretionary approvals would include certification of the Final EIR under CEQA, and approval and adoption of the Proposed Project by the County.

Table 3-1
Project Approvals

| Authorizing Jurisdiction or Agency | Action |
|---|---|
| Bureau of Reclamation | Issuance of an Implementation Agreement |
| State Water Resources Control Board | Approval of NPDES Construction General Permit |
| California Department of Transportation | Approval of Encroachment Permit/Temporary Detour of SR-86 |
| California Department of Fish and Wildlife | Approval of Section 1602 Streambed Alteration Agreement |
| California Regional Water Quality Control Board | Clean Water Act Section 402 Permit NPDES Certification |
| County of Imperial Public Works Department | Road Abandonment of Holdridge Road Holdridge Road Realignment Design Approval |
| Imperial County Air Pollution Control District | Approval of Authority to construct and/or permits to operate; Approval of Dust Control Plan |

Note: SWPPP = Storm Water Pollution Prevention Plan; NPDES = National Pollutant Discharge Elimination System.

3.3.3 Project Components

The Proposed Project would involve two principal components 1) intake structure and conveyance channel, and 2) reservoir and outlet gate:

Intake Structure and Conveyance Channel: The proposed intake channel would be located along agricultural land, south of the proposed reservoir site, with the exception of approximately 11 acres that would cross federally owned lands, withdrawn to Reclamation, at the southern end of the proposed intake channel route off of the AAC. The proposed intake channel would consist of an open channel approximately 75 feet wide and 10 to 15 feet deep from the top of the embankments. The embankments of both the proposed reservoir and the proposed intake channel would have a height of approximately 10 feet above finish grade. The intake channel would be concrete lined for reinforcement. Impacts to the AAC include the cutting of the AAC bank to allow a direct connection to the open intake channel. The cut bank would alter approximately 250 feet of the AAC bank.

Regarding construction, temporary impacts may occur within a 300-foot buffer from the length of intake channel to allow for activities like vehicles passing, laydown, and staging. As such, the total area for construction disturbance for the intake canal would be 47 acres, with approximately 36 of these acres occurring on disturbed farmland. The intake structure and canal would entail excavating and concrete lining the intake canal following the alignment shown in Figure 3-1, Project Description. This would include going under SR-98 and under the AAC Drain 2A. Going under SR-98 and the AAC 2A would be achieved with a row of box culverts across the entire width of the intake channel that would be constructed via open cut, cast in place. An Encroachment Permit will be secured through the California Department of Transportation (Caltrans) as well as approval of temporary detour plans to accommodate construction of the conveyance channel across SR-98.

The proposed reservoir would have a flat floor, gradually sloped, to allow for gravity flow into the EHL Canal and utilize the natural terrain to promote a balanced and efficient use of on-site native materials. The proposed reservoir and proposed intake channel would be excavated to approximately 5 feet below grade.

Reservoir and Outlet Gate: The Proposed Project includes a single cell reservoir facility, covering approximately 370 acres, which would manage up to 3,400 acre-feet of water. The reservoir would have concrete lined inside embankments and a geo-membrane liner on the base floor. The maximum water depth of the reservoir would be approximately 11 feet and have a maximum below grade depth of 5 feet. The water managed in the proposed reservoir would then gravity flow into the EHL Canal, one of the three main canals that are owned and operated by IID and that branch off of the AAC. The AAC facility is owned by the U.S. Department of the Interior through Reclamation, and is operated by IID under contract with Reclamation. The AAC is the primary source of water for the Imperial Valley, IID's water service area.

Temporarily stored water would be delivered through automated outlet gates and structure upon downstream demand. The outlet gate and structure would have a gravity flow capacity of approximately 1,500 cfs for delivery into the EHL Canal. The automated outlet gate would use electricity via connection to existing electrical lines servicing the project site. See Table 3-2 for the list of equipment that would be used during construction of the reservoir. In addition, a driveway with controlled access and perimeter roadway around the reservoir would be constructed to allow for inspections and maintenance. Approximately 28,700 cubic yards of concrete would be used for construction of the reservoir, outlet and associated supports. Approximately 100 workers in total would be anticipated to undertake the described construction activities for the reservoir and outlet gate phase, which would be drawn from the local labor force.

Split Cell Design Option: The split cell design option includes the splitting the single cell reservoir by a separating embankment. If the split cell design option is selected, the design would require the addition of a separate fore- and after-bay, as well as the dividing embankment that would split the reservoir diagonally from the southeast corner to the northwest corner of the reservoir (within the same Project footprint, just slightly higher embankments). The fore-bay would be constructed just after the intake gates at the southeast corner of the reservoir and would be approximately 400' x 400' (3.7 acres in size). There would be two additional sets of automated gates needed in the fore-bay which would be situated in the north and west embankments that would deliver water to each cell with the same capacity of the intake channel of 1500 cfs. The after-bay would be located in the northwest corner of the reservoir where discharge into the EHL Canal is proposed. The after-bay would allow either cell to discharge into the EHL Canal through it. Additional automated gates would be installed in the fore-bay and after-bay.

Construction activities would take place over a series of phases that may overlap or run concurrently as noted in Table 3-2.

Table 3-2
Phasing and Equipment

| Phase Number | Phase Name | Months of Construction | List of Equipment* |
|--------------|-----------------------------|------------------------|--|
| Phase 1 | Reservoir | 15 | Pickups, Dozer, Large Excavator Backhoe, Dump Truck (40 ton wagons), Flat Bed Truck, Vibratory Compactor, Ready-mix Concrete Trucks, Shotcrete Pump, Concrete Curing Applicator, Water Truck, Caterpillar motor grader, Small Crane or Large Boom Truck, 25 kVA Portable Generator, Dewatering Pump System |
| Phase 2 | SR-98 Detour | 1 | Pickups, Caterpillar 633 Self-loading scraper, Dump Truck, Vibratory Compactor, Asphalt/Road Base Trucks, Asphalt Pavers, Smooth Drum Roller Compactor, Water Truck, Caterpillar motor grader |
| Phase 3 | Sedimentation Basin | 3 | Pickups, Dozer, Large Excavator Backhoe, Dump Truck (40 cy wagons), Gradall (Trimming), Ready-mix Concrete Trucks, Shotcrete Pump, Concrete Curing Applicator, Flat Bed Truck, Vibratory Compactor, Water Truck, Caterpillar motor grader, 25 kVA Portable Generator, Dewatering Pump System |
| Phase 4 | Canal and Measurement Flume | 3 | Pickups, Gradall (Trimming), Ready-mix Concrete Trucks, Shotcrete Pump, Concrete Curing Applicator, Flat Bed Truck, Vibratory Compactor, Caterpillar 633 Self-loading scraper, Small Boom Truck, Water Truck, Caterpillar motor grader, 25 kVA Portable Generator, Dewatering Pump System |
| Phase 5 | Canal Tie-Ins | 3 | Pickups, Large Excavator Backhoe, Dump Truck, Pile Driving, Vibratory Compactor, Gradall (Trimming), Ready-mix Concrete Trucks, Shotcrete Pump, Concrete Curing Applicator, Small Crane or Large Boom Truck, Water Truck, 15 kVA Portable Generator, Dewatering Pump System |
| Phase 6 | Structures | 3 | Pickups, Dozer, Large Excavator Backhoe, Dump Truck (40 cy wagons), Gradall (Trimming), Ready-mix Concrete Trucks, Shotcrete Pump, Concrete Curing Applicator, Flat Bed Truck, Vibratory Compactor, Water Truck, Caterpillar motor grader, 25 kVA Portable Generator, Dewatering Pump System |

*Not all equipment listed is used in all months of the identified construction phase.

The split cell option design would be constructed with the same type of materials, in the same manner as the single cell design described above. The split cell design option would require approximately 255,000 additional cubic yards of material to be handled and all of it would be generated from the Project site; no imported dirt would be required. An additional 7,500 linear feet of concrete lined embankment would be required for this option (up to an additional 12,700 CY of concrete). The size of the embankments would be the same as the Proposed Project at 10 feet above existing grade and have an outer slope extending approximately 40 feet in width on both sides.

The split cell design option design would facilitate long-term operation and maintenance. Sediment clean out would be able to occur in one cell while the other cell continues to operate and manage water deliveries, and vice versa. The split cell design option is not a preferred design

option as it would result in a substantial increase of construction costs. The split cell design option would be implemented to facilitate long-term maintenance of the facility or to comply with any permitting requirements.

3.3.4 Construction

Construction of the reservoir would take a total of approximately 15 months and would involve six principal phases, as previously introduced and described in more detail in the following paragraphs. Phase activities may overlap or run concurrently.

Reservoir (Phase 1): The construction of the reservoir is anticipated to occur over about a 15-month construction period. Construction of the reservoir will require a crew consisting of a maximum of 100 construction workers on site for any one day, over the duration of the construction period. The total area that will be excavated and graded is approximately 525 acres. The total volume of excavation is estimated to be about 2.4 million cubic yards. The temporary disposal/storage facility is north of and adjacent to the proposed reservoir. However, a material balance is expected at project end. The quantity of concrete lining for the reservoir would be approximately 11,500 cubic yards. A geo-membrane liner would be installed at the base of the reservoir and extend up under the concrete lining in the embankment. Table 3-2 presents the construction equipment that will likely be required at various times during the construction of the reservoir. Holdridge Road realignment would take place during this phase.

State Route 98 Detour Roadway (Phase 2): The SR-98 Detour Roadway would occur during the first month of construction. The detour plans would be coordinated through, and approved by, Caltrans as well as Reclamation for the small portion affecting federal withdrawn lands. The detour would be a temporary, while construction of the intake route intersects with SR-98. Table 3-2 presents the construction equipment that would likely be required at various times during the construction of the detour roadway.

Intake Channel and Sedimentation Basin (Phase 3): The construction of the sedimentation basin would be anticipated to occur over about a 3-month construction period. Construction of the sedimentation basin would require a crew consisting of a peak of 40 workers at one time over the duration of the construction period but average 15 workers. The total area that will be graded is approximately 10 acres. The total volume of excavation is estimated to be about 120,000 cubic yards. The temporary disposal/storage facility is proposed to be located north and adjacent to the reservoir. The quantity of concrete lining for the sedimentation basin would be approximately 3,000 cubic yards. Table 3-2 presents the construction equipment that would likely be required during the construction of the sedimentation basin. This phase would overlap with phase 4, Canal and Measurement Flume.

Intake Channel and Measurement Flume (Phase 4): The construction of the canal and measurement flume would be anticipated to occur over about a 3-month construction period. Construction of the canal and measurement flume would require a crew consisting of a peak of 20 workers at one time, over the duration of the 3-month construction period. The total area that will be graded is approximately 42 acres. The total volume of canal embankment is estimated to be about 225,000 cubic yards. The material will be hauled primary from the reservoir excavation for the construction of the canal embankment. The quantity of concrete lining would be approximately 4,000 cubic yards. Table 3-2 presents the construction equipment that would likely be required during the construction of the canal and measurement flume.

Canal Tie-Ins (Phase 5): The construction of the AAC Tie-In and EHL Canal Tie-In would occur over an approximately three-month period and would require a crew consisting of a maximum of 10 workers over the duration of the construction period, after the SR-98 Detour Roadway, and would overlap partially with the sedimentation basin (Phase 3) and the canal and measurement flume (Phase 4). Table 3-2 presents the construction equipment that would likely be required at various times during the construction of the tie-ins.

Structures (Phase 6): The construction of the SR-98 crossing, canal inlet structure, reservoir outlet structure, meter vault, and EHL Canal outfall structure would occur over an approximately 6-month period and would require a crew consisting of a maximum of 12 workers over the duration of the construction period. Table 3-2 presents the construction equipment that would likely during the construction of the structures.

3.3.5 Operation

The Project is not a manned facility. The Proposed Project would be accessible for ongoing maintenance from existing County dirt roads, Verde School Road, and Holdridge Road (existing and proposed realigned segment). These County roads are accessible via Bonds Corner Road and SR-98. Maintenance would be undertaken by IID in accordance with existing practices for inspections and repair. No on-site operations and maintenance facilities would be provided. Inspections would be made via crew trucks and using the existing roads infrastructure and the constructed access and maintenance roads for the intake channel and reservoir. The facilities are gravity flow and the outlet gate would be controlled by a remote operated automated mechanism. Should the split cell design option be implemented, the two additional sets of gates needed in the fore-bay would also be automated as would the gates needed in the after-bay.

3.4 ALTERNATIVES

3.4.1 Selection of Project Alternatives

Project alternatives were selected in accordance with both the CEQA Guidelines and NEPA requirements. A reasonable range of alternatives have been identified. The following provides a summary of the alternatives considered but rejected based on screening criteria used to evaluate alternatives and rationale for excluding those alternatives not taken forward for further study in this EIR.

Alternatives Considered But Rejected

Multiple Smaller Reservoirs

The Multiple Smaller Reservoirs Alternative would construct seven reservoirs on privately owned agricultural parcels. These reservoirs would be smaller in size, and each would be operated by the landowner of the land on which the reservoir is located. The Multiple Smaller Reservoirs Alternative was developed to provide an alternative to the Proposed Project that would benefit the local farmers and provide nearby farms with a plentiful, independent water supply. This alternative would not accomplish all the Project objectives and only provide a few local land owners with increased water delivery flexibility, thus leaving the remaining downstream water users with no additional benefit from an improved system efficiency. Overall, this alternative would not avoid any significant environmental effects, or accomplish the Proposed Project objectives and was eliminated from further consideration.

Single Reservoir Alternative Site Locations

IID considered 11 sites prior to determining the most appropriate site for the Proposed Project. However, 10 of these sites were eliminated as prospective sites due to one or more of the following reasons: the hydraulic conditions of the site are not adequate to be redeveloped as a reservoir and supporting infrastructure, the site is located on BLM Areas of Critical Environmental Concern (ACEC) land, or the site was considered financially infeasible. The 10 eliminated alternative site locations are listed below.

1. North of Anza Road, east of Bowker Road, and southwest of the AAC
2. North of the AAC, east of Claverie Road, south of Carr Road, and west of SR-7
3. North of the AAC, east of Hawk Road and south of SR-98
4. North of the Mexico Border, south of the AAC, approximately 1 mile southeast of Bonesteele Road
5. Southeast of Holdridge Road, approximately 0.25 miles north of SR-98

6. Northwest of Holdridge Road, approximately 0.15 miles southeast of the EHL Canal
7. Southwest of Holdridge Road, approximately 0.7 miles southeast of the EHL Canal
8. South of Desert Road, approximately 0.7 miles northeast of Verde School Road
9. North of SR-98, approximately 1.15 east of Holdridge Road
10. South of SR-98, approximately 4 miles northwest of the SR-98 and I-8 intersection

Alternatives Considered for Evaluation

The following are three alternatives to the Proposed Project that were considered and have been taken forward for evaluation under this EIR:

- No Project Alternative
- Reduced Size Reservoir Alternative
- Alternative Intake Route Alternative

Chapter 7 of this EIR compares each of the project alternatives, including the No Project Alternative, against the Proposed Project, and identifies the environmentally superior alternative.

3.4.2 Description of Alternatives

The following describes the alternatives to the Proposed Project that have been taken forward for evaluation in this EIR.

No Project Alternative

The No Project Alternative is the scenario under which the Proposed Project is not permitted, constructed, or implemented. The No Action Alternative provides a basis for comparison of the environmental consequences of the proposed action. It is defined as “existing environmental conditions” as well as what would reasonably be expected to occur in the foreseeable future if the Proposed Project were not approved, based on current plans and consistent with available infrastructure (14 CCR 15126.6(e)(2)).

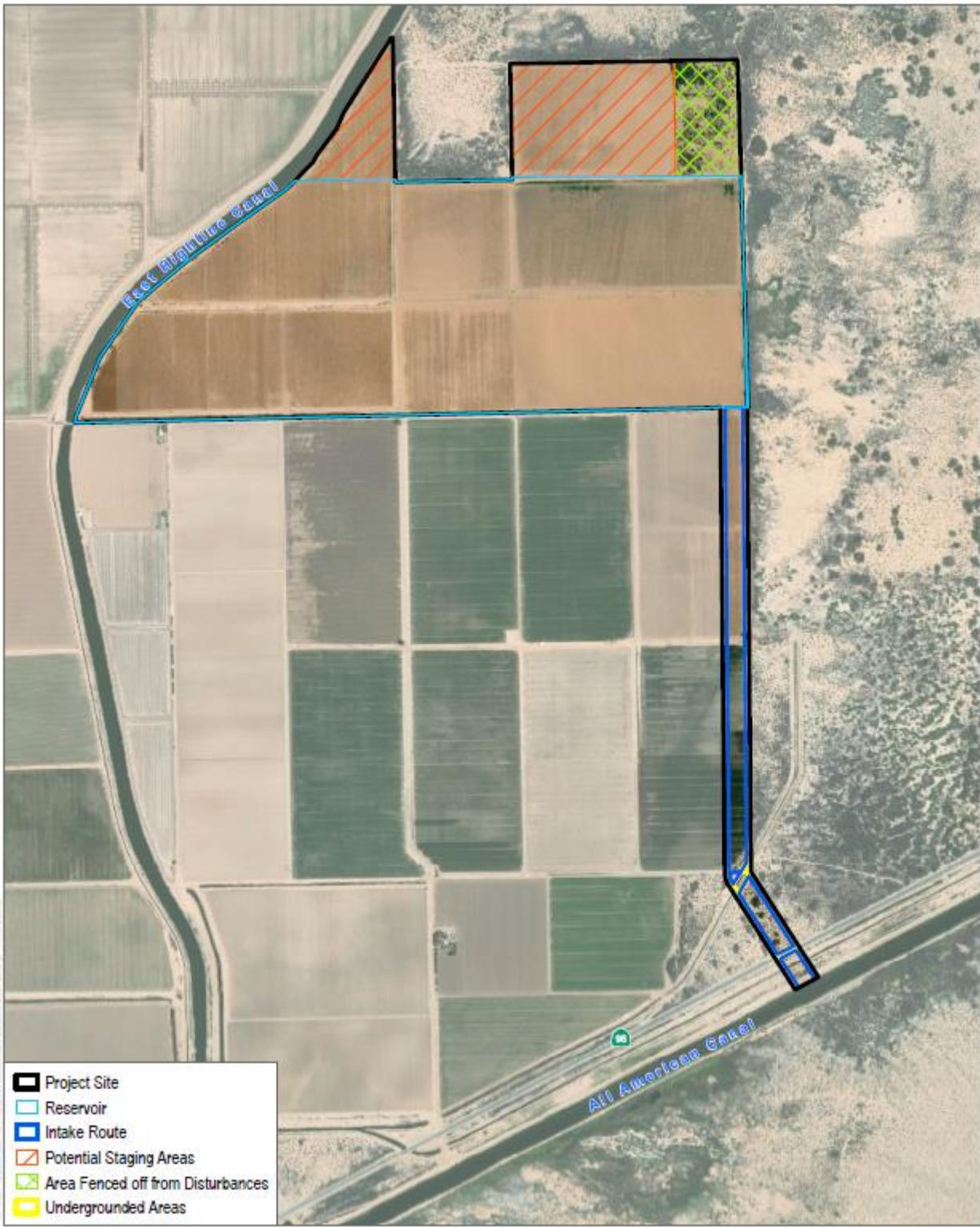
Reduced Size Reservoir Alternative

The Reduced Size Reservoir Alternative would manage up to approximately 2,700 acre-feet of water, over approximately 290 acres of agricultural land. Compared to the proposed 370-acre reservoir, the Reduced Size Reservoir would be approximately 80 acres smaller, with 700 acre-feet less water capacity (Figure 3-2, Reduced Size Reservoir Alternative). The Reduced Size Reservoir would lessen the acreage of agricultural land affected and lessen the potential for cultural, paleontological, biological, and tribal resources to be encountered.

Alternative Intake Route Alternative

This alternative would entail the proposed reservoir in the same placement; however, the intake route to the AAC would be located further east of where the proposed intake route is, through BLM land as shown on Figure 3-3, Alternative Intake Route Alternative. This alternative would extend directly north from the AAC and roughly parallel the western boundary of the BLM lands, staying on the farmland, to the EHL Reservoir site at approximately the same connection location (Figure 3-3).

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SOURCE: ID 2016

DUDEK



0 1,000 2,000 Feet

FIGURE 3-1

Project Description

East Highline Reservoir and Intake Channel Project

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FIGURE 3-2

Reduced Size Reservoir Alternative
East Highline Reservoir and Intake Channel Project

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CHAPTER 4

ENVIRONMENTAL IMPACT CONSIDERATIONS

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CHAPTER 4

ENVIRONMENTAL IMPACT CONSIDERATIONS

4.1 AESTHETICS

This section describes the impacts of the proposed East Highline Reservoir and Intake Channel Project (Proposed Project or Project) on aesthetics. Aesthetic resources include the visual character and quality of an area, consisting of both the landscape features and the social environment from which it is viewed. The landscape features may be natural (e.g., mountain views) or manmade.

4.1.1 Existing Conditions

The Project is located within Imperial County, California, southeast of the Salton Sea, west of the Imperial Sand Dunes and east of Calexico, as shown on Figure 1-1, Project Site, and Figure 1-2, Vicinity Map, in Chapter 1, Introduction. The Proposed Project is located approximately 2 miles north of the Mexican Border, and just north of SR-98. The Proposed Project site is located within the Sonoran Desert which is bounded on the west by the Peninsular Ranges and on the east by the Colorado River. The Proposed Project site is relatively flat and ranges from approximately 30 feet above mean sea level at its western extent to 50 feet near SR-98. The dominant topography of the Proposed Project site consists of flat fallow agriculture fields with no vegetation.

The existing site for the Proposed Project is bounded to the west by the EHL Canal, to the south by agricultural land and the AAC, and to the north and east by land managed by BLM, which is characterized by desert shrubbery and patches of groundcover. The proposed reservoir location is characterized by flat agricultural land in a rural, sparsely populated area of Imperial County (the County). The nearest residential structure is located approximately 150 feet south of the proposed reservoir footprint. Existing views of the Project site consist of agriculture and agriculture accessories, such as sprinklers and water/fertilizing trucks, dirt roads, irrigation channels, shrubbery, and utility lines. The north easternmost portion of the Project site is undeveloped agricultural land that contains sensitive vegetation communities.

The Project site is not within a designated scenic vista, and there are no officially designated state scenic highways exist within the project vicinity. The County General Plan Conservation and Open Space Element identifies the visual quality of the BLM land adjacent to the Proposed Project (to the east and northeast) to be Moderate to High Value (County of Imperial 2016). As discussed in the County General Plan, many of the natural scenic resources are located on land under BLM

jurisdiction. The County's Conservation and Open Space Element also acknowledges there are no designated scenic highways in Imperial County, but notes that four roadways are considered eligible by the County; however, none of these are close to or would afford views to the project site. The project site has no visual resources such as trees, rock outcroppings, or historic buildings. There are no scenic vistas within the viewshed of the various aspects of the Proposed Project, given the flat nature of the site.

4.1.2 Relevant Plans, Policies, and Ordinances

Federal

BLM Manual Section 8400 Visual Resource Management

While the BLM Manual is not directly applicable to the project site, adjacent lands are subject to BLM policies and their valuation of visual resources. BLM Manual Section 8400 Visual Resource Management (BLM 1984) sets forth the policy and direction for visual resource management (VRM), in which its objective "is to manage public lands in a manner which will protect the quality of the scenic (visual) values of these lands." This manual follows the Federal Land Policy and Management Act of 1976 (43 USC 1701), which requires BLM to protect the quality of scenic values on public lands.

Visual Resource Inventory

Described in BLM Manual H-8410-1 (BLM 1986a), the visual resource inventory (VRI) process establishes BLM's approach for determining visual values. The inventory is composed of a scenic quality evaluation, a sensitivity level analysis, and a delineation of distance zones. The scenic quality evaluation provides a rating of the visual or scenic appeal of differing areas in the inventory area, based on the scenic quality of visual elements, including vegetation, landform, water, color, adjacent scenery, scarcity, and cultural modification of the landscape. The sensitivity level documents the varying degrees of the public's concern for scenic quality. Distance zone delineation focuses on mapping the relative visibility of the landscape within the inventory area. Based on these factors, BLM-administered lands are placed into one of four VRI classes:

1. **VRI Class I** areas are assigned based on existing management direction rather than derived through inventory. BLM policy requires that VRI Class I be assigned to areas where a management decision that is independent of BLM's land use planning process and that is made by the President of the United States, the U.S. Congress, or the Secretary of the Interior directs the BLM to preserve or maintain a natural landscape. This includes areas such as wilderness areas, wilderness study areas, and other congressionally and administratively designated areas.

2. **VRI Classes II through IV** are derived through the inventory process. Based on observation and analysis, BLM-managed lands are given a score for the three inventory factors. VRI Classes II through IV represent the relative value of the visual resource, with Class II areas having the highest scenic value found through inventory and Class IV having lesser scenic value.

Visual Resource Management

BLM has developed a VRM analytical process that identifies, sets, and meets objectives for maintaining scenic values and visual quality. Once a VRI of BLM-managed public land is completed, the BLM assigns VRM classes that describe the allowable degrees of modification for the specific inventoried landscapes. VRM classes guide the use and development of the BLM-managed lands through maintenance of established visual resource objectives and goals. The VRM classes are as follows:

Class I: To preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II: To retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III: To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the landscape.

Class IV: To provide for management activities, which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of the activities through careful location, minimal disturbance, and repeating the basic elements of the landscape (BLM 1986a).

Visual Contrast Rating

BLM then performs a process called visual contrast rating, as described in Manual H-8431-1 (BLM 1986b), to assess the potential visual impacts of a Proposed Project and activity. The degree to which a project or activity impacts the visual quality of a landscape depends on the anticipated visual change to the landscape resulting from implementation of the project. Design elements of form, line, color, and texture are used to make existing and proposed comparison and help to describe the visual contrast created by a project. This visual contrast rating process provides an analytical tool used to determine visual impacts and identify appropriate mitigation measures for adverse contrast.

State

California Scenic Highway Program

Caltrans manages the State Scenic Highway Program, provides guidance, and assists local government agencies, community organizations, and citizens with the process to officially designate scenic highways. The State Scenic Highway System includes a list of highways that are eligible for designation as scenic highways or that have been officially designated. These highways are identified in Senate Bill 1467, Section 263 of the Streets and Highways Code. The purpose of this program is to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. Several public highways within the IID water service area have been selected as eligible for state scenic highway designation. An “eligible” state scenic highway is one that has been identified as scenic at the local level but for which a corridor protection program has not been prepared and that has not been approved/designated as an official state scenic highway by Caltrans. Views to the project site are offered intermittently from SR-98, approximately 1.1 miles south of the project site. However, SR-98 is not a designated or eligible scenic highway.

Local

Imperial County General Plan

The County General Plan’s Conservation and Open Space Element is an official conservation guide for decision makers. It describes resources that the County considers of high visual value for conservation and identifies segments of highways the County considers eligible as scenic.

4.1.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to aesthetics are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to aesthetics would occur if the project would:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
3. Substantially degrade the existing visual character or quality of the site and its surroundings.
4. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.4 Impacts Analysis

Would the project have a substantial adverse effect on a scenic vista?

No Impact. The Proposed Project is not located within any existing scenic vista. The County General Plan does not provide a definition for a scenic vista. It does however, describe what constitutes a natural scenic visual resource and addresses scenic value and scenic quality. For the purposes of this analysis, a scenic vista is described as scenic features that are listed, designated, or otherwise recognized by the County. The County General Plan's Conservation and Open Space Element (County of Imperial 2016) clearly establishes that the County considers natural resources as the highest scenic value and recognizes that many of these resources occur on BLM land. As described above, the County General Plan's Conservation and Open Space Element notes that BLM has assigned lands in the vicinity of the project as Moderate to High Value; however, none of those lands or identified scenic vistas would be impacted by the Proposed Project.

The project site is largely agricultural fields, which also exist to the south, northwest, and west, with the EHL Canal immediately adjacent to the proposed Project site, and a few scattered single-family dwellings to the south. To the east and northeast is BLM land, which consists of open, desert landscape. There are no scenic vistas within the viewshed of the various aspects of the Proposed Project. Given the flat nature of the Proposed Project site, the agricultural characteristics of the majority of the project site, and the modest disturbance of federal lands for the intake channel in an area with existing infrastructure present (SR-98, drainage canals and ditches, etc.), no impacts to scenic vistas would result from construction or operations of the Proposed Project.

Split Cell Option

The split cell design option would involve separating the single cell reservoir into two cells by a dividing embankment, within the same disturbance area as the single cell. Therefore, impacts to scenic vistas would be the same.

Would the project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. No officially designated state scenic highways exist within the Proposed Project vicinity. A portion of Interstate 8, which is approximately 2.3 miles north of the Proposed Project site, is considered a potential state-designated scenic highway. However, the eligible segment is located at the opposite end of the County, more than 40 miles west of the project site. As stated in the County General Plan's Circulation and Scenic Highway Element, the initial segment of Interstate 8 that is eligible for future scenic highway designation lies between the San Diego County line and its junction with SR-98 (County of Imperial 2008).

The Proposed Project site consists of agricultural fields with no visual resources such as trees, rock outcroppings, or historic buildings. Construction and operations of the project would not damage or degrade any scenic resources designated by the local jurisdiction. Therefore, the Proposed Project would not substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Split Cell Option

The split cell option design would involve separating the proposed single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area as the single cell. Therefore, impacts to scenic highways would be the same.

Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Less-Than-Significant Impact. The Proposed Project site is located on primarily flat agricultural land. The Proposed Project site is bounded to the west by the EHL Canal, which supplies the existing agricultural fields with water via a small canal running west through the middle of the proposed EHL Reservoir site. The EHL Canal connects to the AAC approximately 1.3 miles south of the proposed reservoir site, where there is a hydroelectric facility. Holdridge Road, a County dirt road, runs through the middle of the proposed reservoir site. The area to the west and south of the proposed reservoir and intake channel consists of similar uses, with agricultural fields, the canal system, and interspersed residential and farming structures. East and northeast of the Proposed Project site is land owned by BLM, characterized by desert shrubbery and patches of groundcover. The footprint of the proposed reservoir would be approximately 370 acres, with approximately 30 additional acres necessary for the proposed intake channel. The proposed reservoir would have a maximum water depth of 11 feet. Potential staging areas have been identified on the northern portions of the Proposed Project site, where construction equipment would be temporarily sited. With the nearest residential dwelling approximately 150 feet south of the proposed reservoir site and approximately 0.63 miles west of the

southwesternmost point of the intake channel, construction equipment would only be visible to this dwelling when construction occurs on the southern edge of the proposed reservoir site.

Approximately 1 mile of the proposed intake channel (covering approximately 36 acres) would cross farmland and 1/3 of a mile (covering approximately 11 acres) would cross federal lands withdrawn to the Reclamation. The proposed intake channel would consist of an open channel approximately 75 feet wide (extending from one top of concrete embankment to the other) and 10 to 15 feet deep from the top of the embankments to the channel bottom (channel bottom having a maximum below grade depth of 5 feet), and a 24-foot maintenance right-of-way for roads on either side. The embankments would reach up to 10 feet in height above the ground surface. Including the embankment slopes, maintenance roads, and potential seepage recovery drains, if necessary, the total permanent width for the proposed intake channel would be approximately 200 feet. The Proposed Project would retain a similar visual character as the surrounding uses and would not substantially degrade the existing visual character or quality of the Proposed Project site and its surroundings. With the EHL Canal directly to the east and the AAC directly south of the project site, the proposed reservoir and intake channel would not be out of the ordinary in the project vicinity. As such, the Proposed Project would retain a similar visual character as the surrounding uses and would not substantially degrade the existing visual character or quality of the site and its surroundings. Therefore, construction and operational impacts would be less than significant.

Split Cell Option

The split cell design option would involve separating the single cell into two cells, by a dividing embankment, within the same disturbance area as the single cell. While the berm heights would not deviate to a noticeable level even at the closest residence (approximately 150 feet away). Further, the type of facility would be the same and visual characteristics would remain similar to those in the area (agricultural infrastructure). Therefore, impacts to visual character or quality would be the same.

Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less-Than-Significant Impact. Operational and construction lighting would be used for safety and security purposes during nighttime hours. However, all lighting would be directed downward or at a narrow beam angle, to focus all light only on the desired area. The Proposed Project is located in a rural agricultural area in Imperial County. There are no residential dwellings within the Proposed Project site aside from the one single-family dwelling located approximately 150 feet south of the proposed reservoir site, and approximately 0.63 miles west of the southwesternmost point of the intake channel. The limited lighting during nighttime hours

would not be a substantial amount of light that would adversely affect the extremely small number of sensitive receptors in the area.

Under operating conditions, the Proposed Project includes a reservoir (370 acres) and intake channel (47 acres), which may generate glare, as the surface of the water would not be covered. Although the Proposed Project may create a new source of glare from the large body of water, potentially affecting daytime or nighttime views, project design would ensure that glare from the reservoir would not be directed toward any sensitive receptors because berms would be approximately 10 feet above the ground surface and water levels would be below the elevation of the top of the banks of the proposed reservoir and intake channel. Operational and construction lighting would be used for safety and security purposes. However, all lighting would be directed downward or at a narrow beam angle, to focus all light only on the desired area. As such, impacts would be less than significant.

- Split Cell Option

The split cell design option would involve separating the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area as the single cell. Therefore, impacts to light or glare would be the same.

4.1.5 Mitigation Measures

No mitigation measures are required.

4.1.6 Level of Significance After Mitigation

Impacts to aesthetics would be less than significant and no mitigation is required.

4.2 AIR QUALITY

This section describes the impacts of the proposed East Highline Reservoir and Intake Channel Project (Proposed Project or Project) on air quality and its contribution to regional air quality conditions. This section identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the Proposed Project.

4.2.1 Existing Conditions

The Project is located within the Imperial County (County) portion of the Salton Sea Air Basin (SSAB). The SSAB includes all of County and the central portion of Riverside County (Coachella Valley). The SSAB is a 4,284-square-mile area in the southwestern corner of California and is bounded by Riverside County to the north, Mexico to the south, Arizona to the east, and the Coyote and Fish Creek Mountains, which are part of San Diego County, to the west.

Climate

The Proposed Project is located in the Northern Sonoran Desert, which has a subtropical desert climate with hot, dry summers and mostly mild winters. Climatic conditions in the County are governed by the large-scale sinking and warming of air in the semi-permanent tropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks out most mid-latitude storms except in winter, when it is weakest and farthest south. The coastal mountains prevent the intrusion of any cool, damp air found in California coastal environs. Because of the barrier and weakened storms, the County experiences clear skies, extremely hot summers, mild winters, and little rainfall. The sun shines, on average, more in the County than anywhere else in the U.S.

The County is one of the hottest and driest parts of California, and is located in a region best described as a low latitude desert, characterized by hot, dry summers and relatively mild winters. Average annual precipitation is less than 3 inches. Daily average temperatures in the winter ranges between 65°F and 75°F. Summers are extremely hot with daily average temperatures ranging between 104°F and 115°F during the summer months.

The flat terrain of the valley and the strong temperature differentials created by intense solar heating produce moderate winds and deep thermal convection. The combination of subsiding air, protective mountains, and distance from the ocean all combine to severely limit precipitation. Rainfall is highly variable with precipitation from a single heavy storm able to exceed the entire annual total during a later drought condition. The average annual rainfall is just under 3 inches, with most of it occurring in late summer or mid-winter.

Humidity is low throughout the year, ranging from an average of 28% in summer to 52% in winter. The large daily oscillation of temperature produces a corresponding large variation in the relative humidity. Nocturnal humidity rises to 50% to 60%, but humidity drops to about 10% during the day.

Temperature Inversions

Under ideal meteorological conditions and irrespective of topography, pollutants emitted into the air mix and disperse into the upper atmosphere. However, the Southern California region frequently experiences temperature inversions in which pollutants are trapped and accumulate close to the ground. The inversion, a layer of warm, dry air overlaying cool, moist marine air, is a normal condition in coastal Southern California. The cool, damp, and hazy sea air capped by coastal clouds is heavier than the warm, clear air, which acts as a lid through which the cooler marine layer cannot rise. The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above mean sea level (amsl), the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet amsl, the terrain prevents the pollutants from entering the upper atmosphere, resulting in the pollutants settling in foothill communities. Below 1,200 feet amsl, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the daylight hours.

Mixing heights for inversions are lower in the summer and inversions are more persistent, being partly responsible for the high levels of ozone (O₃) observed during summer months in the SSAB. High ozone levels in Southern California are generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods, allowing them to form secondary pollutants by reacting in the presence of sunlight.

Wind within the County generally follows two patterns: prevailing winds are from the west–northwest through southwest, and a secondary flow maximum from the southeast is also evident. The prevailing winds from the west and northwest occur seasonally from fall through spring and are known to be from the Los Angeles area. Occasionally, the County experiences periods of extremely high wind speeds. Wind speeds can exceed 31 miles per hour; this occurs most frequently during the months of April and May, while wind speeds of 6.8 miles per hour account for more than 50% of the observed wind measurements.

The County is susceptible to air inversions. This traps a layer of stagnant air near the ground where pollutants are further concentrated. These inversions produce haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources. Elevated concentrations of particulate matter with an aerodynamic diameter less than or equal to 10 microns (coarse particulate matter, or PM₁₀) and particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (fine particulate matter,

or PM_{2.5}) can occur in the SSAB throughout the year, but occur most frequently in fall and winter. Although there are some changes in emissions by day of week and season, the observed variations in pollutant concentrations are primarily the result of seasonal differences in weather conditions.

4.2.2 Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards or criteria for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O₃, nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), PM₁₀, PM_{2.5}, and lead. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs.¹ In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O₃ is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O₃ precursors. These precursors are mainly oxides of nitrogen (NO_x) and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O₃ concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O₃ formation, and ideal conditions occur during late spring, summer, and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O₃ exists in the upper atmosphere ozone layer as well as at the Earth's surface in the troposphere.² The O₃ that the EPA and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O₃ is a harmful air pollutant that causes numerous adverse health effects and is thus considered “bad” O₃. Stratospheric, or “good,” O₃ occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O₃ layer, plant and animal life would be seriously harmed.

O₃ in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O₃ at levels typically observed in Southern California can result in breathing pattern

¹ The descriptions of each of the criteria air pollutants and associated health effects are based on the U.S. Environmental Protection Agency's (EPA's) “Criteria Air Pollutants” (2016) and CARB's “Glossary of Air Pollution Terms” (2016).

² The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide. NO₂ is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO₂ in the atmosphere is the oxidation of the primary air pollutant nitric oxide, which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O₃. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers. NO₂ can irritate the lungs and may potentially lower resistance to respiratory infections (EPA 2018).

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, automobile exhaust accounts for the majority of CO emissions, however, the Proposed Project would not be located in an urban area. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO₂ is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO₂ are coal and oil used in power plants and industries; as such, the highest levels of SO₂ are generally found near large industrial complexes. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels.

SO₂ is an irritant gas that affects the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO₂ can

injure lung tissue and reduce visibility and the level of sunlight. SO₂ can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{2.5} and PM₁₀ represent fractions of particulate matter. Coarse particulate matter (PM₁₀) consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter (PM_{2.5}) consists of particulate matter that is 2.5 microns or less in diameter and is roughly 1/28 the diameter of a human hair. PM_{2.5} results from fuel combustion (e.g., from motor vehicles, power generation, and industrial facilities), residential fireplaces, and woodstoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as sulfur oxides, NO_x, and VOCs.

PM_{2.5} and PM₁₀ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{2.5} and PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, chronic respiratory, or cardiovascular disease and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. Premature mortality has been linked to PM_{2.5} exposure even in otherwise healthy populations. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM₁₀ and PM_{2.5} (EPA 2009).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Before 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%.

With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO₂ in the atmosphere. Sulfates can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for PM_{2.5} described above.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O₃ are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O₃ and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered toxic air contaminants (TACs). There are no separate health standards for VOCs as a group.

Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure or increasing the risk of acute and/or chronic non-cancer health effects. In California, specific air toxics are designated as TACs through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. Federal laws use the term hazardous air pollutants to refer to the same types of compounds that are referred to as TACs under state law.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of PM_{2.5} (CARB 2016). DPM is typically composed of carbon particles (“soot,” also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2016). The CARB classified “particulate emissions from diesel-fueled engines” (i.e., DPM; 17 CCR 93000) as a TAC in August 1998.

DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). Because it is part of PM_{2.5}, DPM also contributes to the same non-cancer health effects as PM_{2.5} exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2016). Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Sensitive Receptors. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005a). The closest sensitive receptor to the Proposed Project is a single-family residence approximately 150 feet south of the Project site.

4.2.3 Relevant Plans, Policies, and Ordinances

Federal

U.S. Environmental Protection Agency

The principal air quality regulatory mechanism on the federal level is the Clean Air Act (CAA) and in particular, the 1990 amendments to the federal CAA and the National Ambient Air Quality Standards (NAAQS) that it establishes. The EPA also has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking. EPA's primary role at the state level is to oversee the state air quality programs. EPA sets federal vehicle and stationary source emission standards and oversees approval of all State Implementation Plans (SIPs), and also provides research and guidance in air pollution programs. The SIP is a state level document that identifies all air pollution control programs within California that are designed to meet the NAAQS.

State

California Air Resources Board

CARB is a department of the California Environmental Protection Agency, oversees air quality planning and control throughout California by administering the SIP. Its primary responsibility lies in ensuring implementation of the 1989 amendments to the California CAA, responding to the CAA requirements and regulating emissions from motor vehicles sold in California. It also sets fuel specifications to further reduce vehicular emissions. The amendments to the California CAA established the California Ambient Air Quality Standards (CAAQS) and a legal mandate to achieve these standards by the earliest practical date. These standards apply to the same criteria pollutants as the federal CAA and also include sulfate, visibility reducing particulates, hydrogen sulfide, and vinyl chloride. They are also more stringent than the federal standards.

The CARB is also responsible for regulations pertaining to TACs. The Air Toxics “Hot Spots” Information and Assessment Act (Assembly Bill 2588) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. Assembly Bill 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into the SSAB. Each air pollution control district ranks the data into high, intermediate, and low priority categories. When considering the ranking, the potency, toxicity, quantity, volume, and proximity of the facility to receptors are given consideration by an air district.

California Environmental Quality Act

The State of California has developed guidelines to address the significance of air quality impacts based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). In addition, Appendix G of the CEQA Guidelines indicates that where available, the significance criteria established by the applicable air district may be relied upon to determine whether the Proposed Project would have a significant impact on air quality.

Local

Regional Comprehensive Plan and Guide

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and addresses regional issues relating to transportation, the economy, community development, and the environment. SCAG is the federally designated metropolitan planning organization for the majority of the Southern California region and is the largest metropolitan planning organization in the nation. As the designated metropolitan planning organization, SCAG is mandated by the

federal government to develop and implement regional plans that address transportation, growth management, hazardous waste management, and air quality issues. With respect to air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide for the Imperial County region, which includes Growth Management and Regional Mobility chapters that form the basis for the land use and transportation components of the Air Quality Attainment Plan (AQAP) and are utilized in the preparation of air quality forecasts and the consistency analysis that is included in the AQAP.

Imperial County Air Pollution Control Management District

The Imperial County Air Pollution Control Management District (ICAPCD) has jurisdiction over air quality for the Project area. The ICAPCD has adopted an AQAP to establish a program of rules and regulations directed at attainment of the state and national air quality standards. Conformance with the AQAP for development projects is determined by demonstrating compliance with local land use plans. All development projects within the ICAPCD are required to comply with existing ICAPCD rules as they apply to each specific project.

The AQMP for the SSAB (CARB 2005b), through the implementation of the Imperial County Air Quality Attainment Plan for Ozone and the SIP for PM₁₀ in the Imperial Valley, sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards. The AQAP control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with the AQAP for development projects is determined by demonstrating compliance with local land use plans and/or population projections, meeting the land use designation set forth in the local General Plan, and comparing assumed emissions in the AQAP to proposed emissions.

Local provisions applicable to the Project site include ICAPCD Regulation VIII (fugitive dust). Reasonably Available Control Measures are required by Regulation VIII during construction and operation activities to help reduce the amount of particulate matter. Some examples of Reasonably Available Control Measures include the application of water or chemical soil stabilizers to disturbed soils, the reduction of construction vehicle speed, the covering of haul vehicles, and some form of approved Track-Out Prevention device at access points where unpaved surface adjoins paved surface. ICAPCD Rule 424 regulates the sale of architectural coatings and limits the VOC content in paints. While this rule does not apply directly to this Project, it does dictate the VOC content in paints and paint solvents that are available for use during construction.

The ICAPCD has also established significance thresholds in the 2007 ICAPCD CEQA Air Quality Handbook for the preparation of air quality impact assessments (ICAPCD 2007). The screening criteria within this handbook can be used to determine whether a project's total emissions would

result in a significant impact as defined by CEQA. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that the project's total air quality impacts are below the state and federal ambient air quality standards. Table 4.2-1 shows the screening thresholds for construction emissions.

Table 4.2-1
ICAPCD Air Quality Significance Thresholds

| Pollutant | Construction Criteria Pollutants Mass Daily Thresholds (Pounds per Day) |
|------------------|--|
| ROG | 75 |
| NO _x | 100 |
| CO | 550 |
| PM ₁₀ | 150 |

Source: ICAPCD 2007.

Notes: ICAPCD = Imperial County Air Pollution Control District; ROG = reactive organic gases; NO_x = oxides of nitrogen; CO = carbon monoxide; PM₁₀ = coarse particulate matter.

ICAPCD Rules

Emissions that would result from mobile, area, and stationary sources during construction and operation of the Proposed Project are subject to the rules and regulations of ICAPCD, which include:

1. **Rule 407 – Nuisances:**³ This rule forbids the emission of air contaminants or other materials that would cause a nuisance to the public, including non-agricultural related odors.
2. **Rule 800 – General Requirements for Control of Fine Particulate Matter (PM₁₀):**⁴ This rule requires actions to prevent, reduce, or mitigate PM₁₀ emissions from anthropogenic (human-made) fugitive dust (PM₁₀) sources generated from within Imperial County.
3. **Rule 801 – Construction and Earthmoving activities:**⁵ This rule establishes a 20% opacity limit and requires the implementation of a dust management control plan for all non-residential projects of 5 acres or more.
4. **Rule 802 – Bulk Materials:**⁶ This rule requires that no person shall cause, suffer, allow or engage in any bulk material handling operation including, but not limited to stacking, loading, unloading, conveying and reclaiming of bulk material, for industrial or commercial purposes without complying with one or more of the requirements of Section F.1 to limit visible dust emissions to a 20% opacity limit.

³ Rule 407 Nuisances: <https://www.arb.ca.gov/drdb/imp/curhtml/R407.HTM>.

⁴ Rule 800 General Requirements for Control of Fine Particulate Matter (PM₁₀): <https://www.arb.ca.gov/drdb/imp/curhtml/R800.PDF>.

⁵ Rule 801 Construction and Earthmoving activities: <https://www.arb.ca.gov/drdb/imp/curhtml/R801.PDF>.

⁶ Rule 802 Bulk Materials: <https://www.arb.ca.gov/drdb/imp/curhtml/R802.PDF>.

5. **Rule 803 – Carry-Out and Track-Out:**⁷ The purpose of this rule is to limit the amount of fine particulate matter (PM₁₀) generated by track-out or carry-out. This rule requires that any person who causes the deposition of bulk material by tracking out or carrying out onto a paved road surface shall comply with the requirements of Section F.1 to prevent or mitigate such deposition
6. **Rule 804 – Open Areas:**⁸ This rule requires actions to prevent, reduce or mitigate the amount of fine particulate matter (PM₁₀) result of emissions generated from open areas. Open areas are defined as any open area having 0.5 acres or more within urban areas, or 3.0 acres or more within rural areas, and that contains at least 1,000 square feet of disturbed surface area.
7. **Rule 805 – Paved and Unpaved Roads:**⁹ This rule requires that unpaved haul or access roads must comply with the requirements of Section F.1 to limit visible dust emissions to a 20% opacity limit.

These rules require owners and operators of construction sites to implement Best Available Control Measures to limit visible dust emissions to 20% and to prepare a Dust Control Plan. Dust Control Plans will contain information specified under Section F.2 of Rule 801 and will be submitted by IID, or its contractors, to the Air Pollution Control Officer for approval prior to initiation of construction activities.

Ozone Attainment Plans

2017 State Implementation Plan for the 2008 8-Hour Ozone Standard

The 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard, adopted by the ICAPCD Governing Board on September 12, 2017, sets forth measures and emission-reduction strategies designed to attain the federal 8-hour O₃ standard and maintain this status through the July 20, 2018 (ICAPCD 2017) attainment date, as well as an emissions inventory, outreach, and rate of progress demonstration. On May 4, 2016, the EPA issued a final rule declaring that 11 areas previously classified as marginal nonattainment had failed to attain the 2008 O₃ NAAQS by the applicable attainment date of July 20, 2015, and thus were reclassified as moderate nonattainment areas. Imperial County was identified as one of these areas, since the fourth highest daily maximum 8-hour average O₃ concentration for at least one of its ambient air quality monitors was greater than 0.075 parts per million for the 2012 through 2014 monitoring period. The 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard (2017 Ozone SIP) relies on the

⁷ Rule 803 Carry-Out and Track-Out: <https://www.arb.ca.gov/drdb/imp/curhtml/R803.PDF>.

⁸ Rule 804 Open Areas: <https://www.arb.ca.gov/drdb/imp/curhtml/R804.PDF>.

⁹ Rule 805 Paved and Unpaved Roads: <https://www.arb.ca.gov/drdb/imp/curhtml/R805.PDF>.

provisions in CAA Section 179B to demonstrate that the County is in attainment of the 2008 8-hour ozone standard.

Particulate Matter Attainment Plans

2009 Imperial County State Implementation Plan for Particulate Matter Less Than 10 Microns in Aerodynamic Diameter

On August 11, 2009, the ICAPCD Governing Board approved the 2009 Imperial County State Implementation Plan for Particulate Matter Less Than 10 Microns in Aerodynamic Diameter (ICAPCD 2009). In response to the opinion of the U.S. Court of Appeals for the Ninth Circuit (*Sierra Club v. EPA*, 671 F.3d 955) in August 2004, the EPA found that the Imperial Valley PM₁₀ nonattainment area had failed to attain by the moderate area attainment date of December 31, 1994, and as a result reclassified the Imperial Valley under the CAA from a moderate to a serious PM₁₀ nonattainment area. Also in August 2004, the EPA proposed a rule to find that the Imperial area had failed to attain the annual and 24-hour PM₁₀ standards by the serious area deadline of December 31, 2001. The EPA finalized the rule on December 11, 2007, citing as the basis for the rule that six County monitoring stations were in violation of the 24-hour standard over the period from 1999 to 2001. The EPA's final rule action requires the state to submit to the EPA by December 11, 2008, an air quality plan that demonstrates that the County would attain the PM₁₀ standard. The 2009 PM₁₀ SIP demonstrated that ambient air quality on December 21, 2006, and December 25, 2006, would have attained the 24-hour PM₁₀ NAAQS in the absence of impact contributions from Mexicali emissions.

4.2.4 Thresholds of Significance

The significance criteria used to evaluate the project impacts to air quality are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to air quality would occur if the project would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. Result in a cumulatively considerable new increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative threshold emissions which exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

4.2.5 Impacts Analysis

An Air Quality and Greenhouse Gas Emissions Technical Memorandum was prepared by Dudek in April 2019 and is incorporated into this EIR as Appendix B. The following analysis is based off the findings of this memorandum.

Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less-Than-Significant Impact with Mitigation. An area is designated as “in attainment” when it is in compliance with the federal and/or state standards. These standards are set by the EPA or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or public welfare with a margin of safety. The Project site is located within the SSAB, which is designated non-attainment for the federal 8-hour O₃ and 24-hour PM₁₀ standards. The area is in attainment or unclassified for all other federal standards. The area is designated non-attainment for state standards for 1-hour and 8-hour O₃, 24-hour PM₁₀, and annual PM₁₀. The CEQA Guidelines indicate that a significant impact would occur if a project would conflict with or obstruct implementation of the applicable air quality plan. The ICAPCD is required to prepare and maintain an AQAP and a SIP to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards.

In September 2017, the ICAPCD adopted the 2017 Ozone SIP (ICAPCD 2017). The 2017 Ozone SIP provides a regional strategy to protect public health and protect the climate. To protect public health, the 2017 SIP includes all feasible measures to reduce emissions of O₃ precursors (reactive organic gases and NO_x) and reduce O₃ within the region. While the ICAPCD does not have direct authority over land use decisions, it was recognized that changes in land use and circulation planning were necessary to maintain clean air.

A three-tiered approach was used to assess whether the Project is compliant with the air quality attainment plans applicable to the air basin. The Project would have to be compliant with all three criteria in order to be consistency with the air quality attainment plans. The criteria are as follows:

- The project must be compliant with the thresholds on an individual basis;
- The project must comply with the land use planning strategies in the AQAP or SIP;
- The project must comply with all applicable rules and regulations.

The first criterion to be assessed in this methodology is “the project must be compliant with the thresholds on an individual basis.” Although there is no known guidance that correlates AQAP consistency with the ICAPCD regional thresholds, it is common to use the thresholds in assessing AQAP compliance. If an area is in nonattainment for a criteria pollutant, then the background concentration of that pollutant has historically been over the ambient air quality standard. It follows

that if a project exceeds the regional threshold for that nonattainment pollutant, then it would result in a cumulatively considerable net increase of that pollutant and result in a significant cumulative impact. As shown in Table 4.2-2, construction emissions would exceed the NO_x ICAPCD significance threshold. Thus, the Proposed Project would potentially conflict with the 2017 Ozone SIP due to the exceedance of the NO_x ICAPCD significance threshold during construction.

Table 4.2-2
Estimated Maximum Daily Construction Criteria Air Pollutant Emissions

| Project Component | ROG | NO _x | CO | PM ₁₀ |
|------------------------------|----------------|-----------------|-------|------------------|
| | Pounds per Day | | | |
| Modelled Year 2018 | | | | |
| Reservoir | 3.54 | 36.22 | 16.35 | 55.07 |
| State Route 98 Detour | 4.06 | 46.97 | 28.46 | 66.68 |
| Canal Tie-Ins | 2.68 | 21.92 | 20.12 | 49.00 |
| Sedimentation Basin | 11.72 | 115.34 | 70.03 | 76.29 |
| Canal and Measurement Flumes | 8.97 | 87.84 | 63.31 | 78.68 |
| Modelled Year 2019 | | | | |
| Reservoir | 4.83 | 44.07 | 34.77 | 102.58 |
| Canal Tie-Ins | 3.05 | 25.29 | 22.01 | 54.24 |
| Structures | 10.71 | 102.75 | 67.93 | 75.93 |
| Maximum Daily | 11.72 | 115.34 | 70.03 | 102.58 |
| ICAPCD Threshold | 75 | 100 | 550 | 150 |
| Threshold Exceeded? | No | Yes | No | No |

Notes: ROG = reactive organic gases; NO_x = oxides of nitrogen; CO = carbon monoxide; PM₁₀ = coarse particulate matter; ICAPCD = Imperial County Air Pollution Control District.

The values shown are the maximum summer or winter daily emissions results from CalEEMod.

These estimates reflect control of fugitive dust required by ICAPCD including watering of active sites at least three times per day and limiting vehicle speeds to 15 miles per hour on unpaved roads. See Appendix B for complete results.

The second criterion to be assessed in this consistency methodology is “the project must comply with the land use planning strategies in the AQAP or SIP.” Chapter six of the 2017 Ozone SIP contains control measures including measures in the categories of stationary sources, the transportation sector, and the residential and commercial sectors. Depending on the control measure, the tools for implementation include leveraging the ICAPCD rules and permitting authority, regional coordination and funding, working with local governments to facilitate best policies in building codes, outreach and education, and advocacy strategies. Additionally, the 2017 Ozone SIP recognizes that as urban development is spreading out over the landscape, people travel increasing distances between home and work, school, medical care, shopping facilities, recreation, and personal services, the greater the impact. Therefore, the 2017 Ozone SIP, in addition to the ICAPCD CEQA Handbook, have developed strategies in order to reduce project-related vehicle miles traveled within the County. Because the Proposed Project would consist of constructing an unmanned main canal off-line reservoir project and related infrastructure, the Proposed Project would result in minimal vehicle trips after construction. Thus, the Proposed Project would not

introduce substantial operational vehicle trips that would contribute to the County’s vehicle miles traveled.

The third criterion to be assessed in this consistency methodology is “the project must comply with all applicable rules and regulations.” The Proposed Project would comply with all applicable ICAPCD rules and regulations, including mandatory requirements of Regulation VIII – Fugitive Dust Control Measures, in addition to implementing a Dust Control Plan and **Mitigation Measure (MM) AQ-1**, which would reduce fugitive dust emissions generated from excavation and grading activities since the Proposed Project is larger than 5 acres. The Proposed Project would also implement Standard Mitigation Measures for Construction Combustion Equipment, included as **MM-AQ-2**, which would help reduce NO_x emissions generated by construction equipment.

In summary, because the Proposed Project would exceed the NO_x ICAPCD emission-based significance threshold as evidenced in the Table 4.2-2, the Proposed Project would have the potential to conflict with or obstruct implementation of the 2017 Ozone SIP, thus requiring implementation of **MM-AQ-1** and **MM-AQ-2**.

Split Cell Option

The split cell design option would split the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area as the single cell described above. The split cell would manage the same amount of water as the single cell, achieved by slightly higher embankments. The additional excavating and constructing of embankments would result in an increase in construction activities, resulting in an increase in air quality impacts. The increase, estimated at approximately a 10% increase in construction efforts, would raise emissions and **MM-AQ-1** and **MM-AQ-2** would be required during construction. Operation of the split cell design would be the same.

Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less-Than-Significant Impact with Mitigation. The analysis contained in this section focuses on addressing the potential for the Project to violate any air quality standard or contribute substantially to an existing or projected air quality violation, which is determined by comparing estimated project-generated construction emissions to numeric thresholds established by the ICAPCD.

The ICAPCD has established significance thresholds in the 2007 ICAPCD CEQA Air Quality Handbook for the preparation of air quality impact assessments. The screening criteria within this handbook can be used to determine whether a project’s total emissions would result in a significant impact as defined by CEQA. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that the project’s total air quality impacts are below the state

and federal ambient air quality standards. As previously discussed, Table 4.2-1 shows the screening thresholds for construction emissions.

Pursuant to the ICAPCD CEQA Air Quality Handbook, regardless of the size of the project, standard mitigation measures for construction equipment and fugitive PM₁₀ must be implemented at all construction sites. The implementation of **MM-AQ-1**, as provided in Section 4.2.6, applies to the Proposed Project, as the Proposed Project is 5 acres or more of non-residential developments.

Construction Emissions

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts. Table 4.2-2 presents the estimated maximum daily construction emissions generated during construction of the Proposed Project.

The estimated commencement date for Project construction is anticipated to occur at a later date compared to the original construction schedule assumed at the time of modeling provided in Appendix B. However, for the purposes of construction modeling, the models do not need to use the exact commencement and completion dates to accurately represent the Project construction emissions. This is because state and local regulations, restrictions, and increased market penetration of cleaner construction equipment are anticipated to continue to reduce emissions in the future. In other words, because California's construction related emission sources are regulated and will foreseeably continue to be more strictly regulated in the future, Project emissions are reasonably expected to continue to decline. Thus, by utilizing an earlier start date of October 2018, estimated emissions likely overstate actual emission levels. Therefore, the analysis and modeling included herein continue to provide an accurate and conservative assessment of the Project's construction-related air pollutant emissions.

Table 4.2-2 presents a worst-case scenario for construction activities. Construction of the structures and sedimentation are estimated to generate the greatest daily NO_x emissions. Construction activities could result in some overlap with other Project components, because the reservoir construction would occur over a 15-month period and construction of the SR- 98 detour, Holdridge Road canal tie-ins, structures, sedimentation basin, and canal and measurement flume would range from a construction period of up to 3 months within the same 15-month duration as the reservoir. Because IID is limited in construction equipment and staffing, it is assumed that equipment and staff would move accordingly so that the maximum emissions which a Project

component could produce would not overlap with another construction component. Therefore, the total daily maximum emissions would present a worst-case scenario. While construction-generated emissions would be temporary and would not represent a long-term source of criteria air pollutant emissions with construction of the reservoir and other Project components would occur over a 15-month period, the Proposed Project would likely exceed the NO_x ICAPCD emission-based significance threshold and would have a potentially significant impact and thus mitigation is required (MM-AQ-1 and MM-AQ-2).

Regarding if the Proposed Project would conflict with the applicable de minimis thresholds, estimated Project construction emissions (in tons per year) are shown in Table 4.2-3 for modelled years 2018 and 2019. As previously discussed, construction of the Proposed Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment, soil disturbance, and off-site sources (i.e., on-road haul trucks, vendor trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

Table 4.2-3
Estimated Annual Construction Criteria Air Pollutant Emissions

| Year | ROG | NO _x | PM ₁₀ |
|---------------------------------|---------------|-----------------|------------------|
| | Tons per Year | | |
| 2018* | 0.63 | 5.93 | 6.45 |
| 2019* | 0.72 | 6.96 | 10.70 |
| Maximum Annual Emissions | 0.72 | 6.96 | 10.70 |
| <i>De Minimis Threshold</i> | <i>100</i> | <i>100</i> | <i>70</i> |
| Threshold Exceeded? | No | No | No |

Notes: ROG = reactive organic gases; NO_x = oxides of nitrogen; PM₁₀ = fine particulate matter.*Modelled year
See Attachment A of Appendix B for detailed results.

As provided in Table 4.2-3, the Proposed Project would not exceed any of the applicable federal de minimis thresholds during construction activities in modelled years 2018 or 2019. Therefore, additional conformity analysis is not required; the Proposed Project would conform to the applicable implementation plan for the Project area.

Operational Emissions

Once operational, the Project would consist of a main canal off-line reservoir storage and related infrastructure. No components of the Project would result in the generation of emissions. Thus, no operational impacts would occur.

Split Cell Option

The split cell design option would split the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area as the single cell described above. The split cell would manage the same amount of water as the single cell, achieved by making the embankments slightly higher. The additional excavating and constructing of embankments would result in an increase in construction activities, resulting in an increase in air quality impacts. The increase, estimated at approximately a 10% increase in construction efforts, would raise emissions and **MM-AQ-1** and **MM-AQ-2** would be required during construction. It should be noted that the pollutants identified above as exceeding for the single cell design option would be those exceeded for the split cell design option (i.e., no additional pollutant thresholds would be exceeded). Operation of the split cell design option would be the same.

Would the project result in a cumulatively considerable new increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative threshold emissions which exceed quantitative thresholds for ozone precursors)?

Less-Than-Significant Impact with Mitigation. Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the ICAPCD develops and implements plans for future attainment of ambient air quality standards. The SSAB has been designated as a federal and state nonattainment area for O₃ and PM₁₀. The nonattainment status is the result of cumulative emissions from various sources of air pollutants and their precursors within the SSAB, including motor vehicles, off-road equipment, and commercial and industrial facilities. Based on these considerations, project-level thresholds of significance for criteria pollutants are used to help determine whether a project's individual emissions would have a cumulatively considerable contribution on air quality. If a project's emissions would exceed the ICAPCD significance thresholds, it would be considered to have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

Cumulative localized impacts could occur if the construction of a project component were to occur concurrently with another project. Construction under the Proposed Project would occur over a period of 15 months. Construction schedules for potential future projects near the Proposed Project are currently unknown; therefore, potential construction impacts associated with two simultaneous projects are speculative. The CEQA Guidelines state that if a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact (14 CCR 15145). This analysis is nonetheless provided in an effort to show good-faith analysis and comply with CEQA's information disclosure requirements.

Construction of the Proposed Project would generate reactive organic gases and NO_x emissions (which are precursors to O₃) and emissions of PM₁₀ and PM_{2.5}. As indicated in Table 4.2-2, Project-generated construction NO_x emissions would likely exceed the ICAPCD emission-based significance threshold. Mitigation measure **MM-AQ-1** and **MM-AQ-2** would reduce impacts to levels below significance. Furthermore, various federal and state regulations, including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program, would serve to reduce the transportation fuel demand and reduce emissions of cumulative projects. Air pollutant emissions associated with construction activity of future projects would be reduced through implementation of control measures required by ICAPCD. Cumulative PM₁₀ and PM_{2.5} emissions would be reduced because all future projects would be subject to Regulation VIII – Fugitive Dust Control Measures, which sets forth general and specific requirements for all construction sites in the ICAPCD. The maximum daily PM₁₀ and PM_{2.5} emissions would not exceed the significance thresholds during Proposed Project construction activities. Fugitive dust, as well as vehicle and equipment exhaust, generated during Project construction would contribute to the SSAB’s nonattainment designation for PM₁₀ and PM_{2.5}; however, this contribution would not be considered cumulatively considerable.

Based on the previous considerations, the Project would result in a cumulatively considerable increase in emissions of nonattainment pollutants, absent mitigation measures. Impacts would be reduced to levels below significance with implementation of **MM-AQ-1** and **MM-AQ-2**.

Split Cell Option

The split cell design option would split the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area as the single cell described above. The split cell would manage the same amount of water as the single cell, achieved by making the embankments of the two cells slightly higher. The additional excavating and constructing of embankments would result in an increase in construction activities, resulting in an increase in air quality emissions and contribution to cumulative air quality impacts. The increase, estimated at approximately a 10% increase in construction efforts, would raise emissions and **MM-AQ-1** and **MM-AQ-2** would be required during construction. Operation of the split cell design option would be the same.

Would the project expose sensitive receptors to substantial pollutant concentrations?

Less-Than-Significant Impact. Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts upon those persons termed “sensitive receptors” are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and

the activities involved. Sensitive receptors include residences, schools, playgrounds, child-care centers, athletic facilities, long-term health-care facilities, rehabilitation centers, convalescent centers, and retirement homes. The nearest sensitive receptor to the Project site is a single-family residence approximately 150 feet south of the Project site.

Health Impacts of Toxic Air Contaminants

“Incremental cancer risk” is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period would contract cancer based on the use of standard Office of Environmental Health Hazard Assessment risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. TACs that would potentially be emitted during construction activities would be DPM, emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB Airborne Toxic Control Measures to reduce DPM emissions. According to the OESHA, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, the duration of proposed construction activities (approximately 24 months) would only constitute a small percentage of the total long-term exposure period and would not result in exposure of proximate sensitive receptors to substantial TACs.

Because construction activities would occur within various locations across the Project site, the Proposed Project would not require the extensive use of heavy-duty construction equipment or diesel trucks in any one location over the duration of development, which would limit the exposure of any proximate individual sensitive receptor to TACs. In addition, due to the relatively short period of exposure at any individual sensitive receptor (approximately 15 months) and minimal particulate emissions generated on site, TACs generated during construction would not be expected to result in concentrations that could cause significant health risks.

In regard to project operation, the Proposed Project does not include stationary sources that would emit air pollutants or TACs. Project operations would not result in TAC generation from on-site sources during long-term operations and would not result in the creation of a significant health risk at nearby sensitive receptors.

Carbon Monoxide Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed CO “hotspots.” CO transport is extremely limited and disperses rapidly with distance from the source. Typically, high CO concentrations are associated with severely congested

intersections operating at an unacceptable level of service (level of service E or worse). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

Construction activities would be temporary and would not be a source of daily, long-term mobile-source emissions. Accordingly, the Proposed Project would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. In addition, due to continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SSAB is steadily decreasing. Based on these considerations, the Proposed Project would result in a less than significant impact to air quality with regard to potential CO hotspots.

Health Impacts of Criteria Air Pollutants

Construction of the Proposed Project would generate criteria air pollutant emissions which would result in the exceedance of the ICAPCD emission-based significance threshold for emissions of NO_x. As previously discussed, the SSAB is a nonattainment area for O₃ and PM₁₀ under the NAAQS and/or CAAQS.

Reactive Organic Gases and NO_x (Precursors to O₃): The Proposed Project involves construction activities that would be completed within 15 months and would not result in reactive organic gas emissions that would exceed the ICAPCD thresholds. However, the Proposed Project would result in the exceedance of emissions of NO_x. Notably, the closest sensitive receptor to the Project site is located approximately 150 feet, or 0.2 miles, away, a sufficient distance such that sensitive receptors would not be expected to be affected by construction activities. In addition, the existing NO₂ concentrations within the region are below the NAAQS and CAAQS. Therefore, the Proposed Project is not anticipated to substantially contribute to regional O₃ concentrations and associated health impacts.

CO: The associated CO hotspots were discussed previously as a less-than-significant impact. Thus, the Proposed Project's CO emissions would not contribute to the health effects associated with this pollutant.

PM₁₀ and PM_{2.5}: The Proposed Project would not generate emissions of PM₁₀ and PM_{2.5} that would exceed the ICAPCD's thresholds and is not expected to cause any increase in related regional health effects for these pollutants.

Accordingly, the Proposed Project would not result in adverse health impacts associated with those pollutants for which the region is in nonattainment. Impacts would be less than significant.

Would the project create objectionable odors affecting a substantial number of people?

Less-Than-Significant Impact. Projects with the potential to expose a substantial number of people to objectionable odors would be deemed to have a significant impact under CEQA. Land uses commonly considered to be potential source of odorous emissions include wastewater treatment plants, sanitary landfills, food processing facilities, chemical manufacturing plants, rendering plants, paint/coating operations, and concentrated agricultural feeding operations and dairies.

No major sources of odors were identified in the vicinity of the Project site that could potentially affect proposed on-site land uses. However, construction of the Proposed Project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials. Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions. Any odor generation would be intermittent and would terminate upon completion of the construction phase of the proposed action. Furthermore, construction activity would occur at various locations within the Project site and would not be situated in the same location for an extended period of time. The nearest receptors are 150 feet, or 0.2 miles, south from the Proposed Project site, otherwise there are no other sensitive receptors within 5,000 feet (0.95 miles) of the Project site. As such, the site is surrounded by few people and therefore cannot create objectionable odors affecting a substantial number of people.

Operations of the Project would include the conveyance of AAC water for temporary storage in the proposed reservoir. The generation of objectionable odors is typically not associated with operation and maintenance of water infrastructure projects. Water would not be stagnant, as water would be routinely routed to the EHL Canal and to agricultural lands in the eastern Imperial Valley. The Project design does not include the construction or installation of structures and/or permanent equipment that would release objectionable odors. In addition, the site is surrounded by few people and therefore cannot create objectionable odors affecting a substantial number of people. Therefore, impacts would be less than significant related to objectionable odors affecting a substantial number of people; no mitigation is required.

Split Cell Option

The split cell design option would split the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area as the single cell described above. The split cell would manage the same amount of water as the single cell, achieved by making the two cell embankments slightly higher. The additional excavating and constructing of embankments would result in an increase in construction activities, resulting in a modest increase in odors at the

site but not such that impacts would differ. Therefore, odor impacts associated with the construction and operation of the split cell design option would be the same.

4.2.6 Mitigation Measures

Implementation of the following mitigation measures would reduce identified impacts on air quality to less than significant.

MM-AQ-1 Discretionary Mitigation Measures for Fugitive PM₁₀ Control

- Water exposed soil with adequate frequency for continued moist soil.
- Replace ground cover in disturbed areas as quickly as possible.
- Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.

MM-AQ-2 ICAPCD Standard Measures Pursuant to Imperial County's APCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII-Fugitive Dust Control Measures. These mitigation measures listed below shall be implemented prior to and during construction. The Imperial County Department of Public Works will verify implementation and compliance with these measures.

ICAPCD Standard Measures for Fugitive Dust (PM₁₀) Control

- All disturbed areas, including Bulk Material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps or other suitable material such as vegetative ground cover.
- All on site and off site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.
- All unpaved traffic areas one (1) acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emission shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.
- The transport of Bulk Materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of Bulk Material. In addition, the cargo compartment of all Haul Trucks is to be cleaned and/or washed at delivery site after removal of Bulk Material.

- All Track-Out or Carry-Out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an Urban area.
- Movement of Bulk Material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers or by sheltering or enclosing the operation and transfer line.
- The construction of any new Unpaved Road is prohibited within any area with a population of 500 or more unless the road meets the definition of a Temporary Unpaved Road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

ICAPCD Standard Measures for Construction Combustion Equipment

- Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.
- Limit, to the extent feasible, the hours of operation of heavy duty equipment and/or the amount of equipment in use.
- Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).
- Construction equipment operating onsite should be equipped with two to four degree engine timing retard or precombustion chamber engines.
- Construction equipment used for the project should utilize EPA Tier 2 or better engine technology.
- Keep vehicles well maintained to prevent leaks and minimize emissions, and encourage employees to do the same.
- ICAPCD “Discretionary” Measures for Fugitive Dust (PM₁₀) Control
- Water exposed soil with adequate frequency for continued moist soil, including a minimum of three wettings per day during grading activities.
- Replace ground cover in disturbed areas as quickly as possible.
- Automatic sprinkler system installed on all soil piles.
- Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.

- Implement the trip reduction plan to achieve a 1.5 AVR for construction employees.
- Implement a shuttle service to and from retail services and food establishments during lunch hours.

Enhanced Mitigation Measures for Construction Equipment

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

4.2.7 Level of Significance After Mitigation

With implementation of **MM-AQ-1** and **MM-AQ-2**, potentially significant impacts to air quality would be reduced to levels below significant for both the Proposed Project and the split cell design option.

4.3 BIOLOGICAL RESOURCES

This section describes the existing biological resources, and potential impacts relating to biological resources resulting from the proposed East Highline Reservoir and Intake Channel Project (Proposed Project or Project). The analysis herein is based on review of existing resources; technical data; applicable laws, regulations and guidelines; and the Biological Resources Technical Report (BTR) prepared for the Proposed Project, which is included as Appendix C to this EIR.

4.3.1 Existing Conditions

4.3.1.1 Environmental Setting

The Proposed Project is located in Imperial County, California, southeast of the Salton Sea, west of the Imperial Sand Dunes and east of Calexico, as shown on Figure 1-1, Project Site, and Figure 1-2, Vicinity Map, in Chapter 1, Introduction. The Proposed Project is located approximately 2 miles north of the Mexican Border, and just north of SR- 98. The Proposed Project site is located within the Sonoran Desert which is bounded on the west by the Peninsular Ranges and on the east by the Colorado River. The Proposed Project site is relatively flat and ranges from approximately 30 feet above mean sea level (amsl) at its western extent to 50 feet near SR-98. The dominant topography of the Proposed Project site consists of flat fallow agriculture fields.

Vegetation Communities

The study area consists of six vegetation communities (arrow weed thickets, bush seepweed scrub, cattail marshes, creosote bush scrub, mesquite bosque/mesquite thicket, and tamarisk thickets) and four land covers (disturbed land, general agriculture, open water, and urban/developed; see Figures 4.3-1a through 4.3-1g). Vegetation communities and land cover types are described below and their acreages are presented in Table 4.3-1.

Table 4.3-1
Vegetation Communities and Land Covers

| General Habitat | Vegetation Community or Land Cover Type ^a | Study Area |
|--|--|--------------|
| Marsh | Cattail marshes | 0.12 |
| <i>Marsh Subtotal</i> | | <i>0.12</i> |
| Low to High Elevation Riparian Scrub | Arrow weed thickets ^b | 0.57 |
| | Tamarisk thickets | 10.35 |
| <i>Low to High Elevation Riparian Scrub Subtotal</i> | | <i>10.92</i> |
| Riparian Forest and Woodland | Mesquite bosque, mesquite thicket ^b | 5.08 |
| | <i>Riparian Forest and Woodland Subtotal</i> | <i>5.08</i> |
| Chenopod Scrub | Bush seepweed scrub | 11.96 |
| <i>Chenopod Scrub Subtotal</i> | | <i>11.96</i> |

Table 4.3-1
Vegetation Communities and Land Covers

| General Habitat | Vegetation Community or Land Cover Type ^a | Study Area |
|---|--|---------------|
| Sonoran and Mojavean Desert Scrub | Creosote bush scrub | 0.35 |
| | Creosote bush-white bursage | 0.61 |
| <i>Sonoran and Mojavean Desert Scrub Subtotal</i> | | <i>0.96</i> |
| Disturbed and Developed | Disturbed habitat | 31.78 |
| | General agriculture | 491.40 |
| | Open water | 0.02 |
| | Urban/developed | 0.60 |
| <i>Disturbed and Developed Subtotal</i> | | <i>523.80</i> |
| Total^c | | 552.84 |

Notes:^a Based on CDFG 2010.^b Considered special status by CDFW (CDFG 2010)).^c May not sum precisely due to rounding.

As shown in Table 4.3-1, the study area consists of six vegetation communities; of these vegetation communities, the arrow weed thickets, bush seepweed scrub, and mesquite bosque are considered sensitive biological resources.

Marsh

The cattail marshes alliance (*Typha* [*angustifolia*, *domingensis*, *latifolia*] alliance) includes cattails as the dominant or co-dominant herb in the herbaceous layer. Cattail marshes alliance has a continuous to intermittent canopy less than 1.5 meters (4.9 feet) in height (Sawyer et al. 2009). For a stand of vegetation to be classified as cattail marshes, cattails (*Typha* spp.) must be greater than 50% relative cover in the herbaceous layer. The cattail marshes alliance occurs throughout California at elevations ranging from sea level to 350 meters (1,148 feet) amsl. The cattail marshes alliance occurs on clay or silty soils in semi-permanently flooded freshwater or brackish marshes (Appendix C). Cattail marshes occur within the Proposed Project site within a small unnamed canal. On-site cattail marshes alliance is characterized as having greater than 50% relative cover of southern cattail (*Typha domingensis*). Other species present at a low cover include arrow weed (*Pluchea sericea*). The cattail marshes alliance has a rank of G5S5; therefore, are not considered a sensitive biological resource under CEQA (CDFG 2010). However, it is a wetland community, which is typically afforded protection under CEQA and the Clean Water Act (CWA).

Riparian Scrub

The arrow weed thickets alliance (*Pluchea sericea* alliance) includes arrow weed as the dominant or codominant shrub in the canopy. Arrow weed thickets have an intermittent to continuous shrub canopy

less than 5 meters (16 feet) in height and a sparse ground layer with seasonal annuals. For a stand of vegetation to be classified as arrow weed thickets, arrow weed must be greater than or equal to 2% absolute cover in the shrub canopy. This alliance occurs in wetlands that are seasonally flooded and saturated with fresh water located around seeps, canyon bottoms, irrigation ditches, stream sides, and washes (Appendix C). Arrow weed thickets occurs along the banks of two small unnamed canals. On-site, arrow weed thickets are characterized as having 25%–50% absolute cover of arrow weed in the shrub canopy. Other species noted in this association include five-stamen tamarisk, alkali goldenbush (*Isocoma acradenia* var. *eremophila*), and salt grass (*Distichlis spicata*). The arrow weed thickets alliance is ranked as a G3S3 alliance; therefore, it is considered a sensitive biological resource under CEQA (CDFG 2010).

Chenopod Scrub

The bush seepweed alliance (*Suaeda mosquinii* alliance) includes alkali goldenbush or bush seepweed as the dominant or codominant shrub in the canopy. Bush seepweed scrub has an open to continuous shrub canopy less than 1.5 meters (5 feet) in height and a sparse ground layer with seasonal annuals. For a stand of vegetation to be classified as bush seepweed alliance, alkali goldenbush must be greater than 50% relative cover in the shrub canopy or be characteristically present in the herbaceous layer; or bush seepweed must be greater than 2% absolute cover or 50% relative cover in the shrub canopy. This alliance occurs in flat to gently sloping landscapes, playas, toes of slopes and bajadas on saline or alkaline soils (Appendix C). On site, bush seepweed is entirely dominated by alkali goldenbush and does not have any bush seepweed in its species composition; however, there are no other alliances with alkali goldenbush as a dominant or codominant species. It occurs in the undisturbed area in the northeastern portion of the study area. On site, bush seepweed scrub is characterized as having 25%–50% absolute cover of alkali goldenbush in the shrub canopy. Other species noted in this association include fanleaf crinklemat (*Tiquilia plicata*), Arabian schismus (*Schismus arabicus*), and desert palafox (*Palafoxia arida*). The bush seepweed scrub alliance is ranked as a G4S3 alliance; therefore, it is considered a sensitive biological resource under CEQA (CDFG 2010).

The tamarisk thickets or *Tamarix* spp. semi-natural stands alliance includes the non-native invasive tamarisk as the dominant shrub in the canopy. Tamarisk thickets have a continuous to open shrub canopy less than 8 meters (26 feet) in height with possible emergent trees and a sparse ground layer (Sawyer et al. 2009). For a stand of vegetation to be classified as tamarisk thickets, tamarisk must be greater than 3% absolute cover and 60% relative cover in the shrub canopy. This semi-natural stand occurs in and along ditches, rivers, washes, lake margins, and watercourses (Appendix C). Tamarisk thickets occurs along the bottom of a berm created from a concrete-lined irrigation canal (which was dry at the time of the surveys) as well as in the undisturbed land in the northeast corner where it is not associated with a canal. On-site, tamarisk thickets are characterized as having 25%–75% absolute cover of five-stamen tamarisk in the shrub canopy. Other species

noted in this semi-natural stand include alkali goldenbush at low to moderate cover. Tamarisk thickets semi-natural stands are not considered a sensitive biological resource under CEQA (CDFG 2010).

Riparian Forest and Woodland

The mesquite bosque/mesquite thicket alliance (*Prosopis glandulosa* alliance) includes honey mesquite as the dominant or codominant species in the low tree canopy. The mesquite bosque/mesquite thicket alliance has an open to continuous canopy less than 10 meters (33 feet) in height. For a stand of vegetation to be classified as mesquite bosque/mesquite thicket, mesquite must be greater than or equal to 2% absolute cover and greater than 50% relative cover in the tree or tall shrub canopy. This alliance occurs at elevations ranging from sea level to 2,400 meters (7,874 feet) amsl. The mesquite bosque/mesquite thicket alliance occurs on playa lakes, stream banks, river terraces, sand dunes or flooded margins of arroyos and washes (Appendix C). The mesquite bosque/mesquite thicket alliance occurs within the southern portion of the Proposed Project, just north of SR-98. On site, mesquite bosque/mesquite thickets are characterized as having greater than 15%–25% absolute cover of western honey mesquite (*Prosopis glandulosa* var. *torreyana*). Other species noted in this alliance include Arabian schismus, white bursage (*Ambrosia dumosa*), and creosote (*Larrea tridentata*), and alkali goldenbush. The mesquite bosque, mesquite thicket alliance is ranked as a G5S3 alliance; therefore, it is considered a sensitive biological resource under CEQA (CDFG 2010).

Sonoran and Mojavean Desert Scrub

The creosote bush scrub alliance (*Larrea tridentata* alliance) has an open to intermittent shrub canopy cover with shrubs less than 3 meters (10 feet) in height with a open to intermittent ground layer containing seasonal annuals or perennial grasses (Sawyer et al. 2009). For a stand of vegetation to be classified as creosote bush scrub, creosote must exceed other shrubs in cover including emergent small trees and taller shrubs except for white bursage. The creosote bush scrub alliance occurs in the Mojave, Sonoran, and Colorado Deserts; southeastern Great Basin; and Southern California mountains and valleys. This alliance occurs at elevations ranging from 75 meters (246 feet) below sea level to 1,000 meters (3,280 feet) amsl. The creosote bush scrub alliance occurs on upland slopes, alluvial fans, bajadas, and intermittent washes (Appendix C). The creosote bush scrub alliance occurs in the southern portion of the Proposed Project study area, between SR-98 and the AAC. On site, the creosote bush scrub alliance is characterized as having 15% to 25% absolute cover of creosote bush in the shrub canopy. Other species noted in this alliance include white bursage and alkali goldenbush with an understory composed of Arabian schismus. The creosote bush scrub alliance is ranked by CDFW as a G5S5 alliance; therefore, CDFW does not consider the creosote bush scrub alliance a sensitive biological resource under CEQA (CDFG 2010).

The creosote bush–white bursage scrub alliance (*Larrea tridentata*–*Ambrosia dumosa* alliance) includes creosote bush and white bursage as co-dominant shrubs in the canopy. Creosote bush – white bursage scrub has a two-tiered shrub canopy less than 3 meters (10 feet) in height with an open to intermittent ground layer in which annuals are seasonally present (Sawyer et al. 2009). For a stand of vegetation to be classified as creosote bush scrub-white bursage sage scrub, both creosote bush and white bursage must be greater than or equal to 1% absolute cover in the shrub canopy. The creosote bush scrub-white bursage scrub alliance occurs in the Mojave, Sonoran, and Colorado Deserts; southeastern great basin; and Southern California mountains and valleys. This alliance occurs at elevations ranging from 75 meters (246 feet) below sea level to 1,200 meters (3,937 feet) amsl. The creosote bush scrub–white bursage scrub alliance occurs on upland slopes, alluvial fans, bajadas, and minor washes (Appendix C). The creosote bush scrub–white bursage scrub alliance occurs in the southern portion of the Proposed Project study area, between SR-98 and the AAC. On site, the creosote bush scrub–white bursage scrub alliance is characterized as having greater than 35% relative cover of creosote bush and white bursage in the shrub canopy, including 5% to 15% absolute cover of creosote bush and 5% to 15% absolute cover of white bursage. The understory of this alliance is characterized by Arabian schismus. The creosote bush–white bursage scrub alliance is ranked as a G5S5 alliance; therefore, CDFW does not consider the creosote bush–white bursage scrub alliance a sensitive biological resource under CEQA (CDFG 2010).

Disturbed and Developed

Disturbed habitat refers to areas that are not developed yet lack vegetation, and generally are the result of severe or repeated mechanical perturbation. Areas mapped as disturbed land include primarily dirt roads, but also include areas that have been a result of repeated disturbance (e.g., grading/disking). Disturbed habitat typically does not support any vegetation; therefore, disturbed lands are not considered a sensitive biological resource under CEQA (CDFG 2010).

Agricultural land includes the following agricultural types: agriculture (general), nurseries, orchard agriculture, pastures and crop agriculture, tilled earth, and vineyard–shrub agriculture. Agricultural lands were not mapped within the Proposed Project study area. Nearly the entire Proposed Project study area is mapped as general agriculture occur. All of the agricultural fields were fallow at the time of the surveys. General agriculture is not considered a sensitive biological resource under CEQA (CDFG 2010).

The open water mapping unit is not recognized by the Natural Communities List (CDFG 2010). Open water consists of standing water with no emergent vegetation. Open water is mapped within an unnamed canal located immediately south of SR-98. Open water does not support any vegetation; therefore, open water is not considered a sensitive biological resource under CEQA (CDFG 2010).

Urban/developed areas include areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Urban/developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation (Oberbauer et al. 2008). Within the study area, developed areas include SR-98. Urban/developed land typically does not support any vegetation or is a landscaped area; therefore, urban/developed lands are not considered a sensitive biological resource under CEQA (CDFG 2010).

Jurisdictional Delineation and Determinations

Dudek performed a formal jurisdictional delineation within the Proposed Project study area in January 2018, with methods described in detail under Section 4.3.1.2, Methodology. A total of two data stations were collected. Representative photographs and the results of the delineations are included in Appendix C.

Federal Jurisdiction

The Proposed Project study area contains the AAC. The AAC is subject to federal jurisdiction under Section 404 of the CWA. The AAC flows east to west originating at the Imperial Dam located approximately 30 miles northeast of Yuma, Arizona, on the Colorado River. Water is diverted from the Imperial Dam into the AAC where it continues to flow west, just west of the City of Calexico, California, before the last branch heads north and terminates in the Imperial Valley for agricultural purposes. The AAC waters ultimately flow into the Salton Sea (a Traditional Navigable Water) and thus the AAC is connected to the Salton and therefore considered waters of the U.S. pursuant to 33 CFR 325.9. An AAC guidance list of exempt activities was developed to provide clarity in the application of regulation under Section 404 Clean Water Act related to activities conducted along the AAC. The USACE issued a No Permit Required determination for the Proposed Project on November 16, 2019 pursuant to 33 CFR 323.4 (a)(1)(i). Therefore, based on review of the letter provided by USACE a Section 404 Permit will not be required for the Proposed Project.

State Jurisdiction

Water resources are also subject to state laws administered by CDFW and RWQCB. Resources subject to the jurisdiction of the CDFW pursuant to Section 1602 of the California Fish and Game Code and RWQCB pursuant to the Porter–Cologne Water Quality Control Act (Porter–Cologne Act) include ephemeral, intermittent, and perennial stream channels. Based on the jurisdictional delineation, there are approximately 0.12 acres of wetlands that may be under the jurisdiction of RWQCB, as described in Table 4.3-2. These areas met all three parameters for a wetland: hydrology, hydrophytic vegetation, and hydric soils.

Table 4.3-2
Jurisdictional Waters of the State in the Proposed Project Study Area

| Jurisdiction | Vegetation Community | Acreage |
|--|-----------------------------|----------------|
| Wetland (RWQCB/CDFW) | Cattail marshes | 0.12 |
| Non-Wetland Water – Perennial (RWQCB/CDFW) | Open water | 0.02 |
| Riparian Vegetation (CDFW) | Arrow weed thickets | 0.57 |
| Total^a | | 0.72 |

Notes: RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife.

^a May not sum precisely due to rounding.

The wetlands on the site are associated with an unnamed canal, located in the southern portion of the intake area. This canal originates in the BLM land east of the study area and appears to outlet into the AAC. It supports perennial water and scattered cattails in the canal bottom with arrowweed growing along the banks. Hydrology, vegetation, and soils were assessed at two data station locations to determine the presence or absence of wetlands field indicators. Results from the data stations are included in Table 4.3-3.

Table 4.3-3
Data Station Summary

| Data Station | Wetland Determination Field Indicators | | | Stream Association |
|---------------------|---|---------------------|------------------|---------------------------|
| | <i>Vegetation</i> | <i>Hydric Soils</i> | <i>Hydrology</i> | |
| 1a | ✓ | ✓ | ✓ | Yes |
| 1b | ✓ | None | None | Yes |

Vegetation communities and/or land covers that may be subject to regulation by RWQCB and/or CDFW include arrow weed thickets and open water.

Plant Resources

A total of 20 species of native or naturalized vascular plants, 12 native (60%) and 8 non-native (40%), were recorded within the Proposed Project study area and study area (see Appendix C). As noted in the discussion of survey limitations, surveys were conducted in January 2018, which resulted in detection and identification of most perennial plant species that occur in the area. No focused special-status plant surveys were conducted in 2018. Special-status plants that are not expected to occur due to lack of suitable vegetation or because the site is outside the known elevation range of the species are listed in Appendix C. These species are not discussed further because no significant direct, indirect, or cumulative impacts are expected. Table 4.3-4 evaluates the potential for special-status plants that are in the known elevation range of the project site and that occur in the vegetation communities present in the study area. Based on the literature review, the following special-status plants have a moderate potential to occur within the focused study

area: gravel milk-vetch (*Astragalus sabulonum*; CRPR 2B.2), Abrams' spurge (*Euphorbia abramsiana*; CRPR 2B.2), California satintail (*Imperata brevifolia*; CRPR 2B.1), and sand food (*Pholisma sonorae*; CRPR 1B.2) (Appendix C).

Table 4.3-4
Special-Status Plants with Potential to Occur in the Proposed Project Study Area

| Scientific Name | Common Name | Status (Federal/State/CRPR) | Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (Feet amsl) | Potential to Occur |
|-----------------------------|----------------------|-----------------------------|--|--|
| <i>Astragalus sabulonum</i> | gravel milk-vetch | None/None/2B.2 | Desert dunes, Mojavean desert scrub, Sonoran desert scrub; usually sandy, sometimes gravelly; flats, washes, and roadsides/annual/perennial herb/Feb–June/–195–3,050 | Potential to occur. Suitable desert scrub and sandy soils are present within portions of the study area. |
| <i>Euphorbia abramsiana</i> | Abrams' spurge | None/None/2B.2 | Mojavean desert scrub, Sonoran desert scrub; sandy/annual herb/(Aug)Sep–Nov/–15–4,300 | Potential to occur. Suitable desert scrub and sandy soils are present within portions of the study area. |
| <i>Imperata brevifolia</i> | California satintail | None/None/2B.1 | Chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), riparian scrub; mesic/perennial rhizomatous herb/Sep–May/0–3,985 | Potential to occur. Suitable desert scrub present within portions of the study area. |
| <i>Pholisma sonorae</i> | sand food | None/None/1B.2 | Desert dunes, Sonoran desert scrub (sandy)/perennial herb (parasitic)/(Mar)Apr–June/0–655 | Potential to occur. Suitable desert scrub and sandy soils are present within portions of the study area. |

Note: amsl = above mean sea level.

Status Legend:

CRPR: California Rare Plant Rank

1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

CRPR 4: Plants of Limited Distribution - A Watch List

Threat Rank

0.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2 – Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)

0.3 – Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Gravel Milk-Vetch

Gravel milk-vetch, a CRPR 2B.2, is an annual herb in the legume family (Fabaceae) that occurs within creosote bush scrub. This species occurs in Imperial, Inyo, Riverside, and San Diego Counties between 160 feet below mean sea level and 2,950 feet amsl. Gravel milk-vetch blooms from February to July. Suitable desert scrub vegetation is present within portions of the Proposed Project study area (Appendix C).

Abram's Spurge

Abram's spurge, a CRPR 2B.2, is an annual herb in the spurge family (Euphorbiaceae) that occurs within sandy flats. This species occurs in Imperial, Riverside, San Bernardino, and San Diego Counties below 650 feet amsl and blooms from September to November. Suitable desert scrub vegetation is present within portions of the Proposed Project study area (Appendix C).

California Satintail

California satintail, a CRPR 2B.1, is a perennial grass in the grass family (Poaceae) that occurs within chaparral, coastal sage scrub, creosote bush scrub, and wetland-riparian vegetation communities. This species occurs in 13 counties in California, including Imperial, Los Angeles, and Riverside Counties below 1,640 feet amsl and blooms between September to May. Suitable desert scrub and riparian vegetation is present within portions of the Proposed Project study area (Appendix C).

Sand Food

Sand food, a CRPR 1B.2, is perennial parasitic herb in the borage family (Boraginaceae) that occurs on sandy soils desert dunes and Sonoran desert scrub. This species occurs in Imperial County from sea level to 656 feet amsl and blooms from April to June. Suitable desert scrub vegetation is present within portions of the project (Appendix C).

Wildlife Resources

A total of 22 wildlife species were recorded within the Proposed Project study area. Nineteen bird species were observed, including common raven (*Corvus corax*), black phoebe (*Sayornis nigricans*), mourning dove (*Zenaida macroura*), western meadowlark (*Sturnella neglecta*), and American kestrel (*Falco sparverius*). One mammal species, coyote (*Canis latrans*), was detected within the study area. Two invertebrate species were observed: harvester ant (*Pogonomyrmex* sp.) and queen butterfly (*Danaus gilippus*) (Appendix C).

As previously described, no focused special-status wildlife surveys were conducted in 2018. Five special-status wildlife species were observed during the 2018 biological surveys: burrowing owl (*Athene cunicularia*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), northern harrier (*Circus hudsonius*), prairie falcon (*Falco mexicanus*), and loggerhead shrike (*Lanius ludovicianus*). Several other special-status wildlife species have the potential to occur in the Proposed Project study area (Table 4.3-5). Those that occur in the region but that are not expected to occur in the Proposed Project study area, due for example, to a lack of suitable habitat, are included in Appendix C. These species are not discussed further because no significant direct, indirect, or cumulative impacts are expected. Table 4.3-5 presents the potential for special-status wildlife to occur in the Proposed Project study area. Because no focused surveys were

conducted, the potential for the species to occur is based on a literature review and observations made during the 2018 site visits (Appendix C).

Table 4.3-5
Special-Status Wildlife Species Potential to Occur in the Proposed Project Study Area

| Scientific Name | Common Name | Status (Federal/State) | Habitat | Potential to Occur |
|--|--|---------------------------|--|---|
| <i>Reptiles</i> | | | | |
| <i>Phrynosoma mcallii</i> | flat-tailed horned lizard | None/SSC | Desert washes and flats with sparse low-diversity vegetation cover and sandy soils | High potential to occur in the non-agriculture portions of the study area. Suitable habitat present throughout and surrounding the study area. |
| <i>Birds</i> | | | | |
| <i>Athene cunicularia</i> (burrow sites & some wintering sites) | burrowing owl | BCC/SSC | Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows | Observed on site during the January 2018 survey. High potential to nest on or adjacent to the study area. |
| <i>Aimophila ruficeps canescens</i> | Southern California rufous-crowned sparrow | None/WL | Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches | Observed on site during the January 2018 survey. The study area is outside of this species' yearlong range (Collins 1999), but may have been wintering or migrating through the site. |
| <i>Buteo regalis</i> (wintering) | ferruginous hawk | BCC/WL | Winters and forages in open, dry country, grasslands, open fields, agriculture | Moderate potential to occur on site during the winter. Suitable foraging habitat present. |
| <i>Circus hudsonius</i> (nesting) | northern harrier | None/SSC | Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats | Observed foraging on site during the January 2018 survey. Unlikely to nest on site because the study area is outside of its known nesting range (Smith et al. 2011). |
| <i>Falco mexicanus</i> (nesting) | prairie falcon | BCC/WL | Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs | Observed foraging on site during the January 2018 survey. Unlikely to nest on site due to disturbance and lack of nesting areas. |
| <i>Lanius ludovicianus</i> (nesting) | loggerhead shrike | BCC/SSC | Nests and forages in open habitats with | Observed on site during the January 2018 survey. High potential to nest on or adjacent to |

Table 4.3-5
Special-Status Wildlife Species Potential to Occur in the Proposed Project Study Area

| Scientific Name | Common Name | Status (Federal/State) | Habitat | Potential to Occur |
|--|-----------------------|---------------------------|--|---|
| | | | scattered shrubs, trees, or other perches | the study area in scrub or tree habitat. |
| <i>Laterallus jamaicensis coturniculus</i> | California black rail | BCC/ST, FP | Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations | Moderate potential to occur within the unnamed canal in the intake area. This species is known to occur in the All American Canal further east (CDFW 2018). |
| <i>Rallus obsoletus yumanensis</i> | Yuma Ridgway's rail | FE/ST, FP | Freshwater marsh dominated by <i>Typha</i> spp., <i>Scirpus</i> spp., <i>Schoenoplectus</i> spp., and <i>Bolboschoenus</i> spp.; mix of riparian tree and shrub species along the marsh edge; many occupied areas are now constructed, such as managed ponds or effluent-supported marshes | Moderate potential to occur within the unnamed canal in the intake area. This species is known to occur in the All American Canal further east (CDFW 2018). |
| Mammals | | | | |
| <i>Taxidea taxus</i> | American badger | None/SSC | Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils | Moderate potential to occur. There is some potential suitable habitat present in the study area. |

Status Legend:**Federal**

FE: Federally endangered

BCC: U.S. Fish Wildlife Service bird of conservation concern

State

SSC: California species of special concern

ST: State threatened

FP: California fully protected species

WL: California watch list

Flat-Tailed Horned Lizard

The flat-tailed horned lizard (*Phrynosoma mcallii*) (FTHL) is a California species of special concern (SSC) that occupies the Coachella Valley at its northern range limit and extends southeast to the Imperial and Borrego valleys and into Baja California, Mexico. The western limit of the species' range is Anza-Borrego Desert State Park in eastern San Diego County, and to the east they are found in Glamis and Ogilby northwest of Yuma, Arizona, and then into the lower Colorado subdivision of the Sonoran Desert in Arizona. Suitable habitat is characterized as stabilized sand dunes that fall within the creosote-white bursage series of Sonoran Desert Scrub community. They also occur in loose, active sand dunes, although

often at the dune periphery or in more stable regions within the active dune habitat. The FTHLs almost exclusively feed on harvester ants, but opportunistically eat small beetles, caterpillars, and termites. No focused surveys were conducted for the FTHL; none were observed during the 2018 biological surveys of the project footprint (Appendix C).

Burrowing Owl

The burrowing owl is an SSC and a USFWS bird of conservation concern (BCC) that inhabits much of California. Burrowing owls prefer open, dry, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. They usually nest in the old burrow of a ground squirrel, badger, or other small mammal, although they may dig their own burrow in soft soil. Their prey consists mostly of insects, small mammals, reptiles, birds, and carrion. No focused surveys were conducted for the burrowing owl, although the species is relatively detectable during the morning hours, when many surveys took place. No burrowing owls were detected in the Proposed Project study area during the 2018 biological surveys but readily colonize new areas if suitable habitat is present.

Ferruginous Hawk

The ferruginous hawk (*Buteo regalis*) is a BCC and a California watch list (WL) species. Ferruginous hawk occurs throughout western North America from southernmost Canada between the Great Plains and Rocky Mountains, south to northern Arizona and New Mexico. This species breeds from southeast Alberta and extreme southwest Manitoba south to the northwest corner of Texas, and west to the Great Basin, Columbia River Basin regions of eastern Oregon, and southeast Washington. Ferruginous hawk most commonly winters from Southern California, Colorado, Arizona, and New Mexico to northern Texas. Northern populations are completely migratory, and birds from southern breeding locations appear to migrate short distances or to be sedentary (Ng et al. 2017). Ferruginous hawk is an uncommon winter resident and migrants at lower elevations and open grasslands in the Modoc Plateau, Central Valley, and Coast Ranges of California (Appendix C).

Northern Harrier

The northern harrier is an SSC. Northern harriers use a wide variety of open habitats in California, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, estuaries, flood plains, and marshes. This species can also forage over coastal sage scrub or other open scrub communities. They nest in western San Diego County in areas associated with marshes, pastures, grasslands, prairies, croplands, desert shrub-steppe, and riparian woodland. Winter habitats similarly include a variety of open habitats dominated by herbaceous cover. Northern harrier populations are most concentrated in areas with low vegetation (Appendix C).

Prairie Falcon

The prairie falcon is a BCC and a WL species. Prairie falcon is found from southeastern deserts northwest throughout the Central Valley and along the inner Coast Ranges and Sierra Nevada. This species uses a variety of open habitats, including annual and perennial grasslands, savannahs, rangeland, agricultural fields, desert scrub, and alpine meadows. Prairie falcon requires sheltered cliff ledges for cover and dives from a perch of 50 to 300 feet above ground to catch prey in the air and on the ground in open areas. This species primarily eats small mammals, small birds, and reptiles (Appendix C).

Loggerhead Shrike

The loggerhead shrike is a BCC and an SSC. It is found in lowlands and foothills throughout California, and it remains in the southern portion of the state year-round. Preferred habitats for the loggerhead shrike are open areas that include scattered shrubs, trees, posts, fences, utility lines, or other structures that provide hunting perches with views of open ground, as well as nearby spiny vegetation or built structures (such as the top of chain-link fences or barbed wire) that provide means to skewer prey items. This species occurs most frequently in riparian areas along the woodland edge, grasslands with sufficient perch and butcher sites, scrublands, and open-canopied woodlands, although they can be quite common in agricultural and grazing areas. They can sometimes be found in mowed roadsides, cemeteries, and golf courses, although they occur rarely in heavily urbanized areas. Loggerhead shrike builds nests in stable shrubs or trees requiring dense foliage for well-concealed nests (Appendix C).

California Black Rail

The California black rail (*Laterallus jamaicensis coturniculus*) is designated as threatened in California and primarily occurs in California, Arizona, Baja California, and the Colorado River delta in Sonora. Suitable California black rail habitat generally includes salt marshes, freshwater marshes, and wet meadows. The species is typically identified in conjunction with common threesquare (*Schoenoplectus pungens*), arrowweed (*Pluchea sericea*), Fremont cottonwood (*Populus fremontii*), and seepwillow (*Baccharis salicifolia*). The California black rail typically prey on small (<1-centimeter [0.39-inch]) invertebrates, chiefly insects, gleaned from marsh vegetation and mudflats; they also eat small seeds. No California black rail were detected in the Proposed Project study area during the 2018 biological surveys (Appendix C).

Yuma Ridgway's Rail

The Yuma Ridgway's rail (*Rallus obsoletus yumanensis*) is designated as threatened in California and is federally listed as endangered. The Yuma Ridgway's rail is primarily known to breed in freshwater, but winter in brackish water. The preferred habitat consists of cattails (*Typha* spp.) and bulrushes (*Scirpus* ssp.). The Yuma Ridgway's rail primarily feeds on introduced species of

crayfish, small fish, insects, amphibian larvae, clams, and other aquatic invertebrates. No Yuma Ridgway's rail were detected in the Proposed Project study area during the 2018 biological surveys (Appendix C).

American Badger

The American badger (*Taxidea taxus*) is an SSC. In California they are found throughout the state except in coastal Northern California. American badger typically occurs in open, sparsely vegetated habitats, but also uses modified habitats such as agriculture. It is found in dry, open areas with friable soils, and can occur throughout the project area. Its distribution in a landscape coincides with the availability of prey, burrowing sites, and mates, with distribution of males ranging wider than distribution of females during the breeding season and summer months. In general, badger activity within a home range tends to concentrate in areas with suitable soils for burrowing or with colonies of ground squirrels (Appendix C).

Wildlife Movement

Wildlife species generally inhabit suitable habitat patches distributed across a landscape. These habitat blocks, which may make up the species' home range or breeding territory, support most, if not all, of the species' life history needs (e.g., food resource, mates, refuge). Wildlife corridors contribute to population viability by (1) ensuring the continual exchange of genes between populations, which helps maintain genetic diversity; (2) providing access to adjacent habitat areas, representing additional territory for foraging and mating; (3) allowing for a greater carrying capacity; and (4) providing routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes (e.g., fires). Habitat linkages are patches of native habitat that function to join two larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. Based on literature review, the Proposed Project study area is located adjacent to, but outside of, any identified regional wildlife movement corridors (Appendix C).

The Proposed Project study area consists of primarily agricultural land, disturbed areas (roads), irrigation canals, drains and small amounts of scrub habitat. Topography across the study area is relatively flat as the site is east of the Peninsular Ranges. While the study area is largely agricultural, it is adjacent to undeveloped BLM land to the east where wildlife can move freely throughout the area. Certain wildlife species, such as coyotes and bobcats, may utilize dirt roads and agricultural areas within the Proposed Project study area to move throughout the area. Constraints to wildlife movement include the Mexican Border wall, SR-98, and the AAC. While these features may constrain wildlife movement, the low traffic volume, along with light human presence, likely does not preclude wildlife from utilizing the site and surrounding areas. While not large areas on site, the riparian and wetland habitats in the Proposed Project study area (e.g., cattail marshes, arrow weed thickets), may serve as foraging or resting habitat for migratory birds and other species traveling through the area.

4.3.1.2 Methodology

Focused surveys were conducted in the Proposed Project study area, totaling 552.84 acres and a 300-foot corridor buffer along the intake. Special-status biological resources present or potentially present on site were identified through an extensive literature search outlined in Appendix C. In January 2018, Dudek conducted vegetation mapping, habitat assessments, and a jurisdictional delineation within the project site including a 300-foot buffer around the intake area; this area is collectively referred to as the study area. These focused surveys are outlined in this section.

Vegetation Mapping

Prior to conducting the on-site visit, Dudek reviewed available relevant data on vegetation communities and land covers to determine those resources that were applicable and of appropriate quality for use during the mapping effort. Vegetation community classifications were made directly onto hard copy maps at a 200-scale (1 inch = 200 feet) in the field and were later digitized into the program geodatabase by Dudek biologists. Natural vegetation communities were mapped using the *Manual of California Vegetation* and the *Natural Communities List*. Each natural community was mapped to the association level where possible. Geographic information system (GIS) analysts digitized the delineated vegetation community boundaries from field maps to create a base vegetation layer using ArcGIS (Appendix C).

The minimum mapping unit was 1 acre or less for communities that are considered high priority for inventory in the *Natural Communities List* (CDFG 2010). Data was collected for representative vegetation communities and land covers, including aspect, dominant layer, structure of dominant layer, associated species and estimated absolute cover, total vegetative cover of each strata, approximate stand size, disturbance information, other observations, and photographs (Appendix C).

Jurisdictional Delineation

In January 2018, Dudek conducted a formal (routine) jurisdictional wetlands delineation within the Proposed Project study area. All areas within the study area were surveyed on foot for waters of the state, including riparian areas or wetlands under the jurisdiction of USACE pursuant to Section 404 of the CWA, the Regional Water Quality Control Board (RWQCB) pursuant to Section 402 of the federal CWA, and the California Department of Fish and Wildlife (CDFW) pursuant to Section 1600 of the California Fish and Game Code.

Since the RWQCB typically asserts jurisdiction over the same areas as USACE, guidance from USACE documents was used to determine the extent of resources regulated by the RWQCB under the Porter-Cologne Act. Non-wetland waters subject to USACE and RWQCB jurisdiction were delineated based on the presence of an ordinary high water mark (OHWM), as determined by

USACE guidance, or any other surface water regulated under the Porter-Cologne Act. To assist in the determination of jurisdictional areas on site, data was collected at two data stations. Representative photographs are included in Appendix C. Hydrology, vegetation, and soils were assessed, and data were collected on approved USACE forms. The site was evaluated for evidence of an OHWM, surface water, saturation, and wetland vegetation. The extent of any identified jurisdictional areas was determined by mapping the areas with similar vegetation and topography to the sampled locations.

Wildlife

Focused surveys were not conducted for special-status wildlife species; however, wildlife species observed or detected during field surveys by sight, calls, tracks, scat, or other signs were recorded. Binoculars (10 mm × 40 mm) were used to aid in the identification of observed wildlife. In addition to species actually observed, expected wildlife usage of the site was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, American Ornithologists' Union (AOU) (2018) for birds, Wilson and Reeder (2005) for mammals, North American Butterfly Association (NABA) (2001) or SDNHM (2002) for butterflies, and Moyle (2002) for fish. All wildlife species observed during the surveys were identified and recorded (see Appendix C).

Survey Limitations

The vegetation mapping, habitat assessment and jurisdictional delineation were conducted during the day and during the months of the year when most blooming annuals and perennials were not evident or identifiable. Focused surveys for wildlife and plants were not conducted. Surveys specifically aimed at detection of the full range of wildlife species were not conducted. However, notes were taken for incidental wildlife observations made during vegetation mapping, and the jurisdictional delineation to establish a general baseline of wildlife diversity within the project area. These surveys were conducted during the daytime, which usually results in few observations of mammals, many of which may be active at night. In addition, many species of reptiles and amphibians are nocturnal or cryptic in their habits and are difficult to observe using standard meandering transects. The current survey effort provides an accurate representation of the potential for special-status species to occur in the project area. The surveys conducted to date were thorough and comprehensive, and the results of the study contained herein provide a reasonable, accurate assessment of the Proposed Project area.

4.3.2 Relevant Plans, Policies, and Ordinances

Federal

Federal Endangered Species Act

The federal Endangered Species Act (ESA) of 1973 designates threatened and endangered animals and plant species and provides measures for their protection and recovery. Under the ESA, “take” of listed animal and plant species in areas under federal jurisdiction is prohibited without obtaining a federal permit. The ESA defines “take” as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct” (16 USC 1531). Harm includes any act that actually kills or injures fish or wildlife, including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife. Activities that damage (i.e., harm) the habitat of listed wildlife species require approval from USFWS for terrestrial species. If critical habitat has been designated under the ESA for listed species, impacts to areas that contain the primary constituent elements identified for the species, whether or not it is currently present, is also prohibited without obtaining a federal permit. ESA Sections 7 and 10 provide two pathways for obtaining permission to take listed species.

Under Section 7 of the ESA, a federal agency that authorizes, funds, or carries out a project that “may affect” a listed species or its critical habitat must consult with USFWS. For example, USACE must issue a permit for projects impacting waters or wetlands under USACE jurisdiction. In a Section 7 consultation, the lead agency (e.g., USACE) prepares a biological assessment that analyzes whether the project is likely to adversely affect listed wildlife or plant species or their critical habitat, and it proposes suitable avoidance, minimization, or compensatory mitigation measures. If the action would adversely affect the species, USFWS has up to 135 days to complete the consultation process and develop a biological opinion determining whether the project is likely to jeopardize the continued existing species or result in adverse modification of critical habitat. If a “no jeopardy” opinion is provided, “the action agency may proceed with the action as proposed, provided no incidental take is anticipated. If incidental take is anticipated, the agency or the applicant must comply with the reasonable and prudent measures and implementing terms and conditions in the USFWS’s incidental take statement to avoid potential liability for any incidental take” (USFWS 1998). If a jeopardy or adverse modification opinion is provided, USFWS may suggest “reasonable and prudent alternatives for eliminating the jeopardy or adverse modification of critical habitat in the opinion” or “choose to take other action if it believes, after a review of the biological opinion and the best available scientific information, such action satisfies section 7(a)(2)” (USFWS 1998).

Under Section 10 of the ESA, private parties with no federal nexus may obtain an Incidental Take Permit (ITP) to harm listed wildlife species incidental to the lawful operation of a project. To obtain

an ITP, the applicant must develop a habitat conservation plan that specifies impacts to listed species, provides minimization and mitigation measures and funding, and discusses alternatives considered and the reasons why such alternatives are not being used. If USFWS finds that the habitat conservation plan would not appreciably reduce the likelihood of the survival and recovery of the species, it would issue an ITP. Issuance of ITPs requires USFWS to conduct an internal Section 7 consultation, thus triggering coverage of any listed plant species or critical habitat present on site (thus, listed plants on private property are protected under the ESA if a listed animal is present). Unlike a Section 7 consultation, USFWS is not constrained by a time limit to issue an ITP.

Clean Water Act

The CWA is intended to restore and maintain the quality and biological integrity of the nation's waters. Section 402 of the CWA prohibits the discharge of pollutants to "waters of the United States" from any point source unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. The CWA, Section 402, requires an NPDES Permit for the discharge of stormwater from municipal separate storm sewer systems serving urban areas with a population greater than 100,000, construction sites that disturb 1 acre or more, and industrial facilities. The RWQCB administers these permits with oversight provided by the SWRCB and EPA Region IX.

Section 404 of the CWA authorizes the Secretary of the Army, acting through USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites." CWA Section 502 further defines "navigable waters" as "waters of the United States, including territorial seas." Waters of the United States are broadly defined in the Code of Federal Regulations (CFR), Title 33, Section 328.3, Subdivision (a) to include navigable waters; perennial and intermittent streams, lakes, rivers, and ponds; and wetlands, marshes, and wet meadows.

The lateral limits of USACE's CWA Section 404 jurisdiction in non-tidal waters are defined by the ordinary high water mark, unless adjacent wetlands are present. The ordinary high water mark is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or presence of debris (33 CFR 328.3). As a result, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within or adjacent to waters of the United States, the lateral limits of USACE's jurisdiction extends beyond the ordinary high water mark to the outer edge of the wetland.

Section 401 of the CWA requires that an applicant for a federal license or permit to discharge into navigable waters provide the federal agency with a water quality certification declaring that the discharge would comply with water quality standard requirements of the CWA. USACE is

prohibited from issuing a CWA permit until the applicant receives a CWA Section 401 water quality certification or waiver from the RWQCB.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 USC 661–666) “authorizes the Secretaries of Agriculture and Commerce to provide assistance to and cooperate with Federal and State agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife.” The term “wildlife” includes both animals and plants. For any federal project where the waters of any stream or other body of water are impounded, diverted, deepened, or otherwise modified, consultation with the USFWS and appropriate state wildlife agency is undertaken to prevent the loss of and damage to wildlife resources. These agencies prepare reports and recommendations that document project effects on wildlife and identify measures that may be adopted to prevent loss or damage to wildlife resources. Provisions of the act are implemented through the Section 404 permit process.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was enacted in 1918 to protect native migratory birds or any part, nest, or egg of such bird unless allowed by another regulation adopted in accordance with the act. Enforced in the United States by USFWS, the MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21; 16 USC 703–712). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered a “take” and is potentially punishable by fines and/or imprisonment.

State

California Endangered Species Act

CDFW administers the California ESA (California Fish and Game Code, Section 2050 et seq.), which prohibits the take of plant and animal species designated by the Fish and Game Commission as endangered or threatened in California. Under the California ESA, Section 86, take is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” California ESA Section 2053 stipulates that state agencies may not approve projects that would “jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy.”

California ESA Sections 2080 through 2085 address the taking of threatened, endangered, or candidate species by stating, “No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided in this chapter, the Native Plant Protection Act (California Fish and Game Code, Sections 1900–1913), or the California Desert Native Plants Act (Food and Agricultural Code, Section 80001).”

California Environmental Quality Act

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a discretionary permit any by state or local public agency. Projects subject to CEQA include zoning ordinances, issuance of conditional use permits, variances, and the approval of tentative subdivision maps. If a project is regulated under CEQA, the proponent completes necessary studies and designs for the project and identifies the state lead agency for the project. The lead agency conducts an initial study that identifies the environmental impacts of the project and determines whether these impacts are significant. In some cases, the lead agency may skip the preparation of the initial study and proceed directly to the preparation of an EIR. The lead agency may prepare a negative declaration if it finds no potential significant impacts; a mitigated negative declaration if it revises or conditions the project to avoid or mitigate potential significant impacts; or an EIR if it finds potential significant, unmitigated impacts. The EIR is subject to a more extensive public participation process, and provides information on potential significant impacts of the project, lists ways to minimize these impacts, and discusses alternatives to the project. CEQA provides a public review process, and projects with significant impacts may be approved if the lead agency makes a finding of overriding considerations.

In addition to state-listed or federally listed species, special-status plants and animals receive consideration under CEQA. Special-status species include wildlife Species of Special Concern listed by CDFW and plant species with a California Rare Plant Rank (CRPR) of 1A, 1B, or 2.

California Fish and Game Code

Birds and Mammals

According to Sections 3511 and 4700 of the California Fish and Game Code, which regulate birds and mammals, respectively, a fully protected species may not be taken or possessed, and incidental take of these species is not authorized. However, CDFW may authorize the taking of species for necessary scientific research, including efforts to recover fully protected, threatened, or endangered species, and may authorize the live capture and relocation of those species pursuant to a permit for the protection of livestock. Fully protected species include California condor

(*Gymnogyps californianus*), Peninsular bighorn sheep (*Ovis canadensis cremnobates*), ringtail (*Bassariscus astutus*), and golden eagle (*Aquila chrysaetos*). In 2012, legislation (Senate Bill 618) took effect that grants potential take of fully protected species that are included in a natural community conservation plan.

Resident and Migratory Birds

The California Fish and Game Code provides protection for wildlife species. It states that no mammals, birds, reptiles, amphibians, or fish species listed as fully protected can be “taken or possessed at any time.” In addition, CDFW affords protection over the destruction of nests or eggs of native bird species (Section 3503), and it states that no birds in the orders of Falconiformes or Strigiformes (birds of prey) can be taken, possessed, or destroyed (Section 3503.5). CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock (Section 3511). Separate from federal and state designations of species, CDFW designates certain vertebrate species as Species of Special Concern based on declining population levels, limited ranges, and/or continuing threats that have made them vulnerable to extinction.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 (California Fish and Game Code, Section 1900 et seq.) directed CDFW to carry out the legislature’s intent to “preserve, protect and enhance rare and endangered plants in this State.” The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as “endangered” or “rare,” and to protect endangered and rare plants from take. When the California ESA was passed in 1984, it expanded on the original Native Plant Protection Act, enhanced legal protection for plants, and created the categories of “threatened” and “endangered” species to parallel the federal ESA. The California ESA categorized all rare animals as threatened species under the act, but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The Native Plant Protection Act remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and a project proponent.

Streambed Alteration Agreements

CDFW must be notified prior to beginning any activity that would obstruct or divert the natural flow of, use material from, or deposit or dispose of material into a river, stream, or lake, whether permanent, intermittent, or ephemeral water bodies, under Section 1602 of the California Fish and Game Code. CDFW has 30 days to review the proposed actions and propose measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW

and the applicant is the Streambed Alteration Agreement. The conditions of a Streambed Alteration Agreement and a CWA Section 404 permit often overlap.

Porter-Cologne Water Quality Control Act

The intent of the Porter-Cologne Act (California Water Code, Section 13000 et seq.) is to protect water quality and the beneficial uses of water, and it applies to both surface water and groundwater. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the RWQCB develops basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under the Porter-Cologne Act include isolated waters that are no longer regulated by USACE. Developments with impact to jurisdictional waters must demonstrate compliance with the goals of the act by developing stormwater pollution prevention plans, standard urban stormwater mitigation plans, and other measures to obtain a CWA Section 401 certification.

Local

Imperial County General Plan

The Imperial County General Plan Conservation and Open Space Element establishes goals and objectives, together with implementation programs and policies related to the protection of threatened or endangered plant and wildlife species and cooperation with federal, state, and local agencies.

IID Natural Community Conservation Plan

The IID is currently in the process of preparing a Natural Community Conservation Plan (NCCP) and Habitat Conservation Plan (HCP) which is anticipated to cover 96 fish, wildlife, and plant species for a term of up to 75 years (IID 2017). Since these plans are still awaiting approval, the Proposed Project is not subject to the IID's NCCP and HCP.

Desert Renewable Energy Conservation Plan

BLM has adopted the Desert Renewable Energy Conservation Plan (DRECP), which provides protection and conservation of desert ecosystems while allowing for appropriate development of renewable energy projects. The Draft DRECP was originally developed as an HCP/NCCP and a BLM Land Use Plan Amendment covering both public and private lands across seven counties, including Imperial County. In October 2015, the DRECP BLM Land Use Plan Amendment and Final EIS, which addresses renewable energy, land use, and conservation on BLM lands only, was released (BLM 2015). Although the DRECP plan area includes the project area, the DRECP currently only applies to renewable energy projects.

4.3.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to biological resources are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to biological resources would occur if the project would:

- 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 Game or U.S. Fish and Wildlife Service.
- 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 Game or U.S. Fish and Wildlife Service.
- c. Have a substantial adverse effect on 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.
- 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.
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- 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.

4.3.4 Impacts Analysis

Various impact types are referenced throughout the analysis herein. The definition of the various impact types are outlined below, and in Section 4.1.2 of the BTR (Appendix C).

Construction-Related (Short-Term Temporary) Direct Impacts: Absent the recommended mitigation measures, potential construction-related direct impacts to biological resources could result from unintentional clearing, trampling, or grading outside of the proposed construction zone. Accidental clearing, trampling, or grading outside designated construction zones may occur during construction activities for various reasons, such as incorrect construction grading plans, human error in interpreting grading plans, human error or accidents in operating construction equipment, and misunderstandings by construction personnel in adhering to construction plan requirements, including avoidance of biological resources. Temporary ground-disturbing activities would occur

from the Proposed Project. Temporary impacts may occur within a 300 foot buffer from the intake channel to allow for activities like vehicles passing, laydown, and staging. Staging areas during construction would be located within existing disturbed areas to the maximum extent feasible, including existing dirt roads and disturbed areas. Additionally, the permanent loss of or harm to individual special-status plant and wildlife species from construction-related activities is addressed as a construction-related direct impact.

Construction-Related (Short-Term Temporary) Indirect Impacts: For the Proposed Project, the construction-related (short-term temporary) impacts would primarily be indirect and include temporary effects that are immediately related to construction, such as the generation of construction-related dust or noise.

Operations-Related (Long-Term Permanent) Direct Impacts: Operations-related (long-term) direct impacts are permanent impacts that result in the direct loss of biological resources due to a project (e.g., the permanent loss of wildlife habitat or the permanent loss of or harm to individual special-status plant and wildlife species from operations and maintenance). Permanent ground-disturbing activities would occur from the construction of the reservoir, automated gate outlet, and intake channel.

Operations-Related (Long-Term Permanent) Indirect Impacts: Operations-related (long-term permanent) indirect impacts could result from the proximity to biological resources after construction. Operations-related (long-term permanent) indirect impacts from the Proposed Project are expected to be minimal. Examples of operations-related (long-term permanent) to biological resources could include impacts such as dust from maintenance vehicles, human presence, vehicle collision, and noise.

Would the project 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 Game or U.S. Fish and Wildlife Service?

Special- Status Plants

Construction (Short-Term) Impacts

Direct

Less-Than-Significant Impact with Mitigation. Absent the recommended mitigation measures, potential construction-related direct impacts to special-status plants could result during construction from unintentional clearing, trampling, or grading outside of the proposed construction zone. There is a moderate potential that the following special-status plants could be directly impacted by the Proposed Project: Wiggins' croton, slender cottonheads, and sand food.

If any of these species are present on site, the Proposed Project could potentially result in significant construction-related direct impacts to special-status plants.

Construction mitigation measure **Mitigation Measure (MM) BIO-1** (general construction-related avoidance and minimization measures) and **MM-BIO-2** (WEAP training, biological monitoring, and compliance) would apply and these measures would avoid and minimize potential temporary direct impacts to special-status plants because they require the project biologist to conduct a Worker Environmental Awareness Program (WEAP) for all construction/contractor personnel to ensure compliance with the mitigation measures and they require ongoing biological construction monitoring. This includes demarcation of the construction area using highly visible materials in the field that minimize unintentional impacts to special-status plants and their habitat outside the designated construction area. Training and ongoing monitoring would aid in enforcing the requirements that construction must be restricted to designated areas and special-status plants outside the designated construction zone would be avoided.

Additionally, **MM-BIO-3** (focused surveys for special-status plants) requires special-status plant surveys for the Proposed Project study area in order to survey for spring-blooming plants that may not have been identifiable during the August 2017 survey. If special-status plants are found, direct impacts would be avoided, minimized, and/or mitigated. Also, areas that are temporarily impacted shall be recontoured to natural grade and revegetated with application of a native seed mix in accordance with **MM-BIO-4** (restoration of temporary impacts to upland habitat). The application of a native seed mix would promote passive restoration of temporary impact areas.

Construction-related direct impacts to special-status species would be less than significant with incorporation of **MM-BIO-1**, **MM-BIO-2**, **MM-BIO-3**, and **MM-BIO-4**. These biological mitigation measures are described in full in Section 4.3.5, Mitigation Measures.

Indirect

Less-Than-Significant Impact with Mitigation. Special-status plants and suitable habitat for special-status plants may be indirectly impacted during construction if they are present in the undisturbed areas on site.

Potential short-term or temporary indirect impacts to special-status plants resulting from construction activities include: the generation of fugitive dust; the release of chemical pollutants; and the adverse effect of invasive plant species. Potential short-term or temporary indirect impacts to special-status plants are considered significant absent mitigation.

MM-BIO-1 would minimize the potential effects of construction-related impacts by requiring vehicle maintenance restrictions to avoid chemical spills. **MM-BIO-2** would minimize the potential effects of construction-related impacts by requiring all construction/contractor

personnel to attend WEAP training, conducting biological monitoring during construction activities, and requiring compliance with all environmental documents and permits. **MM-BIO-4** would help prevent future adverse effects associated with leaving bare ground, such as increased dust and erosion, and would help prevent adverse effects of invasive plant species that may alter the composition of the habitat if introduced during restoration or allowed to passively colonize the area post-construction. **MM-BIO-5** (preparation and implementation of a dust control plan) would minimize the effects of dust during construction by implementing a dust control plan, which would require that construction-related dust is suppressed in compliance with the ICAPCD requirements.

These potential short-term or temporary indirect impacts to special-status plants would be less than significant with implementation of **MM-BIO-1**, **MM-BIO-2**, **MM-BIO-4**, and **MM-BIO-5**.

Operations (Long-Term) Impacts

Direct

Less-Than-Significant Impact with Mitigation. The Proposed Project study area was surveyed for special-status plants in August 2017 no special-status plants were observed in the Proposed Project study area. There is a moderate potential that the following special-status plants could be permanently and directly impacted by the Proposed Project: gravel milk-vetch, Abrams' spurge, California satintail, and sand food. If these plants are present on site, the Proposed Project could result in significant operations-related direct impact to special-status plants. **MM-BIO-3** (focused surveys for special-status plants) requires special-status plant surveys for the Proposed Project study area, and, if special-status plants are found, direct permanent impacts would be avoided, minimized, and/or mitigated.

These potential long-term or permanent direct impacts to special-status plants would be less than significant with implementation of **MM-BIO-3**.

Indirect

Less-Than-Significant Impact with Mitigation. Potential long-term indirect impacts that could result from development near special-status plants or their suitable habitat include: chemical releases such as oils and grease from vehicles that could degrade habitat; increased invasive plant species that may degrade habitat; and trampling of vegetation and soil compaction by humans, which could affect soil moisture, water penetration, surface flows, and erosion. These potential long-term indirect impacts to special-status plants would be significant absent mitigation.

MM-BIO-1 (general avoidance and minimization measures) requires that vehicles and equipment will be limited to maintenance access roads and the minimal area necessary to perform the work to minimize chemical releases and trampling of vegetation and soils compaction by humans. **MM-BIO-4** (restoration of temporary impacts) would help prevent adverse effects of invasive plant species that may alter the composition of the habitat if introduced during restoration or allowed to passively colonize the area after construction if these areas are not revegetated.

These potential long-term indirect impacts to special-status plants would be less than significant with implementation of **MM-BIO-1** and **MM-BIO-4**.

Special-Status Wildlife

As described in Section 4.3.1, Existing Conditions, several special-status wildlife species have been observed or have at least a moderate potential to occur in the Proposed Project study area during some or all seasons. These include the FTHL, burrowing owl, Southern California rufous-crowned sparrow, ferruginous hawk, northern harrier, prairie falcon, loggerhead shrike, California black rail, Yuma Ridgway's rail, and American badger. Potential impacts to each are discussed under both short-term and long-term impacts.

Construction (Short-Term) Impacts

Direct

Less-Than-Significant Impact with Mitigation. Two types of short-term direct impacts can potentially occur to special-status wildlife species: impacts to habitat and impacts to the species from injury or mortality of individuals of the species. Total temporary direct impacts would be approximately 91.47 acres. Absent the proposed mitigation measures, impacts causing injury or mortality of individuals could include, for example, crushing of low-mobility species during grading, entombment of burrowing species during grading, collisions with construction equipment, and destruction of bird nests during vegetation removal or grading.

Flat-Tailed Horned Lizard

Suitable habitat for the FTHL occurs in the Proposed Project study area. Focused surveys were not conducted within the Proposed Project study area; therefore, impacts are based upon the presence of suitable habitat and the potential for the species to occur.

Absent the recommended mitigation measures, potential construction-related direct impacts to FTHL could result from unintentional clearing, trampling, or grading outside of the construction zone. Also, temporary ground-disturbing activities, such as grading, trenching and staging areas, would occur from

the Proposed Project; the acreages for temporary impacts are estimated in Table 4.3-1. These impacts could result in the temporary loss of FTHL habitat, permanent alteration of habitat, and crushing of FTHLs. Short-term direct impacts to habitat would be significant absent mitigation. Additionally, these low-mobility species would likely not be able to escape construction activity to occupy suitable adjacent habitats and therefore would be particularly susceptible to injury and mortality. In fact, impacts to a relatively small area could mean the loss of a population, which could substantially reduce the species' potential survival in the vicinity. This impact would be significant absent mitigation.

Short-term direct impacts to individuals would be reduced through **MM-BIO-1**, which would limit vehicles and construction equipment to identified impact areas and would limit ingress and egress to established roads; **MM-BIO-2**, which would require the project biologist to conduct a WEAP for all construction/contractor personnel and would require ongoing biological construction monitoring to ensure compliance with mitigation measures; and **MM-BIO-6** (surveys for FTHL), which would require surveys for FTHL using protocol surveys, avoidance of these species, where possible, and relocation of individuals that may be captured.

Construction-related direct impacts to FTHL would be less than significant with incorporation of **MM-BIO-1**, **MM-BIO-2**, and **MM-BIO-6**.

Burrowing Owl

One burrowing owl was observed during the January 29, 2018, site visit and suitable habitat occurs in the Proposed Project study area. Focused surveys were not conducted within the Proposed Project study area. Absent the recommended mitigation measures, potential construction-related direct impacts to burrowing owl could result from unintentional clearing, trampling, or grading outside of the construction zone. Also, temporary ground-disturbing activities, such as grading, trenching and staging areas, would occur from the Proposed Project; the acreages for temporary impacts are estimated in Table 4.3-1. Short-term direct impacts to habitat would be significant absent mitigation. Additionally, ground disturbances could potentially result in destruction of burrowing owl dens, destruction of nests, eggs, and young, and entombment of adults. Burrowing owl is an SSC that has experienced declines in California and loss of individuals and destruction of nests is considered a significant impact.

Construction mitigation measure **MM-BIO-7** (burrowing owl pre-construction surveys and avoidance/relocation plan) would result in identification of any burrowing owls within areas potentially impacted by the project, establishment of appropriate buffers, and avoidance of impacts to burrowing owl. **MM-BIO-1** would limit vehicles and construction equipment to identified impact areas and would limit ingress and egress to established roads. **MM-BIO-2** would further ensure avoidance of impacts to burrowing owls.

Construction-related direct impacts to burrowing owl would be less than significant with incorporation of **MM-BIO-1**, **MM-BIO-2**, and **MM-BIO-7**.

Southern California Rufous-Crowned Sparrow and Ferruginous Hawk

Southern California rufous-crowned sparrow was observed in the northeast corner of the Proposed Project study area in bush seepweed scrub during the January 29, 2018, site visit. The study area is outside of its normal range, and this occurrence is likely a migrant or wintering individual. Ferruginous hawk was not observed, but has potential to forage during the winter when it occurs in this region. Absent the recommended mitigation measures, potential construction-related direct impacts to suitable habitat could result from unintentional clearing, trampling, or grading outside of the Proposed Project impact area during construction. Also, temporary ground-disturbing activities, such as grading, trenching and staging areas, would occur from the Proposed Project; the acreages for temporary impacts are estimated in Table 4.3-1. These impacts could result in temporary loss of habitat and permanent alteration of habitat for these species. Short-term direct impacts to habitat would be significant absent mitigation. **MM-BIO-1** would limit vehicles and construction equipment to identified impact areas and would limit ingress and egress to established roads. **MM-BIO-2** would further ensure avoidance of impacts to suitable habitat.

Construction-related direct impacts to suitable habitat would be less than significant with incorporation of **MM-BIO-1** and **MM-BIO-2**.

Northern Harrier

Northern harrier was observed foraging over the agricultural areas in the Proposed Project study area during the January 29, 2018, site visit. Northern harrier does not nest in this region, but it does occur in the winter. Absent the recommended mitigation measures, potential construction-related direct impacts to suitable habitat could result from unintentional clearing, trampling, or grading outside of the Proposed Project impact area during construction. Also, temporary ground-disturbing activities, such as grading, trenching and staging areas, would occur from the Proposed Project; the acreages for temporary impacts are estimated in Table 4.3-1. These impacts could result in temporary loss of habitat and permanent alteration of habitat for these species. Short-term direct impacts to habitat would be significant absent mitigation. **MM-BIO-1** would limit vehicles and construction equipment to identified impact areas and would limit ingress and egress to established roads. **MM-BIO-2** would further ensure avoidance of impacts to suitable habitat.

Construction-related direct impacts to suitable habitat would be less than significant with incorporation of **MM-BIO-1** and **MM-BIO-2**.

Prairie Falcon and Loggerhead Shrike

Prairie falcon was observed foraging over the agricultural areas in the Proposed Project study area during the January 29, 2018, site visit; however, there is no suitable nesting habitat on site. Loggerhead shrike was observed perched on power lines within and adjacent to the study area on January 29, 2018. There is some suitable nesting habitat within the scrub habitat in the study area. Absent the recommended mitigation measures, potential construction-related direct impacts to suitable habitat and/or nests (loggerhead shrike) could result from unintentional clearing, trampling, or grading outside of the Proposed Project impact area during construction. Also, temporary ground-disturbing activities, such as grading, trenching and staging areas, would occur from the Proposed Project; the acreages for temporary impacts are estimated in Table 4.3-1. These impacts could result in temporary loss of habitat, permanent alteration of habitat for these species, and impacts to active nests. Short-term direct impacts to habitat would be significant absent mitigation. Construction mitigation measure **MM-BIO-8** (nesting bird pre-construction surveys and avoidance plan) would result in identification of any active nests within areas potentially impacted by the project, establishment of appropriate buffers, and avoidance of impacts to loggerhead shrike nests. **MM-BIO-1** would limit vehicles and construction equipment to identified impact areas and would limit ingress and egress to established roads. **MM-BIO-2** would further ensure avoidance of impacts to suitable habitat.

Construction-related direct impacts to suitable habitat and/or active nests would be less than significant with incorporation of **MM-BIO-1**, **MM-BIO-2**, and **MM-BIO-8**.

California Black Rail and Yuma Ridgway's Rail

California black rail and Yuma Ridgway's rail were not observed during the 2018 site visits; however, suitable habitat occurs in some of the canals in Proposed Project study area and there are CNDDDB occurrences from 2008 for both of these species within the AAC, which is located immediately to the south of the intake area and flows in an east–west direction (CDFW 2018, Figure 1). Focused surveys were not conducted within the Proposed Project study area; therefore, impacts are based upon the presence of suitable habitat and the potential for the species to occur. Absent the recommended mitigation measures, potential construction-related direct impacts to California black rail and Yuma Ridgway's rail could result from unintentional clearing, trampling, or grading outside the construction zone. Also, temporary ground-disturbing activities, such as grading, trenching and staging areas, would occur from the Proposed Project; the acreages for temporary impacts are estimated in Table 4.3-1. Short-term direct impacts to habitat would be significant absent mitigation. Additionally, ground disturbances could potentially result in destruction of nests, eggs, and/or young. Loss of individuals or destruction of nests is considered a significant impact.

Construction mitigation measure **MM-BIO-8** would result in identification of any California black rails and Yuma Ridgway's rails within areas potentially impacted by the project, establishment of appropriate buffers, and avoidance of impacts to California black rail and Yuma Ridgway's rail. **MM-BIO-1** would limit vehicles and construction equipment to identified impact areas and would limit ingress and egress to established roads. **MM-BIO-2** would further ensure avoidance of impacts to California black rails and Yuma Ridgway's rails.

Construction-related direct impacts to California black rail and Yuma Ridgway's rail would be less than significant with incorporation of **MM-BIO-1**, **MM-BIO-2**, and **MM-BIO-8**.

American Badger

No badgers or badger burrows were observed during the 2018 site visits, but there are some historical occurrences in the El Centro area west of the project site (CDFW 2018).

Absent the recommended mitigation measures, potential construction-related direct impacts to American badger could result from unintentional clearing, trampling, or grading outside of the Proposed Project impact area during construction. Also, temporary ground-disturbing activities, such as grading, trenching and staging areas, would occur from the Proposed Project; the acreages for temporary impacts are estimated in Table 4.3-1. These impacts could result in temporary loss of American badger habitat, permanent alteration of habitat, and crushing of badgers, either aboveground or in burrows. Short-term direct impacts to habitat would be significant absent mitigation. **MM-BIO-1** (general construction-related avoidance and minimization measures) would limit vehicles and construction equipment to identified impact areas and would limit ingress and egress to established roads. **MM-BIO-2** would further ensure avoidance of impacts to American badger or their suitable habitat.

Construction-related direct impacts to American badger and/or suitable habitat would be less than significant with incorporation of **MM-BIO-1** and **MM-BIO-2**.

Indirect

Less-Than-Significant Impact with Mitigation. Short-term indirect impacts to special-status wildlife species are those that occur during construction to species present near the site, but not within the construction zone. These include fugitive dust that can degrade habitat and result in health implications for wildlife species; noise and vibration that can stress wildlife species or cause them to leave an area of otherwise suitable habitat, or that can result in disruption of bird nesting and abandonment of nests; increased human presence, which can also disrupt daily activities of wildlife and cause them to leave an area; night-time lighting, which can disrupt the activity patterns of nocturnal species, including many mammals and some birds, amphibians, and reptiles; and release of chemical pollutants, such as from oil

leaks from construction vehicles and machinery. These potential indirect impacts to special-status wildlife species would be significant absent mitigation.

Short-term direct impacts from injury or mortality of individuals would be reduced through **MM-BIO-1** would further reduce this impact by requiring demarcation of the construction area using highly visible materials, so as to minimize unintentional impacts to surrounding resources; limit work to daytime hours to reduce night-time lighting; enforce speed limits to reduce collisions; and vehicles and equipment stored over drip-pans to reduce contaminants. **MM-BIO-2** would require the project biologist to conduct a WEAP for all construction/contractor personnel and would require ongoing biological construction monitoring to ensure compliance with mitigation measures. Training and ongoing monitoring would aid in enforcing the requirements that construction must be restricted to designated areas and impacts would not occur to special-status species outside the designated construction zone.

Operations (Long-Term) Impacts

Direct

Less-Than-Significant Impact. Long-term direct impacts to special-status wildlife species, as with short-term direct impacts, include habitat impacts and impacts resulting in injury or mortality of individuals. Habitat impacts are permanent impacts from loss of vegetation communities and land covers. As shown in Table 4.3-1, the project would result in permanent impacts to 5.21 acres of vegetation communities and 434.04 acres of land covers. Long-term direct impacts from injury or mortality of individuals include impacts occurring from activities related to operations and maintenance. For example, occasional road grading could result in crushing of low-mobility wildlife species occurring along the existing road or entombment of burrowing species in previously disturbed areas (although some of the burrowing species occurring in the project area avoid such areas).

Flat-Tailed Horned Lizard

There is suitable habitat for FTHL, Southern California rufous-crowned sparrow, ferruginous hawk, northern harrier, prairie falcon, loggerhead shrike, and American badger, within the Proposed Project study area. Permanent direct impacts to these species from construction of the reservoir, roads, and intake canal are estimated in Table 4.3-1. However, due to the small size and spread out locations of the permanent impacts, these impacts are not considered a significant impact.

Burrowing Owl

Burrowing owl was observed during the 2018 site visit. Focused surveys were not conducted within the Proposed Project study area to determine the number of individuals; therefore, impacts are based upon the presence of suitable habitat and the potential for the species to occur. Permanent

direct impacts from construction of the reservoir, roads, and intake channel are estimated in Table 4.3-1. Burrowing owls can occur in some portions of the agriculture land; however, these areas are currently subject to regular disturbance and therefore, are not considered to be suitable over the entire area. Permanent impacts to primarily agriculture lands are not considered a significant impact.

Southern California Rufous-Crowned Sparrow and Ferruginous Hawk

Southern California rufous-crowned sparrow was observed during the 2018 site visit; however, the Proposed Project study area is located outside of the species' yearlong range. It is assumed the species may have been wintering or migrating through the site. Ferruginous hawk was not recorded during the 2018 site visits; however, suitable habitat occurs in the Proposed Project study area. Permanent direct impacts from construction of the reservoir, roads, and intake channel are estimated in Table 4.3-1. However, due to the small size of the permanent impacts to native habitat, these impacts are not considered a significant impact.

Northern Harrier

Northern harrier was recorded foraging during the 2018 site visits; however, the species is unlikely to nest on site because the Proposed Project study area is located outside of its known nesting range (Smith et al. 2011). Permanent direct impacts from construction of the reservoir, roads, and intake channel are estimated in Table 4.3-1. However, due to the small size of the permanent impacts to native habitat, these impacts are not considered a significant impact.

Prairie Falcon and Loggerhead Shrike

Prairie falcon and loggerhead shrike were both observed within the Proposed Project study area during the 2018 site visits. Permanent direct impacts from construction of the reservoir, roads, and intake channel are estimated in Table 4.3-1. However, due to the small size of the permanent impacts to native habitat, these impacts are not considered a significant impact.

California Black Rail and Yuma Ridgway's Rail

California black rail and Yuma Ridgway's rail were not recorded during the 2018 site visits; however, suitable habitat occurs in the Proposed Project study area and there are CNDDDB occurrences from 2008 for both of these species within the AAC near the project site (CDFW 2018). Permanent direct impacts from construction of the reservoir, roads, and intake channel are estimated in Table 4.3-1. However, due to the small size of the permanent impacts to native habitat, these impacts are not considered a significant impact.

American Badger

This species has a moderate potential to occur in or adjacent to the Proposed Project study area. Permanent direct impacts from construction of the reservoir, roads, and intake channel are estimated in Table 4.3-1. However, due to the small size of the permanent impacts to native habitat, these impacts are not considered a significant impact.

Indirect

Less-Than-Significant Impact with Mitigation. Long-term indirect impacts to special-status wildlife species include impacts that could occur after construction is completed during operations and maintenance. These impacts occur when operations and maintenance activities occur within or adjacent to habitat occupied by special-status wildlife species. The primary potential long-term indirect impacts to special-status wildlife species from the Proposed Project are long-term habitat degradation from temporary impacts, vehicle collisions, and increased human presence. Habitat degradation can occur because the introduction of non-native plant species affects aspects of habitat structure and food resources that are essential to some species. Vehicle collisions have the potential to occur along access roads. Although vehicle traffic is expected to be low, the presence of moving vehicles on roads through occupied habitat could pose a hazard to low and moderate mobility mammals and reptiles and even to some birds. Absent mitigation measures, these impacts would be significant.

Due to the limited operations and maintenance (every 30 days or as-needed routine inspections), human presence during operations and maintenance activities is not anticipated to disrupt breeding, nesting, and foraging behaviors.

Long-term direct impacts from injury or mortality of individuals would be reduced through **MM-BIO-1** (general avoidance and minimization measures) would reduce this impact by limiting work to daytime hours to reduce night-time lighting; restrictions on activities for personnel; and enforce speed limits to reduce collisions.

Split Cell Option

The split cell design option would split the proposed single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. Therefore, impacts to candidate, sensitive, or special status species would be the same as those described for the proposed single cell design.

Would the project 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 Game or U.S. Fish and Wildlife Service?

Sensitive Vegetation Communities

Special-status or sensitive vegetation communities in the Proposed Project study area include: arrow weed thickets and mesquite bosque/mesquite thickets. Impacts to these communities are described in this subsection.

State-Jurisdictional Waters

As discussed in Section 4.3.1, there are jurisdictional wetlands and waters occur within the Proposed Project study area. Impacts to these resources are described below.

Construction (Short-Term) Impacts

Direct

Less-Than-Significant Impact with Mitigation. Short-term construction-related direct impacts to vegetation communities are similar to those described for special-status plants in Section 4.3.1, and include impacts to native vegetation communities from unintentional clearing, trampling, or grading outside of the proposed construction zone. Additionally, temporary direct impacts to habitat would occur from temporary ground-disturbing activities, such as grading, trenching and staging areas.

The Proposed Project would temporarily impact two sensitive vegetation communities: 0.16 acres of arrow weed thickets and 1.75 acres of mesquite bosque/mesquite thickets. These impacts would be a significant impact.

The Proposed Project would temporarily impact approximately 0.04 acres of RWQCB wetlands. There are additional vegetation communities that may be subject to regulation by RWQCB and/or CDFW. Impacts to jurisdictional resources would be significant.

Construction mitigation measures **MM-BIO-1** and **MM-BIO-2** would apply. These measures would avoid and minimize potential temporary direct impacts to vegetation communities and jurisdictional waters/wetlands because they require the project biologist to conduct a WEAP for all construction/contractor personnel to ensure compliance with the mitigation measures and they require ongoing biological construction monitoring. This includes demarcation of the construction area using highly visible materials in the field that minimize unintentional impacts to vegetation communities and jurisdictional waters/wetlands outside the designated construction area. Training and ongoing monitoring would aid in enforcing the requirements that construction must be restricted to designated areas and vegetation communities and jurisdictional waters/wetlands outside the designated construction zone would be avoided.

The application of a native seed mix would promote passive restoration of temporary impact areas (**MM-BIO-4**). **MM-BIO-9** (state agency coordination and permits) requires the applicant to obtain the necessary permits from the RWQCB for impacts to jurisdictional resources.

Construction-related direct impacts to vegetation communities and jurisdictional waters/wetlands would be less than significant with incorporation of **MM-BIO-1**, **MM-BIO-2**, **MM-BIO-4**, and **MM-BIO-9**. These biological mitigation measures are described in full in Section 4.3.5.

Indirect

Less-Than-Significant Impact with Mitigation. Short-term construction-related indirect impacts to vegetation communities are similar to those described for special-status plants in Section 4.3.1, and include impacts from the generation of fugitive dust; the release of chemical pollutants; and the adverse effect of invasive plant species. Potential short-term or temporary indirect impacts to special-status plants are considered significant absent mitigation.

The project is required to comply with all applicable regulations that protect waters of the U.S. and state. The Proposed Project is required to comply with the NPDES State Water Resources Control Board Construction General Permit Order No. 2009-0009-DWQ, which includes a SWPPP, BMPs for construction waste handling and disposal, and a Monitoring Program and Reporting Requirements. Compliance with the regulations of the NPDES General Permit, local grading ordinances, as well as the federal CWA Title 33, would reduce stormwater runoff and water quality impacts to acceptable levels. Therefore, indirect construction impacts associated with water quality standards and degradation would be less than significant.

MM-BIO-1 requires that vehicles and equipment will be limited to maintenance access roads and the minimal area necessary to perform the work to minimize chemical releases and trampling of vegetation and soils compaction by humans. **MM-BIO-4** would help prevent adverse effects of invasive plant species that may alter the composition of the habitat if introduced during restoration or allowed to passively colonize the area post-construction if these areas are not revegetated.

These potential long-term indirect impacts to special-status plants would be less than significant with implementation of **MM-BIO-1** and **MM-BIO-4**.

Operations (Long-Term) Impacts

Direct

Less-Than-Significant Impact with Mitigation. Permanent direct impacts from construction of the Proposed Project will permanently impact two sensitive vegetation communities: 0.40 acres of

arrow weed thickets and 3.32 acres of mesquite bosque/mesquite thickets (Table 4.3-1). These impacts would be significant.

The Proposed Project will permanently impact approximately 0.08 acres of RWQCB wetlands (Table 4.3-2). There are additional vegetation communities that may be subject to regulation by the RWQCB, and/or CDFW. Impacts to jurisdictional resources would be a significant impact.

Long-term direct impacts to loss of vegetation communities would be mitigated through **MM-BIO-10**, which requires restoration and enhancement within nearby disturbed areas. Permanent impacts to jurisdictional waters/wetlands would be mitigated through **MM-BIO-9**, which requires the applicant to obtain the necessary permits from the RWQCB for impacts to jurisdictional resources.

Permanent direct impacts to vegetation communities and jurisdictional waters/wetlands would be less than significant with incorporation of **MM-BIO-9** and **MM-BIO-10**. These biological mitigation measures are described in full in Section 4.3.5.

Indirect

Potential long-term construction-related indirect impacts to vegetation communities and jurisdictional waters/wetlands are similar to those described for special-status plants in Section 4.3.1, and include chemical releases such as oils and grease from vehicles that could degrade habitat; increased invasive plant species that may degrade habitat; and trampling of vegetation and soil compaction by humans, which could affect soil moisture, water penetration, surface flows, and erosion. These potential long-term indirect impacts to special-status plants would be significant absent mitigation.

MM-BIO-1 requires that vehicles and equipment be limited to maintenance access roads and the minimal area necessary to perform the work to minimize chemical releases and trampling of vegetation and soils compaction by humans. **MM-BIO-9** requires the applicant to obtain the necessary permits from RWQCB and CDFW for impacts to jurisdictional resources.

Permanent indirect impacts to vegetation communities and jurisdictional waters/wetlands would be less than significant with incorporation of **MM-BIO-1** and **MM-BIO-9**. These biological mitigation measures are described in full in Section 4.3.5.

Operations of the Proposed Project would not result in significant water quality impacts as the proposed intake channel would be concrete-lined, reducing the amount of erosion and sedimentation of the water passing through. In addition, the Proposed Project would not increase or decrease the amount of agricultural water diverted from the AAC, since the proposed reservoir serves as temporary storage to support water conservation and management efforts. Considering the Proposed Project would not substantially affect water quality or water quantity, impacts to

downstream biological resources and water bodies such as the Salton Sea would not be cumulatively affected by the Proposed Project.

Split Cell Option

The split cell design option would split the proposed single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. Therefore, impacts to riparian habitat or other sensitive natural community would be the same as those described for the proposed single cell design.

Would the project have a substantial adverse effect on 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 Impact. As discussed in Section 4.3.1, the Proposed Project study area contains waters, including wetlands, subject to federal jurisdiction under Section 404 of the CWA; however, the Proposed Project has been issued a “No Permit Required” by USACE given that the proposed project is an exempt activity pursuant to 33 CFR 323.4 (a)(1)(i). A Section 404 permit would not need to be obtained by IID.

Split Cell Option

The split cell design option would split the proposed single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. Therefore, impacts to federally protected wetlands would be the same as those described for the proposed single cell design.

Would the project 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?

Construction (Short-Term) Impacts

Less-Than-Significant Impact. Construction within the Proposed Project study area could have both a direct and indirect impact on wildlife movement. Wildlife may be deterred from the construction area due to increased human presence, loud noises, and physical disruptions of habitat. However, construction will be temporary at any location, and wildlife would be able to use staging areas and temporary construction areas freely after work crews are gone. Typical construction methods would not impede wildlife movement over a large area at any one time. Therefore, short-term impacts to movement of native wildlife species and from impediments to use of native wildlife nursery sites would be less than significant.

Operations (Long-Term) Impacts

Less-Than-Significant Impact. The Proposed Project study area is not located within a regional wildlife movement corridor or linkage planning area as identified in *A Linkage Network for the California Deserts* (Penrod et al. 2012). The Proposed Project study area is located within an open landscape where wildlife can freely move within and throughout with little impediment. Therefore, the Project would not result in long-term impacts to wildlife movement through the area.

Split Cell Option

The split cell design option would include splitting the proposed single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. Therefore, impacts to wildlife movement would be the same as those described for the proposed single cell design.

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less-Than-Significant Impact. The Imperial County General Plan Conservation and Open Space Element establishes goals and objectives, together with implementation programs and policies related to the protection of threatened or endangered plant and wildlife species and cooperation with federal, state, and local agencies. The project is consistent with the Imperial County General Plan biological resource policies. Table 4.3-6 includes the goals and objectives related to the conservation of biological resources, and Table 4.3-7 includes the program measures related to biological resources and describes how the project is consistent with the general plan.

**Table 4.3-6
Imperial County General Plan Goals and Objectives**

| Conservation of Biological Resources Goals and Objectives |
|---|
| Objective 2.1: Designate critical habitats for Federally and State-listed species. |
| Objective 2.2: Develop management programs, including preservation of habitat for FTHL, desert pupfish, and burrowing owl. |
| Objective 2.3: Support investigation of long-term climate change effects on biological resources. |
| Objective 2.4: Use the CEQA and NEPA process to identify, conserve and restore sensitive vegetation and wildlife resources. |
| Objective 2.5: Give conservation of sensitive species and habitat a high priority in County park acquisition and development programs. |
| Objective 2.6: Attempt to identify, reduce, and eliminate all forms of pollution; including air, noise, soil, and water. |

Table 4.3-7
Imperial County General Plan Consistency Analysis

| General Plan Policies and Implementation Measures | Consistency | Analysis |
|--|-----------------------|--|
| <i>Implementing Programs and Policies</i> | | |
| Policy 1. Provide a framework for the conservation and enhancement of natural and created open space which provides habitat values. | Yes, with mitigation | MM-BIO-1 through MM-BIO-10 would reduce impacts to special-status species, sensitive vegetation communities, and jurisdictional resources to a less-than-significant level. The Proposed Project would be in compliance with federal and state laws. |
| 1a. Identify Resource Areas to conserve and enhance native vegetation and wildlife. These areas include agency designated sensitive habitats with USFWS, BLM Areas of Critical Environmental Concern (ACECs), and CDFW. These designated lands are designed for the protection and perpetuation of rare, endangered, and threatened species and areas important for scientific study. | Yes, with mitigation | MM-BIO-10 would reduce impacts to sensitive vegetation communities designated by CDFW's Natural Communities List (CDFG 2010). |
| 1b. Projects within or in the vicinity of a Resource Area should be designed to minimize adverse impacts on the biological resources it was created to protect. | Yes, with mitigation. | MM-BIO-1 through MM-BIO-10 would reduce impacts to special-status species, sensitive vegetation communities, and jurisdictional resources to a less-than-significant level. The Proposed Project would be in compliance with federal and state laws. The applicant has been in consultation with both state and federal resource agencies. |
| 1c. Accept donations of land which have high wildlife value. Where appropriate, Imperial County shall attempt to exchange donated lands of high wildlife value with other State, Federal, or other resource agencies equipped to protect and manage such lands for other lands more appropriate to County needs. | N/A | No land would be exchanged or donated as part of the Proposed Project. |
| 1d. Develop an environmental mitigation program that protects, and restores Salton Sea wildlife habitats as offsets to biological disturbances identified through the CEQA review process for development projects. The program would allow the County and/or Salton Sea JPA to restore habitat through financing mechanisms including land banks and/or direct financial contributions from the developers to mitigate their impacts | N/A | The wetlands mitigation would occur on site. |
| 1e. Conserve the native habitat of sensitive plants and animals through the dedication of open space easements, or other means that will ensure their long-term protection and survival. Such | Yes | MM-BIO-4 would restore temporary impacts to riparian and upland vegetation and monitored for success per criteria outlined in a revegetation |

Table 4.3-7
Imperial County General Plan Consistency Analysis

| General Plan Policies and Implementation Measures | Consistency | Analysis |
|---|----------------------|--|
| easements may preclude the erecting of any structures (temporary or permanent), vegetation removal, or any other activities. These dedicated open space easements would also serve to reduce potential indirect impacts to sensitive biological resources that may result from human activities associated with future developments | | plan; MM-BIO-10 would restore and enhance sensitive vegetation communities and success would be monitored through the criteria in a wetlands mitigation plan. |
| 1f. Areas designated for biological open space conservation shall include buffers, which provide important breeding and foraging habitats for native and migratory birds and animals. Such buffers shall serve to separate future development from adjacent native habitat areas to ensure the perpetual regeneration of these habitats | N/A | The majority of the vegetation communities would not be impacted and impacts to sensitive vegetation communities would be mitigated at a 1:1 ratio (MM-BIO-10); therefore, habitat for birds and animals would be maintained. |
| 1g. Protect riparian habitat and other types of wetlands from loss or modification by dedicating open space easements with adequate buffer zones, and by other means to avoid impacts from adjacent land uses. Road crossings or other disturbances of riparian habitat should be minimized and only allowed when alternatives have been considered and determined infeasible. | Yes, with mitigation | MM-BIO-10 would reduce impacts to sensitive vegetation communities designated by CDFW's Natural Communities List (CDFG 2010) and riparian areas subject to regulation by CDFW and/or RWQCB. |
| 1h. Rock outcrops which serve as significant boulder habitat for sensitive biological resources should be considered within open space easements. | N/A | There are no rock outcrops within the Proposed Project study area. |
| 1i. Preserve existing California fan palms in natural settings and other individual specimen trees which contribute to the community character and provide wildlife habitat. | N/A | There are no California fan palms within the Proposed Project study area. |
| 1j. Preserve and encourage the open space designation of wildlife corridors which are essential to the long-term viability of wildlife populations. | N/A | The majority of the vegetation communities would not be impacted and impacts to sensitive vegetation communities would be mitigated at a 1:1 ratio (MM-BIO-10); therefore, habitat for birds and animals would be maintained. |
| 1k. Integrate open space dedications in private developments with surrounding uses to maximize a functional open space/recreation and wildlife management system. | N/A | There are no private developments as part of the Proposed Project. |

Source: Appendix C.

Impacts to biological resources would be less than significant or would be mitigated to a less-than-significant level. The Proposed Project would comply with requirements of local policies and ordinances

protecting biological resources through the implementation of the recommended mitigation measures. Therefore, the project would not conflict with local policies or ordinances protecting biological resources.

Split Cell Option

The split cell design option would include splitting the single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. Therefore, no conflicts with local policies or ordinances protecting biological resources would result, the same as described for the proposed single cell design.

Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The IID is currently in the process of preparing a Natural Community Conservation Plan and Habitat Conservation Plan NCCP/HCP, which is anticipated to cover 96 fish, wildlife, and plant species for a term of up to 75 years (IID 2017). Since these plans are still awaiting approval, the Proposed Project is not subject to the IID's NCCP/HCP.

Desert Renewable Energy Conservation Plan

Less-Than-Significant Impact. BLM has adopted the Desert Renewable Energy Conservation Plan (DRECP), which provides protection and conservation of desert ecosystems while allowing for appropriate development of renewable energy projects. The Draft DRECP was originally developed as an HCP/NCCP and a BLM Land Use Plan Amendment covering both public and private lands across seven counties, including Imperial County. In October 2015, the DRECP BLM Land Use Plan Amendment and Final EIS, which addresses renewable energy, land use, and conservation on BLM lands only, was released (BLM 2015). Although the DRECP plan area includes the project area, the DRECP currently only applies to renewable energy projects and would not be applicable to the Proposed Project. Furthermore, the project is not within BLM lands. Therefore, the proposed program would not conflict with the goals and policies of the DRECP. Regardless, determination of significant impacts and recommendations for mitigation measures to preserve or protect habitat and to otherwise ensure protection of identified species have been included in this report.

The Proposed Project study area is not located within any other local, regional, or state conservation planning areas. Impacts of the project on an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan would be less than significant.

Split Cell Option

The split cell design option would include splitting the single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. Therefore, no conflicts with an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan would result, the same as described for the proposed single cell design.

4.3.5 Mitigation Measures

The following mitigation measures would reduce potentially significant impacts to biological resources to less-than-significant levels.

MM-BIO-1 General Avoidance and Minimization Measures

The following avoidance and minimization measures shall be implemented during project construction and operations and maintenance. These measures have been organized into subcategories for ease of reading.

Work Hours

1. Construction and operations and maintenance activities within 50 feet of the outside edge of the construction zone or work area containing habitat for special-status wildlife will be prohibited between sunset and sunrise, and all construction-related or maintenance-related lighting will be turned off during that period, with the exception of lighting for maintenance during operations and maintenance and emergencies (defined as an imminent threat to life or significant property) activities. If necessary, lighting for maintenance during operations and maintenance and emergencies within 50 feet of habitat for special-status wildlife will be directed away from natural areas.

Debris/Non-native Vegetation/Pollution

- Fully covered trash receptacles that are animal-proof will be installed and used during construction to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles will be removed at least once a week from the Proposed Project site.
- No litter, construction materials, or debris will be discharged into state-jurisdictional waters.
- Construction work and operations and maintenance areas shall be kept clean of debris, such trash, and construction materials.

Vehicle and Equipment Restrictions and Maintenance

- Night-time construction should be minimized to the extent possible. However, if night-time activity (e.g., equipment maintenance) is necessary, then the speed limit shall be 10 mph.
 - Vehicle operation within state-jurisdictional waters when surface water is present will be prohibited. Any equipment or vehicles driven and/or operated within or adjacent to a state-jurisdictional channel will be checked and maintained by the operator daily to prevent leaks of oil or other petroleum products that could be deleterious to aquatic life if introduced to the watercourse.
 - During construction, vehicles and equipment access will be limited to the identified impact areas, and ingress and egress will be limited to existing roads. During operations and maintenance, vehicles and equipment will be limited to maintenance access roads and the minimal area necessary to perform the work.
2. Staging and storage areas for spoils, equipment, materials, fuels, lubricants, and solvents will be located outside the state-jurisdictional channels and within the designated impact area. Stationary equipment, such as motors, pumps, generators, compressors, and welders, located within or adjacent to state-jurisdictional waters shall be positioned over drip-pans or other containment. Prior to refueling and lubrication, vehicles and other equipment shall be moved away from the state-jurisdictional channels.

Other Restrictions on Activities and Personnel

- No pets, such as cats or dogs, should be permitted on the Proposed Project site during construction or operations and maintenance.
- 3. Any contractor, employee, or agency personnel who is responsible for inadvertently killing, injuring, or trapping a listed species shall immediately report the incident to the project biologist during construction and the operations manager during operations and maintenance. The project biologist or operations manager shall contact the USFWS (for federal Endangered Species Act species) and CDFW (for California Endangered Species Act species) immediately in the case of a dead, injured, or entrapped listed species. The Sacramento USFWS Office and CDFW shall be notified in writing within 3 working days of the accidental death or injury to a listed species during project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS office that covers Imperial County is

located at 2177 Salk Avenue, Suite 250, Carlsbad, California 92008, 760.431.9440. The CDFW Inland Desert Region office is located at 3602 Inland Empire Boulevard, Suite C-220, Ontario, California 91764, 909.484.0167.

4. To prevent inadvertent entrapment of special-status wildlife during construction, all excavated wells, steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day, or be provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped wildlife. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow escape.
5. All pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the project biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by the project biologist. If a federally or state-listed species is discovered, that section of pipe shall not be moved until the USFWS and/or CDFW has been consulted. If necessary, under the direct supervision of the project biologist, the pipe may be moved once to remove it from the path of construction activity until the species has escaped.

MM-BIO-2 Environmental Awareness Training, Biological Monitoring, and Compliance

Worker Environmental Awareness Program and Ongoing Training

Prior to the initiation of any on-site grading, all construction/contractor personnel working on site must complete training through a Worker Environmental Awareness Program (WEAP). New construction workers engaged in construction activities (e.g., grading, utility installation, etc.) shall complete WEAP training within the first week of deployment on the site. Additionally, operational staff shall complete WEAP training prior to deployment on the site.

The training shall include the following:

- Provide the training materials for WEAP training. These materials shall include the measures and mitigation requirements for protected plant and wildlife species (e.g., avoidance and buffer requirements, night-time construction limitations, etc.); and the location and mitigation requirements for waters of the

state. WEAP training will also include driver training to avoid and minimize collision risks with protected species, and reporting protocols in the event that any dead or injured wildlife are discovered.

- Copies of mitigation measures and permits from resource agencies, such as the CDFW and Regional Water Quality Control Board (RWQCB), will be made available.

Biological Monitoring and Compliance Documentation

- The project biologist shall perform the biological monitoring and compliance documentation for the project during construction, including the following:
- Prior to the initiation of any on-site grading, the project biologist will document that required pre-construction surveys and/or relocation efforts have been implemented.
- The project biologist will periodically monitor activities during initial grading.
- The project biologist will note any evidence of trash or microtrash and, if present, communicate the presence and requirement to remove the trash to the construction manager.

MM-BIO-3 Focused Surveys and Avoidance and Minimization Measures for Special-Status Plants

Focused Surveys

Focused surveys shall be conducted for spring-blooming special-status plant species the season prior to construction (e.g., April 2018). Focused surveys for special-status plant species shall be conducted by a qualified biologist according to: the *CNPS Botanical Survey Guidelines* (CNPS 2001); *Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities* (CDFG 2009); and *U.S. Fish and Wildlife Service General Rare Plant Survey Guidelines* (Cypher 2002). The focused survey shall be conducted during a period when the target species would be observable and identifiable (e.g., blooming period for annuals). The target species list will include Wiggins' croton, slender cottonheads, and sand food that have a moderate potential to occur in the Proposed Project study area. If special-status plants are not observed during focused surveys, no additional mitigation is required.

Avoidance, Minimization, and Mitigation Measures

If a special-status plant species is detected, the full extent of the occurrence within the study area shall be recorded. The location of each special-status plant occurrence shall be mapped and number of individuals for each occurrence documented. If impacts to special-status plants cannot be avoided, the following measures will be implemented:

- Special-status plants in the vicinity of the disturbance will be temporarily fenced or prominently flagged and a 50-foot buffer established around the populations to prevent inadvertent encroachment by vehicles and equipment during the activity;
- Seeds will be collected and stored in appropriate storage conditions (e.g., cool and dry), and dispersed/transplanted following the construction activity and reapplication of salvaged topsoil; and
- The top 6 inches of topsoil will be salvaged, stockpiled, and replaced as soon as practicable after project completion. The salvaged topsoil shall be redistributed at the same depth and contoured to blend with surrounding grades.

Additionally, while it is not expected that a federally or state-listed plant would be observed during these surveys, the applicant shall consult with the applicable agency (i.e., CDFW and/or USFWS) and written concurrence for measures required for federally or state-listed plant species, if observed.

MM-BIO-4 Restoration of Temporary Impacts to Riparian and Uplands with Non-invasive Species

Site construction areas subjected to temporary ground disturbance from grading and excavation activities, storage and staging areas, and temporary roads, shall be recontoured to natural grade (if the grade was modified during the temporary disturbance activity), and revegetated with an application of a native riparian or upland seed mix, if necessary, prior to or during seasonal rains to promote passive restoration of the area to pre-project conditions (except that no invasive plants will be restored). An area subjected to “temporary” disturbance means any area that is disturbed but will not be subjected to further disturbance as part of the project. This measure does not apply to situations that are urban/developed that are temporarily impacted and will be returned to an urban/developed land use. Prior to seeding temporary ground disturbance areas, the project biologist will review the seeding palette to ensure that no seeding of invasive plant species, as identified in the most recent version of the California Invasive Plant Inventory for the region, will occur.

A revegetation plan shall be prepared and outline the specific revegetation, monitoring, and success criteria for these areas.

MM-BIO-5 Dust Control Plan

Prior to grading or construction activities, the project proponent shall submit the dust control plan to ICAPCD for review and approval, and shall provide the plan to Imperial County, to demonstrate compliance with ICAPCD Regulation VIII (Fugitive Dust Rules), Rules 800 through 806. The plan shall address construction-related dust as required by ICAPCD.

MM-BIO-6 Flat-Tailed Horned Lizard Surveys and Avoidance and Minimization Measures

Focused surveys shall be conducted within the Proposed Project study area prior to start of ground-disturbing activities between April and September to determine the status of FTHL on site. The surveys shall be conducted in accordance to the FTHL Interim Survey Protocol in order to provide an assessment of FTHL presence or absence at a specific site. Surveys should be conducted between April and September when surface temperatures are between 95°F and 122°F (FTHL Working Group of Interagency Coordinating Committee 2003).

If the FTHL is found during the 2018 survey, pre-construction surveys shall be conducted prior to ground-disturbing construction activities. Surveys and relocation (if needed) shall be conducted in accordance with the Fencing and Removal Survey Protocols (Appendix 7 of the FTHL Interagency Coordinating Committee 2003).

To the extent feasible, methods to find flat-tailed horned lizards will be designed to achieve a maximal capture rate and will include, but not be limited to, using strip transects, tracking, and raking around shrubs. During construction, the minimum survey effort will be 30 minutes per 0.40 hectare (1 acre). Persons that handle FTHL will first obtain all necessary permits and authorization from the CDFW. FTHL removal surveys also will include:

1. Accurate records maintained by the biological monitor(s) for each relocated flat-tailed horned lizard including sex, snout-vent length, weight, air temperature, location, date, time of capture and release, a close-up photo of the lizard, and a photo of the habitat where it was first encountered. To the extent feasible, a sample of the lizard scat will be collected. A Horned Lizard Observation Data Sheet and a Project Reporting Form, from

Appendix 8 of the FTHL Rangewide Management Strategy (FTHL Interagency Coordinating Committee 2003) will be completed. During construction, quarterly reports describing FTHL removal activity will be submitted to the IID and CDFW.

2. The removal of FTHL out of harm's way, including those found on access or maintenance roads, will include their relocation to nearby suitable burrowing habitat away from Proposed Project components and roads. Relocated FTHL will be placed in the shade of a large shrub in undisturbed habitat. The Project Biologist or biological monitor will be allowed some judgment and discretion when relocating lizards to maximize survival of FTHL found on the Proposed Project site.

MM-BIO-7 Burrowing Owl Surveys and Avoidance/Relocation

No less than 14 days prior to ground-disturbing activities (vegetation clearance, grading), a qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction take avoidance surveys on and within 200 meters (656 feet) of the construction zone to identify occupied breeding or wintering burrowing owl burrows. The take avoidance burrowing owl surveys shall be conducted in accordance with the Staff Report on Burrowing Owl Mitigation (2012 Staff Report; CDFG 2012) and shall consist of walking parallel transects 7 to 20 meters apart, adjusting for vegetation height and density as needed, and noting any burrows with fresh burrowing owl sign or presence of burrowing owls. As each burrow is investigated, biologists shall also look for signs of American badger and desert kit fox. Copies of the burrowing owl survey results shall be submitted to the CDFW.

If burrowing owls are detected on site, no ground-disturbing activities shall be permitted within 200 meters (656 feet) of an occupied burrow during the breeding season (February 1 to August 31), unless otherwise authorized by CDFW. During the nonbreeding season (September 1 to January 31), ground-disturbing work can proceed near active burrows as long as the work occurs no closer than 50 meters (165 feet) from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with CDFW.

If avoidance of active burrows is infeasible during the nonbreeding season, then, before breeding behavior is exhibited and after the burrow is confirmed empty by site surveillance and/or scoping, a qualified biologist shall implement a passive relocation program in accordance with Appendix E (i.e., Example Components for Burrowing Owl

Artificial Burrow and Exclusion Plans) of the 2012 CDFW Staff Report on Burrowing Owl Mitigation (CDFG 2012). Passive relocation consists of excluding burrowing owls from occupied burrows and providing suitable artificial burrows nearby for the excluded burrowing owls. A burrowing owl monitoring and mitigation plan will be prepared that outlines how passive relocation would occur and where the replacement burrows would be constructed. It would also outline the monitoring and maintenance requirements for the artificial burrows.

MM-BIO-8 Nesting Bird Pre-construction Surveys and Avoidance Plan.

This measure would protect these nesting special-status species and more common species protected under the MBTA, which prohibits the “take” of any migratory bird or any part, nest, or eggs of any such bird. The MBTA applies to over 800 species of birds, including rare and common species. Burrowing owl is addressed separately in a species-specific biological resource protection measure (MM-BIO-7).

The project biologist shall conduct pre-construction surveys no earlier than 7 days prior to any on-site grading and construction activities within each construction area and a 500-foot buffer that occurs during the nesting/breeding season of special-status bird species potentially nesting on the site, with the exception of burrowing owl, which is addressed in MM-BIO-7. The pre-construction surveys shall be conducted between March and September, or as determined by the project biologist.

The purpose of the pre-construction surveys will be to determine whether occupied nests are present in the construction zone or within 500 feet of the construction zone boundary.

If occupied nests are found, then limits of construction to avoid occupied nests shall be established by the project biologist in the field with flagging, fencing, or other appropriate barriers (e.g., 250 feet around active passerine nests to 500 feet around active non-listed raptor nests), and construction personnel shall be instructed on the sensitivity of nest areas. The project biologist shall serve as a construction monitor during those periods when construction activities are to occur near active nest areas to avoid inadvertent impacts to these nests. The project biologist may adjust the 250-foot or 500-foot setback at his or her discretion depending on the species and the location of the nest (e.g., if the nest is well protected in an area buffered by dense vegetation). Once a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival, construction may proceed in the setback areas.

MM-BIO-9 To comply with the state regulations for impacts to “waters of the State,” the following agency permits are required, or verification that they are not required shall be obtained. The following permit and agreement shall be obtained, or provide evidence from the respective resource agency satisfactory to the director of Planning and Land Use that such an agreement or permit is not required:

- a. A Clean Water Act, Section 402 permit issued by the California RWQCB for all project-related disturbances of waters of the state and/or associated wetlands.
- b. A Section 1602 Streambed Alteration Agreement issued by the CDFW for all project-related disturbances of any streambed.

MM-BIO-10 IID will restore and enhance sensitive, riparian and wetland communities to mitigate for permanent impacts to 0.40 acres of arrow weed thickets and 0.08 acres of cattail marshes at a 1:1 mitigation ratio.

A site-specific wetlands mitigation plan shall be prepared prior to disturbance activities. The wetlands mitigation plan shall include detailed information on installation, monitoring, success criteria, and monitoring of groundwater elevation within the mitigation area.

4.3.6 Level of Significance After Mitigation

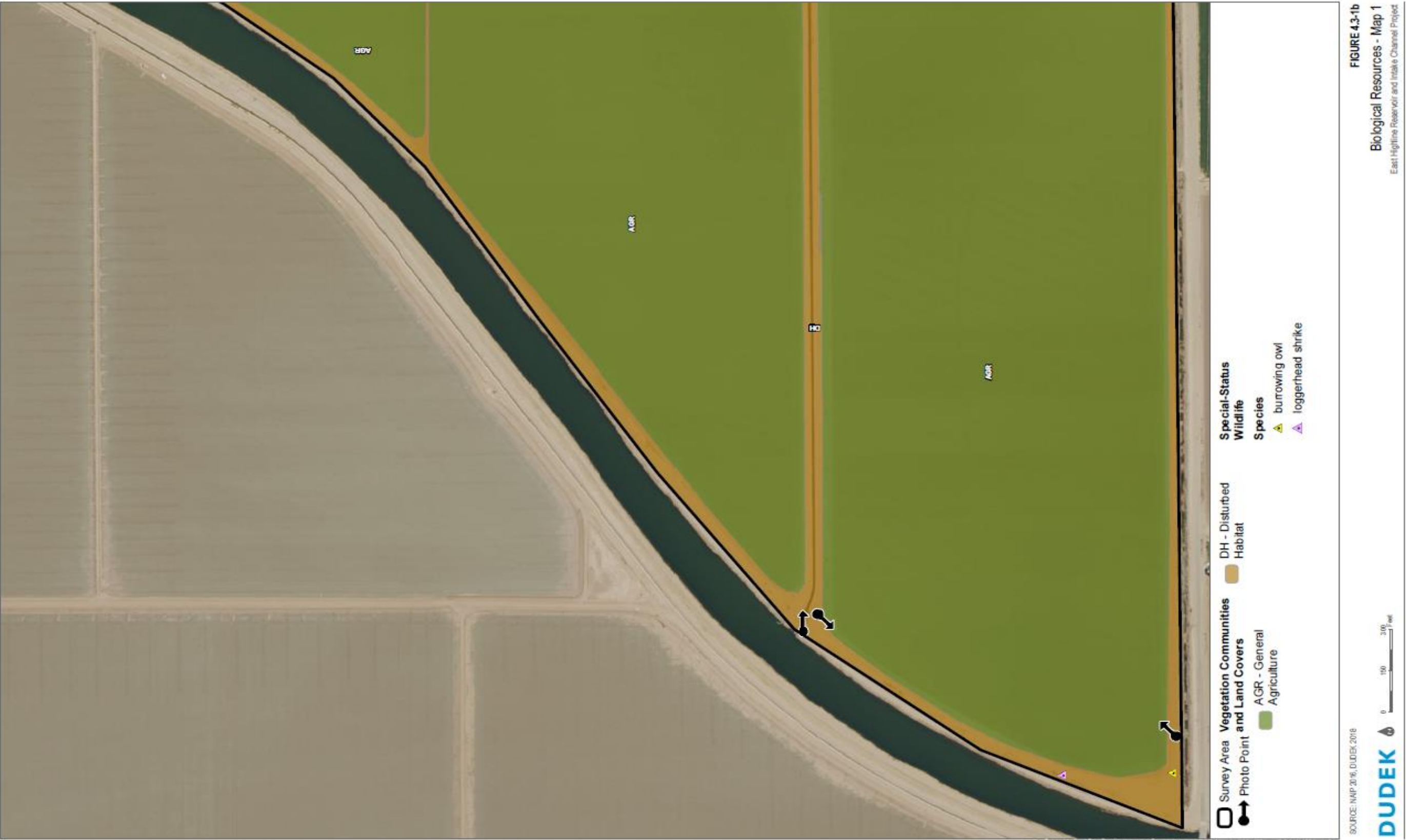
With implementation of **MM-BIO-1** through **MM-BIO-10**, the Proposed Project (under both single cell and split cell design option) would have a less than significant impact on biological resources.

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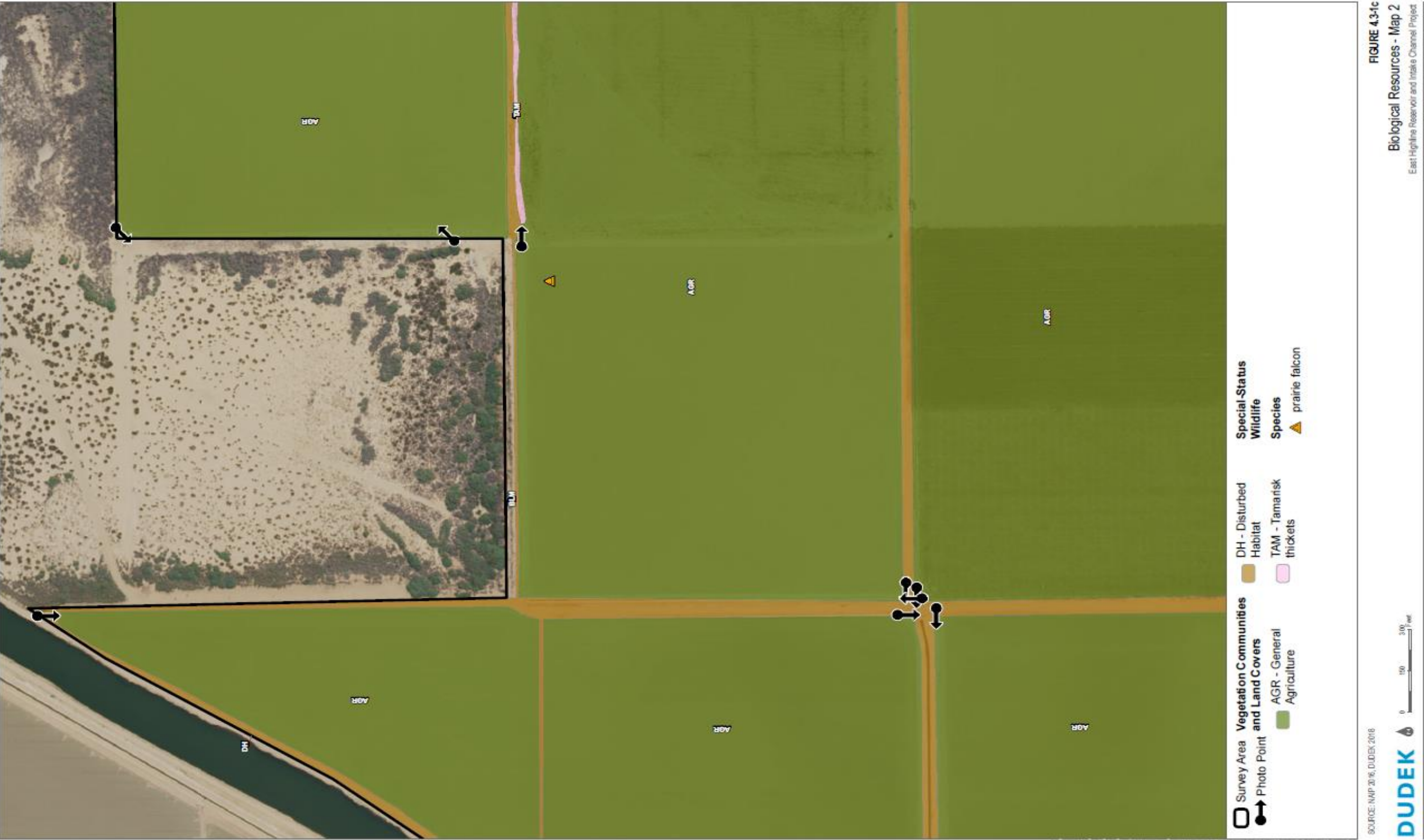


FIGURE 4.3-1a
Biological Resources - Index Map
East Highline Reservoir and Intake Channel Project

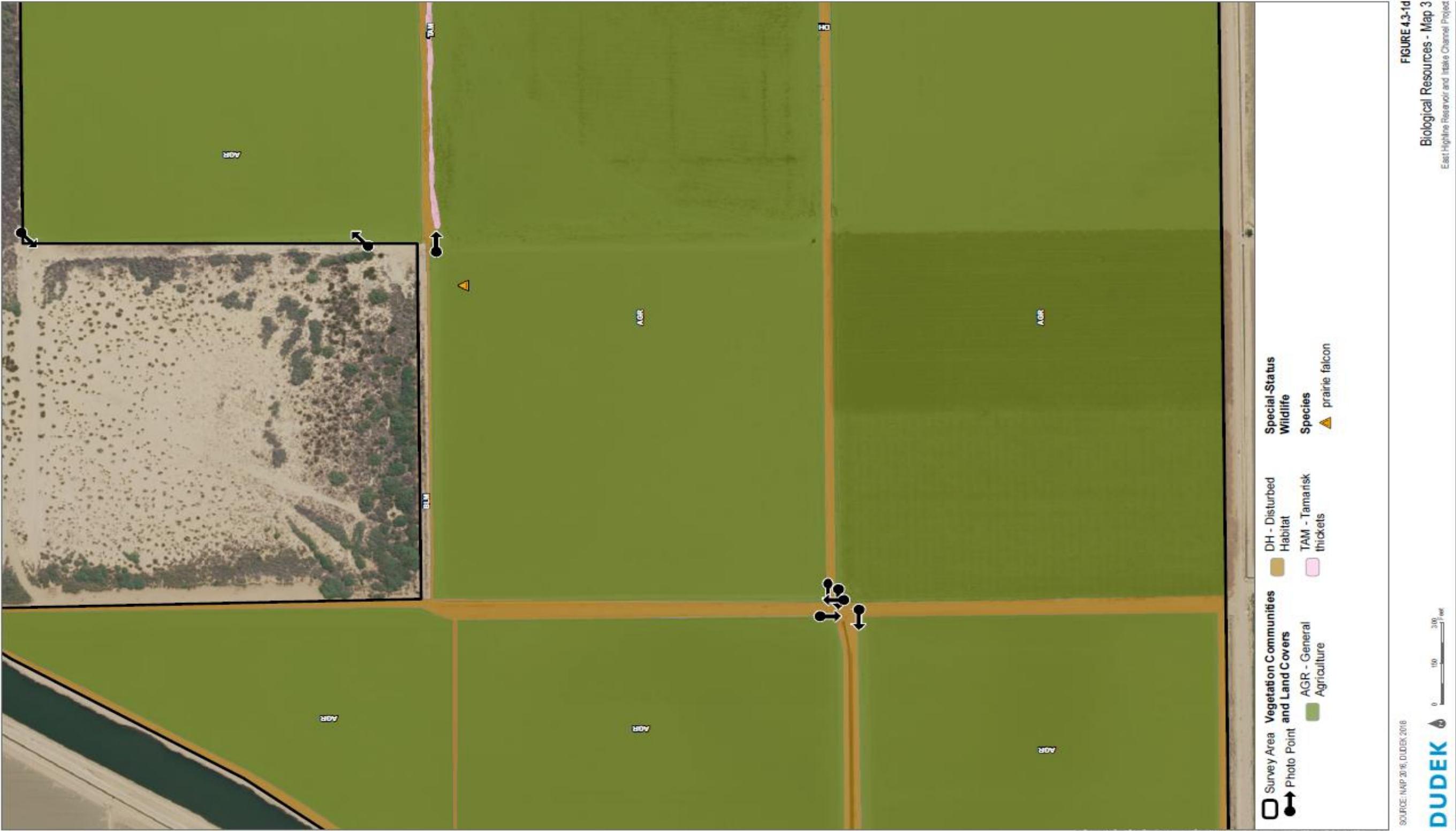
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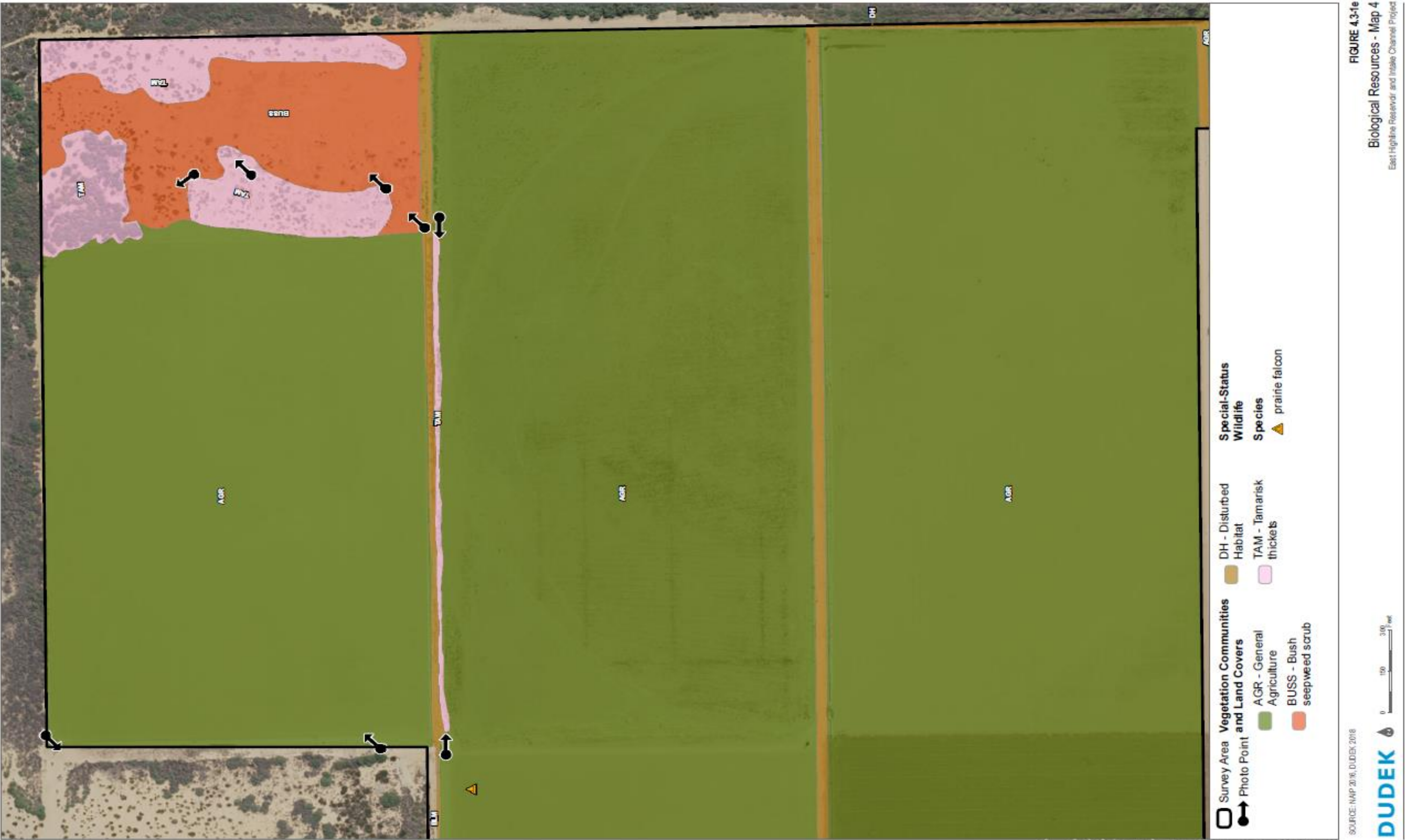
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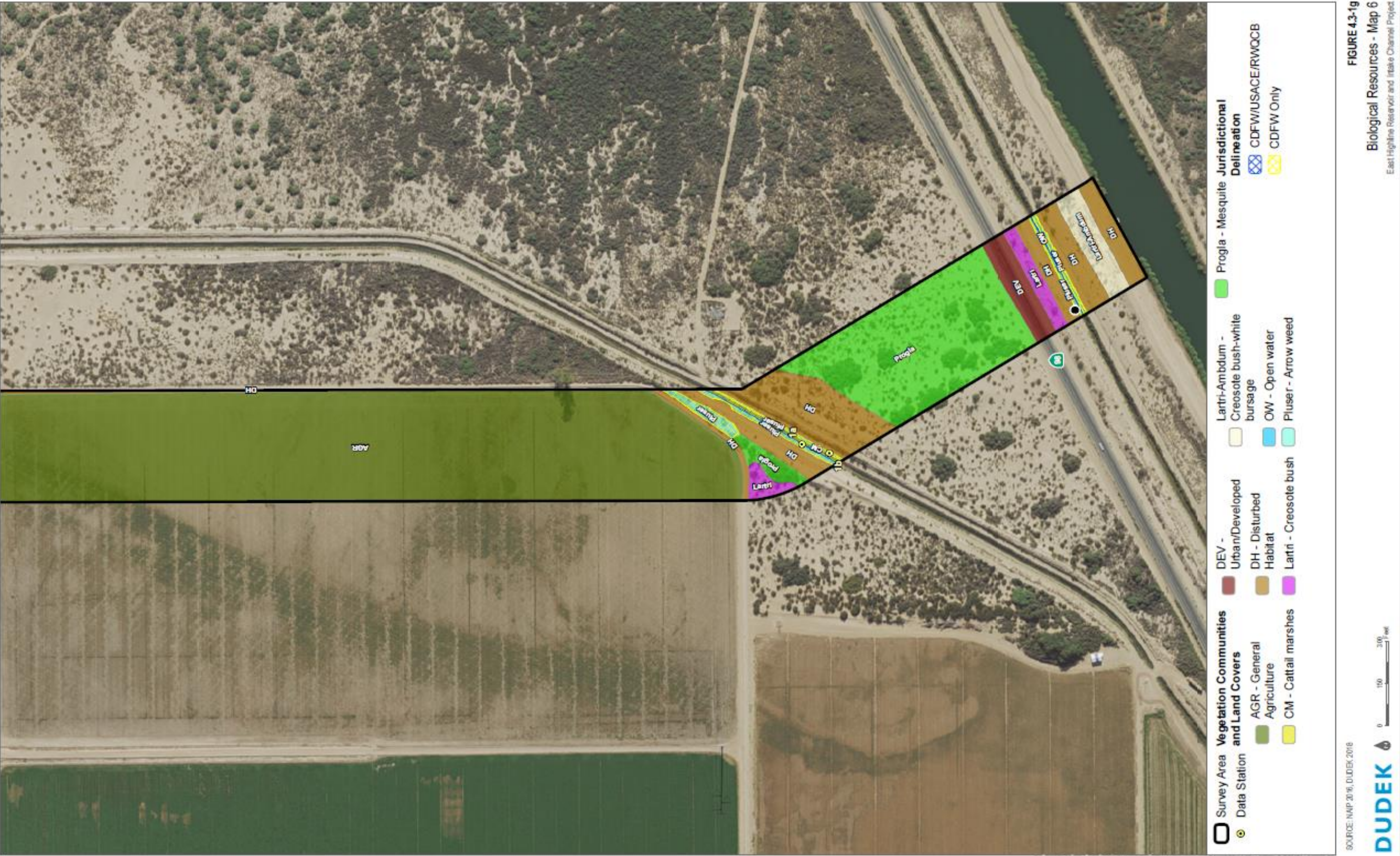
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4.4 CULTURAL RESOURCES

This section describes the existing cultural resources inventory of the proposed EHL Reservoir and Intake Channel Project (Proposed Project or Project) site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the Proposed Project. The analysis herein is based on the cultural and paleontological resources inventory report prepared for the Proposed Project and included as Appendix D to this Draft EIR.

4.4.1 Existing Conditions

The area of potential effect (APE) includes the footprint of the proposed reservoir and a 400-foot corridor for the intake canal. Immediately east of the APE is the Area of Critical Environmental Concern, managed by BLM. All Proposed Project activities would avoid the ACEC.

The project site is located within the Sonoran Desert, bounded on the west by the Peninsular Ranges and bounded on the east by the Colorado River. The reservoir portion of the APE is located entirely within agricultural fields, but the intake channel extends south, bisecting earthworks, including irrigation drains and SR- 98, before it reaches the AAC. The APE elevation does not vary greatly and averages approximately 35 feet above mean sea level. The APE is dominated by levelled agricultural land and linear earthworks; however, there is a section of unmodified desert land that is bisected by the intake channel. Creosote bush (*Larrea tridentata*) scrub dominates this area.

4.4.1.1 Cultural Setting

The general cultural sequence for the Colorado Desert can be viewed in terms of three or more time periods based on the evolutionary stages proposed by Willey and Phillips (1958). Among contemporary archaeologists and cultural resource managers, the Paleoindian and Archaic evolutionary stages of Willey and Phillips (1958) have evolved into time periods and, in Southern California, their Formative stage became the Late Prehistoric time period. Geological time periods and the evolutionary stages are outlined in detail in Appendix D.

4.4.1.2 Paleontological Setting

The Proposed Project APE is located in the East Mesa portion of the Salton Trough, within the physiographic Colorado Desert geomorphic province of Southern California. The Proposed Project site is located east of the mapped ancient Lake Cahuilla high stand, within younger (Holocene age, < 11,000 years old) alluvial deposits, between the Algodones Dune field to the east and the Imperial Valley to the

west (Strand 1962). Dune deposits are also mapped north of the Proposed Project site within this region, on the north side of the Interstate 8 freeway and the AAC. Lakebed deposits of ancient Lake Cahuilla have yielded fossil remains from numerous localities in Imperial Valley. Lake Cahuilla deposits have also yielded vertebrate fossils, including teeth and bones of birds, horses (*Equidae* spp.), bighorn sheep (*Ovis canadensis nelsoni* spp.), and reptiles. Older, Pleistocene age deposits, such as the above referenced lakebeds, presumably underlie surface-mapped Holocene alluvium at an unknown depth (Appendix D).

4.4.1.3 Tribal Cultural Resources Setting

As discussed in Appendix D, there are a number of Tribes that were identified to be culturally affiliated to the project area. These Tribes include: Barona Group of the Capitan Grande, Campo Kumeyaay Nation, Cocopah Indian Reservation, Ewiiapaayp Band of Kumeyaay Indians, Iipay Nation of Santa Ysabel, Inaja Band of Mission Indians, Jamul Indian Village of California, Kwaaymii Laguna Band of Mission Indians, La Posta Band of Diegueno Mission Indians, Manzanita Band of Kueyaay Nation, Mesa Grande Band of Mission Indians, San Pasqual Band of Mission Indians, Sycuan Band of the Kumeyaay Nation, Sycuan Band of the Kumeyaay, and Viejas Band of Kumeyaay.

4.4.1.4 Methodology

In preparation of the cultural and paleontological resources inventory report prepared for the Proposed Project, an inventory of all resources within the Proposed Project APE was compiled to determine possible impacts or potential effects to cultural and paleontological resources. The presence and significance of existing cultural, Tribal cultural, and paleontological resources associated with the Proposed Project were determined using the methodologies outlined below.

Archaeological/Cultural Resources

South Coastal Information Center Records Search

An examination of existing maps, records, and reports was conducted by Dudek to determine if the Proposed Project could potentially impact previously recorded cultural resources. Dudek conducted a records search in January and February 2017 at the South Coastal Information Center (SCIC) at San Diego State University. The search encompassed the APE and a 1-mile buffer around the APE. The purpose of the records search is to identify any previously recorded resources that may be located in or adjacent to the Proposed Project site and to identify previous studies in the vicinity of the Proposed Project site. In addition to a review of previously prepared site records and reports, the records search also reviewed historical maps of the Proposed Project site, ethnographies, the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and Archaeological Determinations of Eligibility.

Survey

Though the Proposed Project APE has been previously inventoried, many of the previous studies are dated; thus, the entire APE was surveyed for the current study. The survey of the Proposed Project APE was conducted between July 27 and 28, 2017, and between January 22 and 24, 2018. The reservoir portion of the Proposed Project APE consists entirely of agricultural land. The intake channel crosses earthworks including the All-American Drains 2 and 2A and SR-98. There is a small segment of undeveloped desert land located between the All-American Drain 2 and SR-98. The intake channel portion of the Proposed Project APE was surveyed using transects parallel to the route at 15-meter intervals. The larger reservoir portions of the Proposed Project APE were surveyed using a combination of north–south and east–west transects at 15-meter intervals. In this manner, all portions of the Proposed Project APE were subject to pedestrian survey.

The terrain and vegetation varied little throughout the APE. The majority of the reservoir portion of the Proposed Project APE consisted of plowed agricultural fields with no vegetation. The northeastern part of the reservoir portion of the Proposed Project APE, though leveled at one time, has not been modified for a substantial amount of time. Sand dunes have overtaken large portions of this section and wild plants have established a community. The small segment of undeveloped desert land located between the All-American Drain 2 and SR-98 consists of loose-to-medium compacted sand matrix with creosote bush. Survey of these open segments was easily accomplished and ground visibility was high. Portions of the intake channel pass through an active agricultural field, resulting in complete obstruction from view.

An iPad Air with georeferenced maps and Global Positioning System (GPS) capabilities was used to aid surveying and site recordation. Records of sites previously identified within the Proposed Project APE were loaded onto the iPad for field reference. Fieldwork was conducted under the supervision of Dudek Archaeologist participated in the survey as field crew members. No Native American monitors were present during the survey. Documentation of cultural resources complied with the Office of Historic Preservation and Secretary of the Interior’s Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716–44740) and the California Office of Historic Preservation Planning Bulletin Number 4(a). Any sites identified during this inventory were recorded on California Department of Parks and Recreation Form DPR 523 (Series 1/95), using the Instructions for Recording Cultural Resources (Appendix D).

Excavation

Sites were evaluated using close-interval survey, surface scrapes, shovel test pits (STPs), and shovel test units. Surface scrapes are shallow (5 to 10 centimeters) and broad excavations. STPs are 0.5 meters by 0.3 meters, excavated in 20-centimeter levels. Shovel test units are 1 meter by 0.5 meters, excavated in decimeter levels. All hand-excavated soils were screened

through 1/8 inch (3 millimeter) mesh. All excavated units were backfilled at the conclusion of the unit's excavation. All cultural materials recovered from the excavation units and ground surface were sorted and bagged according to unit provenance and depth.

Photographs of each unit profile were recorded to document soils and disturbances. An iPad Air with georeferenced maps and GPS capabilities was used to record the locations of excavation units and surface artifacts. Field notes were recorded on standardized forms to log artifact recovery, soil descriptions, disturbances, and any other pertinent information for the Proposed Project APE.

Laboratory and Cataloging Procedures

Initial laboratory procedures included cleaning (as appropriate), sorting, and cataloging of all artifacts and ecofacts. Each item was individually examined and cataloged according to class, subclass, and material; counted; and weighed on a digital scale. All coded data were entered into a Microsoft Access database. Data manipulation of a coded master catalog combining all sites was performed in Microsoft Excel.

The cultural material was sorted during cataloging into the following potential categories: 13 classes of prehistoric artifacts; 2 classes of ecofacts; ethnohistoric items, historic items, and modern items; and organic samples. The prehistoric artifact classes potentially included debitage, cores, utilized core tools, modified core tools, utilized flakes, retouched flakes, bifaces, percussing tools, groundstone, ceramics, bone artifacts, shell artifacts, and miscellaneous items. Once preliminary cataloging of the material was completed, more detailed attribute analysis was performed. Ceramic artifacts were initially sorted by traditional ware (i.e., brown or buff) and sherd fragment types (i.e., body, rim, or modified). They were then inspected in order to further identify the types of brown- and buffwares (e.g., Salton Brown, Tizon Brown, Colorado Buff, Topoc Buff) and to identify other modifications. All artifacts were subject to appropriate conservation in the field and laboratory, including proper packaging and handling.

Curation

All artifacts collected during archaeological testing for this study will be curated at the Lower Colorado Regional Office for Reclamation (Appendix D). Any artifacts collected as part of future archaeological studies, or confiscated from looters, should also be curated so that the materials are preserved for the benefit of the general public and for archaeologists for future study. Proper curation of collected artifacts (and other materials, including documentation) can contribute to any mitigation to offset impacts to archaeological sites. Curation could also consist of interpretive displays as part of any public awareness activities.

Tribal Cultural Resources

Native American Heritage Commission Sacred Lands File Search

A search of the Native American Heritage Commission (NAHC) Sacred Lands File was conducted for the Proposed Project APE on April 10, 2017. A search of this type requires NAHC staff to review their list for the presence of Native American sites, which are organized spatially based on a Public Land Survey System section grid (measuring 1 square mile). The NAHC response letter included a list of Native American group representatives who should be contacted for information about these sites.

Outreach letters were mailed on August 23, 2017, to all Native American group representatives included on the NAHC contact list. These letters attempt to solicit additional information relating to Tribal cultural resources (TCRs) that may be affected by the Proposed Project. Native American representatives were requested to define a general area where known resources intersect the Proposed Project APE. Under CEQA, the lead agency is required to perform formal government-to-government consultation with Native American Tribes under Assembly Bill 52.

Paleontological Resources

A records search of paleontological locality information was requested through the Natural History Museum of Los Angeles County on December 15, 2017. The purpose of museum collections records searches is to determine whether there are any known fossil localities in or near the APE, to identify the geologic units present within the Proposed Project site, and to obtain the museum's opinion about whether mitigation measures are warranted to avoid or minimize potential adverse effects of Proposed Project construction on paleontological resources. Geologic maps and reports were queried to identify geologic units within the Proposed Project APE and determine the paleontological sensitivity of the APE. A cross-trained technician conducted the pedestrian survey.

4.4.1.5 Results

Archaeological/Cultural Resources

South Coastal Information Center Records Search

As described above, Dudek conducted a records search in January and February 2017 at the SCIC at San Diego State University. The records search identified 37 previously identified cultural resources within 1 mile of the Proposed Project APE (Appendix D). Of the 37 identified cultural resources, 6 intersect the APE (refer to Table 1 of Appendix D). The prehistoric resources within the Proposed Project APE include a habitation site and a site consisting of only midden soil. The historic-period resources include the AAC, EHL Canal, the All-American Drain 2A, and SR-98.

The AAC, EHL Canal, and the All-American Drain 2A have been recommended eligible for the NRHP.

The records search also identified 32 previous archaeological studies that have been conducted within 1 mile of the Proposed Project APE. Of the 32 studies, 23 cover portions of the APE. Previous studies have inventoried the entire 563-acre Proposed Project APE; however, these surveys were conducted more than 10 years ago. Similar to the current study, Schaefer and O'Neill (2001) analyzed the impact a Proposed Project had to the AAC as an NRHP-eligible site (Appendix D).

Tile Drain Construction Maps

IID provided Dudek with tile drain construction maps that detail the installation of tile drains, a subsurface irrigation drainage system, throughout the proposed reservoir portion of the APE. The construction drawings show plan views of the agricultural field and the trajectories of the subsurface drainage system. Construction information is included in the margins of the maps including feature depths, installation details, and tile type. The maps suggest that the tile drains were installed in stages between 1951 and 1983. The installers included Lidco, La Bolsa, McElvany and Son, and Beaver. Noted tile materials included red clay, plastic, “beaver,” Quality Tile Co, and ADS. It appears that the system of subsurface pipes are located at depths ranging between 4.5 and 9.2 feet (Appendix D).

Survey

The entire Proposed Project APE was inventoried utilizing a pedestrian survey. The survey relocated four of the six previously identified resources within the Proposed Project APE. The survey identified 1 new archaeological resource and 11 new built environment resources (see Table 4.4-1). The condition and proximity to Proposed Project components of each of these 18 resources are described below. A map of the resources located within the Proposed Project APE can be found in Appendix D.

Table 4.4-1
Resources within the Area of Potential Effect

| Site Number | Trinomial | Era | Description | NRHP/CRHR Eligibility | APE Proximity |
|-------------|--------------|-------------|---------------------|-----------------------|--------------------|
| P-13-000305 | CA-IMP-305 | Prehistoric | Temporary Campsite | Not Evaluated | Could not relocate |
| P-13-000316 | CA-IMP-316 | Prehistoric | Midden soil | Not Evaluated | Could not relocate |
| P-13-007130 | CA-IMP-7130H | Historic | All-American Canal | Determined Eligible | Intersects |
| P-13-008333 | CA-IMP-7835H | Historic | East Highline Canal | Recommended Eligible | Intersects |
| P-13-008668 | — | Historic | All-American Drain | Recommended Eligible | Intersects |

Table 4.4-1
Resources within the Area of Potential Effect

| Site Number | Trinomial | Era | Description | NRHP/CRHR Eligibility | APE Proximity |
|-------------|--------------|-------------|---------------------------|--------------------------|---------------|
| P-13-014631 | CA-IMP-12237 | Historic | California State Route 98 | Recommended Not Eligible | Intersects |
| P-13-017218 | CA-IMP-12805 | Prehistoric | Ceramic Scatter | Recommended Not Eligible | Inside APE |
| P-13-017219 | — | Historic | Irrigation Ditch | Recommended Not Eligible | Inside APE |
| P-13-017220 | — | Historic | Irrigation Ditch | Recommended Not Eligible | Inside APE |
| P-13-017221 | — | Historic | Irrigation Ditch | Recommended Not Eligible | Inside APE |
| P-13-017222 | — | Historic | Irrigation Ditch | Recommended Not Eligible | Inside APE |
| P-13-017223 | — | Historic | Irrigation Ditch | Recommended Not Eligible | Inside APE |
| P-13-017224 | — | Historic | Irrigation Ditch | Recommended Not Eligible | Inside APE |
| P-13-017225 | — | Historic | Irrigation Ditch | Recommended Not Eligible | Inside APE |
| P-13-017226 | — | Historic | Irrigation Ditch | Recommended Not Eligible | Inside APE |
| P-13-017227 | — | Historic | Irrigation Ditch | Recommended Not Eligible | Inside APE |
| P-13-017228 | — | Historic | Irrigation Ditch | Recommended Not Eligible | Inside APE |
| P-13-017229 | — | Historic | Irrigation Ditch | Recommended Not Eligible | Inside APE |

NRHP = National Register of Historic Places; CRHR = California Register of Historical Resources; APE = area of potential effect; — = no data.

Archaeological Testing Results

The current survey identified one prehistoric cultural resource that will be impacted by the Proposed Project: P-13-017218. Archaeological testing was conducted to gather information to determine the eligibility of the site for listing on the NRHP or the CRHR. Dudek archaeologists identified the prehistoric ceramic scatter, P-13-017218, during the survey of the Proposed Project APE on January 4, 2018, and revisited the site to conduct formal evaluation excavations on April 4, 2018. The resource area was resurveyed using transects at less than 1-meter intervals. The close-interval survey identified 63 ceramic sherds and a single tertiary, cryptocrystalline silicate flake fragment on the surface. To investigate the presence of a subsurface deposit, three shovel test pits (STPs) and two shovel scrape units (SSUs) were excavated. The three STPs measured 25 by 50 centimeters and were excavated to a depth ranging from 20 to 40 centimeters. The SSUs varied in size, measuring 1 by 2 meters and 1 by 1 meters. Both SSUs were excavated to 10 centimeters. The STPs were excavated near ceramic concentrations to determine if a subsurface deposit was present. STP-01 produced five ceramic sherds on its surface, three ceramic sherds in its first level (0 to 20 centimeters), and no ceramic sherds in its second level (20 to 40 centimeters). STP-02 produced four ceramic sherds on its surface but no materials were identified subsurface (0 to 40 centimeters). The SSUs were positioned in locations adjacent to surface artifact concentrations to determine if there was a near-surface extension of the ceramic scatter in the loose, alluvial sand. SSU-01 measured 1 by 2 meters and uncovered five ceramic sherds. These five sherds were

identified in the upper 5 centimeters. SSU-02 measured 1 by 1 meters and only identified a single ceramic sherd. All excavations revealed that the site's subsurface consists of lightly compacted sand. Besides the ceramic sherds, no other artifacts, features, or strata were identified within the excavation units.

Tribal Cultural Resources

Native American Heritage Commission Sacred Lands File Search

On April 10, 2017, a search of the NAHC Sacred Lands File was conducted for the Proposed Project APE and a 1-mile buffer. The NAHC file search was negative, with no TCRs located in the Proposed Project APE. The NAHC response letter included a list of Native American group representatives who should be contacted for information about these sites. Outreach letters were mailed on August 21, 2017, to all Native American group representatives included on the NAHC contact list (Appendix D). To date, representatives of the Viejas Band of Kumeyaay Indians and the Quechan Tribe of the Fort Yuma Indian Reservation have responded to the outreach letters. On September 3, 2015, Thane Somerville of the Quechan Tribe of the Fort Yuma Indian Reservation requested via letter formal notification of Proposed Projects within the geographic boundaries of Imperial County and Southern Riverside County pursuant to California Public Resources Code (PRC) Section 21080.3.1(b) (AB 52). On September 18, 2017, IID provided formal notification to the Quechan Tribe of the Fort Yuma Indian Reservation. On August 31, 2017, Ray Teran of the Viejas Band of Kumeyaay Indians stated via letter that the Proposed Project site has cultural significance or ties to the Viejas Band of Kumeyaay Indians. Although the presence of TCRs was not mentioned, Mr. Teran requested that a Kumeyaay cultural monitor be on site for ground-disturbing activities associated with the Proposed Project.

Paleontological Resources

No fossil localities are documented within the Proposed Project APE or within a 1-mile radius buffer. No fossil bone or shell was observed on the ground surface during the pedestrian survey, and the surface-mapped deposits were confirmed to be consistent with those mapped throughout the site.

Construction methods are anticipated to include minor surface excavations to a depth of approximately 5 feet below the ground surface, impacting only surface Holocene alluvium. BLM has outlined the Potential Fossil Yield Classification (PFYC) system to characterize geological units and their respective paleontological sensitivity rankings (Appendix D). According to BLM's PFYC system, the lakebed deposits of ancient Lake Cahuilla in this region have been identified as Class 4 (Appendix D). Class 4 is defined by the BLM as an area underlain by geologic units with high potential to yield fossils but with lowered risks of human-caused adverse impacts and/or lowered risk of natural degradation due to alluvial material, or other conditions that may lessen or prevent potential impacts to the bedrock resulting from the activity.

Surface mapped deposits of Holocene-age younger alluvium are considered to be too young to produce scientifically significant paleontological resources, and thus have been assigned PFYC rating of Class 2, or low potential, in this region. Class 2 is defined as unlikely to contain paleontological resources (Appendix D).

4.4.2 Relevant Plans, Policies, and Ordinances

This project is subject to federal, state, and local regulations regarding cultural resources. The following section provides a summary of the applicable regulations, policies, and guidelines relating to the proper management of cultural resources for this project.

Federal

36 Code of Federal Regulations 800 and Section 106 of the National Historic Preservation Act

The National Historic Preservation Act (NHPA) established the NRHP and the President’s Advisory Council on Historic Preservation, and provided that states may establish State Historic Preservation Officers (SHPOs) to carry out some of the functions of the NHPA. Most significantly for federal agencies responsible for managing cultural resources, Section 106 of the NHPA directs that

[t]he head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP.

Section 106 also affords the President’s Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking (16 USC 470f).

36 Code of Federal Regulations (CFR) 800 implements Section 106 of the NHPA. It defines the steps necessary to identify historic properties (those cultural resources listed in or eligible for listing in the NRHP), including consultation with federally recognized Native American Tribes to identify resources with important cultural values; to determine whether or not they may be adversely affected by a proposed undertaking; and to outline the process for eliminating, reducing, or mitigating the adverse effects.

The content of 36 CFR 60.4 defines criteria for determining eligibility for listing in the NRHP. The significance of cultural resources identified during an inventory must be formally evaluated for historical significance in consultation with the California SHPO to determine if the resources

are eligible for inclusion in the NRHP. Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association. The criteria for determining eligibility are essentially the same in content and order as those outlined under the CEQA, but the criteria under NHPA are labeled A through D (rather than 1–4 under CEQA).

Regarding criteria A through D of Section 106, the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, cultural resources, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that

- A. Are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. Are associated with the lives of persons significant in our past; or
- C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Have yielded or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

The President’s Advisory Council on Historic Preservation provides methodological and conceptual guidance for identifying historic properties. In 36 CFR 800.4, the steps necessary for identifying historic properties include

- Determine and document the APE (36 CFR 800.16(d)).
- Review existing information on historic properties within the APE, including preliminary data.
- Confer with consulting parties to obtain additional information on historic properties or concerns about effects to these.
- Consult with Native American Tribes (36 CFR 800.3(f)) to obtain knowledge on resources that are identified with places which they attach cultural or religious significance.
- Conduct appropriate fieldwork (including phased identification and evaluation).
- Apply NRHP criteria to determine a resource eligibility for NRHP listing.

Fulfilling these steps is generally thought to constitute a reasonable effort to identify historic properties within the APE for an undertaking. The obligations of a federal agency must also assess whether an undertaking will have an adverse effect on cultural resources. An undertaking will have an adverse effect when (36 CFR Part 800.5(1))

an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

The process of determining whether an undertaking may have an adverse effect requires the federal agency to confer with consulting parties in order to appropriately consider all relevant stakeholder concerns and values. Consultation regarding the treatment of a historic property may result in a Programmatic Agreement and/or Memorandum of Agreement between consulting parties that typically include the lead federal agency, SHPO, and Native American Tribes if they agree to be signatories to these documents. Treatment documents—whether resource-specific or generalized—provide guidance for resolving potential or realized adverse effects to known historic properties or to those that may be discovered during implementation of the undertaking. In all cases, avoidance of adverse effects to historic properties is the preferred treatment measure and it is generally the burden of the federal agency to demonstrate why avoidance may not be feasible. Avoidance of adverse effects may not be feasible if it would compromise the objectives of an undertaking that can be reasonably said to have public benefit. Other non-archaeological considerations about the benefit of an undertaking may also apply, resulting in the determination that avoidance is not feasible. In general, avoidance of adverse effects is most difficult when a permitted undertaking is being implemented, such as identification of an NRHP-eligible archaeological resource during earthmoving.

Bureau of Reclamation Cultural Resources Management Policy

Reclamation is responsible for the cultural resources it owns, controls, or administers on behalf of the United States and must assure their management in accordance with federal laws, regulations, executive orders, and Department of the Interior policies. Reclamation shall

- A. identify, document, and evaluate cultural resources for listing in the National Register;
- B. actively nominate eligible properties to the National Register;
- C. to the fullest extent possible, manage and maintain historic properties, both reserved and transferred works, in a manner that preserves the character defining features that qualify them for listing in the National Register;

- D. integrate cultural resources concerns early in project planning processes in order to identify opportunities to protect historic properties from adverse effects and avoid unnecessary delays, conflicts, and costs for Reclamation undertakings;
- E. consider the effects of its undertakings on historic properties;
- F. where adverse effects cannot be avoided, commit to fully completing mitigation measures prescribed in agreements executed with one or more of the following: State or Tribal Historic Preservation Offices, the Advisory Council on Historic Preservation, Native American Tribes, and other interested parties;
- G. seek input and involvement from federal, state, Tribal, and local agencies, as well as the interested public, in carrying out Reclamation's CRM Program;
- H. support an education and outreach program to inform the public of Reclamation's cultural resources stewardship responsibilities, activities, and accomplishments;
- I. maintain accurate information on the types, location, status, and condition of its cultural resources, which shall be used in collaboration with other Reclamation programs such as asset management;
- J. preserve and protect its museum property as prescribed in RM Policy, Museum Property Management, LND P05; D&S, Museum Property Management, LND 02-02; and D&S, Museum Records, LND 02-05;
- K. identify NAGPRA cultural items under its control to ensure their appropriate protection, and repatriation or disposition in a timely manner according to statute and regulation;
- L. to the extent possible, establish and implement alternatives for the continued use of historic properties that are no longer needed for current or projected Reclamation purposes in compliance with section 111 of NHPA;
- M. to the extent possible, follow the Secretary of the Interior's Standards for the Treatment of Historic Properties for historic buildings and structures when complying with sustainability, accessibility, life safety and other applicable mandates;
- N. as per RM D&S, Administration of the Archaeological Resources Protection Act (ARPA) on Bureau of Reclamation Land, LND 02-04, support management actions to prevent the theft of, damage to, or destruction of archaeological resources; and
- O. as per LND 02-04, allow archaeological investigation and work on Reclamation land only after issuing a permit for such activity.

Paleontological Resources Protection Act

The Paleontological Resources Protection Act of 2009 requires the Secretaries of the Interior and Agriculture to manage and protect paleontological resources on federal land. The Federal Highway Act of 1935 (20 USC 78) addresses paleontological resources. Section 305 of the Act (20 USC 78, 78a) gives authority to use federal funds to salvage archaeological and paleontological sites that are impacted by highway projects. There are several other laws and regulations that address paleontological resources either directly or indirectly, such as the Antiquities Act of 1906 (16 USC 431–433), Archeological and Paleontological Salvage (23 USC 305), and the National Environmental Policy Act of 1969 (42 USC 138; 49 USC 1653).

State***California Register of Historical Resources (California Public Resources Code Section 5020 et seq.)***

In California, the term “cultural resource” includes but is not limited to “any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California” (California Public Resources Code (PRC), Section 5020.1(j)). In 1992, the California legislature established CRHR “to be used by state and local agencies, private groups, and citizens to identify the state’s cultural resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC, Section 5024.1(a)). A resource is eligible for listing in the CRHR if the State Cultural Resources Commission determines that it is a significant resource and that it meets any of the following NRHP criteria (PRC, Section 5024.1(c)):

1. Associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
2. Associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Resources less than 50 years old are not considered for listing in the CRHR, but may be considered if it can be demonstrated that sufficient time has passed to understand the historical importance of the resource (14 CCR 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing on the NRHP are automatically listed on the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local cultural resource surveys. The SHPO maintains the CRHR.

Native American Historic Cultural Sites (California Public Resources Code Section 5097 et seq.)

The Native American Historic Resources Protection Act (PRC, Section 5097, et seq.) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act, enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The act also provides a process for the identification and repatriation of these items to the appropriate Tribes.

California Environmental Quality Act

As described further below, the following CEQA Statutes and Guidelines are relevant to the analysis of archaeological and historic resources:

1. PRC, Section 21083.2(g): Defines “unique archaeological resource.”
2. PRC, Section 21084.1 and CEQA Guidelines Section 15064.5(a): Defines cultural resources. In addition, CEQA Guidelines Section 15064.5(b) defines the phrase “substantial adverse change” in the significance of a cultural resource. It also defines the circumstances when a project would materially impair the significance of a cultural resource.
3. PRC, Section 21074(a): defines “Tribal cultural resources” and Section 21074(b): defines a “cultural landscape.”
4. PRC, Section 5097.98 and CEQA Guidelines Section 15064.5(e): These statutes set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.

5. PRC, Sections 21083.2(b)–(c) and CEQA Guidelines Section 15126.4: These statutes and regulations provide information regarding the mitigation framework for archaeological and historic resources, including options of preservation-in-place mitigation measures; identifies preservation in place as the preferred manner of mitigating impacts to significant archaeological sites.

Under CEQA, a project may have a significant effect on the environment if it may cause “a substantial adverse change in the significance of an [sic] cultural resource” (PRC, Section 21084.1; CEQA Guidelines Section 15064.5(b)). A “cultural resource” is any site listed or eligible for listing in the CRHR. The CRHR listing criteria are intended to examine whether the resource in question (a) is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage; (b) is associated with the lives of persons important in our past; (c) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or (d) has yielded, or may be likely to yield, information important in prehistory or history.

The term cultural resource also includes any site described in a local register of historic resources, or identified as significant in a cultural resources survey (meeting the requirements of PRC, Section 5024.1(q)).

CEQA also applies to “unique archaeological resources.” PRC, Section 21083.2(g) defines a “unique archaeological resource” as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In 2014, CEQA was amended through Assembly Bill (AB) 52 to apply to “Tribal cultural resources” as well. Specifically, PRC, Section 21074 provides guidance for defining TCRs as either of the following:

- A. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following: (A) Included or determined to be eligible for inclusion in the California Register of Cultural

Resources. (B) Included in a local register of cultural resources as defined in subdivision (k) of §5020.1.

- B. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of §5024.1. In applying the criteria set forth in subdivision (c) of §5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe. (b) A cultural landscape that meets the criteria of subdivision (a) is a Tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

All cultural resources and unique archaeological resources—as defined by statute—are presumed to be historically or culturally significant for purposes of CEQA (PRC, Section 21084.1; 14 CCR 15064.5(a)). The lead agency is not precluded from determining that a resource is a cultural resource even if it does not fall within this presumption (PRC, Section 21084.1; 14 CCR 15064.5(a)). A site or resource that does not meet the definition of cultural resource or unique archaeological resource is not considered significant under CEQA and need not be analyzed further (PRC, Section 21083.2(a); 14 CCR 15064.5(c)(4)).

Under CEQA, significant cultural impact results from a “substantial adverse change in the significance of an [sic] cultural resource [including a unique archaeological resource]” due to the “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an cultural resource would be materially impaired” (14 CCR 15064.5(b)(1); PRC, Section 5020.1(q)). In turn, the significance of a cultural resource is materially impaired when a project

1. Demolishes or materially alters in an adverse manner those physical characteristics of an cultural resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of cultural resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an cultural resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a cultural resource that convey its historical significance and

that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA (14 CCR 15064.5(b)(2)).

Pursuant to these sections, CEQA first evaluates whether a project site contains any cultural resources, then assesses whether that project will cause a substantial adverse change in the significance of a cultural resource such that the resource's historical significance is materially impaired.

When a project significantly affects a unique archaeological resource, CEQA imposes special mitigation requirements. Specifically (PRC, Sections 21083.2(b)(1)–21083.2(b)(4)),

[i]f it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:

1. Planning construction to avoid archaeological sites.
2. Deeding archaeological sites into permanent conservation easements.
3. Capping or covering archaeological sites with a layer of soil before building on the sites.
4. Planning parks, greenspace, or other open space to incorporate archaeological sites.

If these preservation-in-place options are not feasible, mitigation may be accomplished through data recovery (PRC, Section 21083.2(d); 14 CCR 15126.4(b)(3)(C)). PRC, Section 21083.2(d) states that

[e]xcavation as mitigation shall be restricted to those parts of the unique archaeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archaeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report.

These same requirements are set forth in slightly greater detail in CEQA Guidelines Section 15126.4(b)(3), as follows:

- A. Preservation in place is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.
- B. Preservation in place may be accomplished by, but is not limited to, the following:

1. Planning construction to avoid archaeological sites;
 2. Incorporation of sites within parks, greenspace, or other open space;
 3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site[; and]
 4. Deeding the site into a permanent conservation easement.
- C. When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the cultural resource, shall be prepared and adopted prior to any excavation being undertaken.

Note that, when conducting data recovery, “[i]f an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation” (14 CCR 15126.4(b)(3)). However, “[d]ata recovery shall not be required for an cultural resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historic resource, provided that determination is documented in the CEQA document and that the studies are deposited with the California Cultural resources Regional Information Center” (14 CCR 15126.4(b)(3)(D)).

Finally, CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are set forth in PRC Section 5097.98.

California Health and Safety Code Section 7050.5

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (California Health and Safety Code, Section 7050.5b). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (California Health and Safety Code, Section 7050.5c). The NAHC will notify the most likely descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

Assembly Bill 52

AB 52, which took effect July 1, 2015, establishes a consultation process between California Native American Tribes and lead agencies in order to address Tribal concerns regarding project impacts and mitigation to TCRs. PRC Section 21074(a) defines TCRs and states that a project that has the potential to cause a substantial adverse change to a TCR is a project that may have an adverse effect on the environment. A TCR is defined as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe that is either (1) listed or eligible for listing in the CRHR or a local register of historical resources, or (2) determined by a lead agency to be a TCR.

Senate Bill 18

The Traditional Tribal Cultural Places Bill of 2004 (Senate Bill 18) requires local governments to consult with Native American Tribes during the project planning process. The intent of this legislation is to encourage consultation and assist in the preservation of Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance. The purpose of this consultation is to protect the identity of the cultural place and to develop appropriate and dignified treatment of the cultural resource. The consultation is required whenever a general plan, general plan amendment, specific plan, specific plan amendment, or open space element is proposed for adoption. As part of the planning process, California Native American Tribes must be given the opportunity to consult with the lead agency for the purpose of preserving, mitigating impacts to, and identifying cultural places.

Local

Imperial County General Plan

The Conservation and Open Space Element of the Imperial County General Plan is the official conservation guide for all decision makers including the County Board of Supervisors, Planning Commission, Airport Land Use Commission, and various departments in addition to other federal, state, or county governmental decision-making bodies. It shall also identify goals and policies to ensure the managed use of environmental and cultural resources. The goals and objectives outlined below are specific to cultural resources (County of Imperial 2016).

Preservation of Cultural Resources

Goal 3: Preserve the spiritual and cultural heritage of the diverse communities on Imperial County.

Objective 3.1: Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.

Objective 3.2: Develop management strategies to preserve the memory of important historic periods, including Spanish, Mexican, and early American settlements of Imperial County.

Objective 3.3: Engage all local Native American Tribes in the protection of Tribal cultural resources, including prehistoric trails and burial sites.

Additionally, the following policies and programs outlined in the Conservation and Open Space Element describe activities which are intended to implement the goals and objectives that have been described above:

Policy: Identify and document significant historic and prehistoric resources, and provide for the preservation of representative and worth examples; and recognize the value of historic and prehistoric resources, and assess current and proposed land uses for impacts upon these resources

Programs:

- The County will use the CEQA process to conserve cultural resources and conform to Senate Bill 18 “Consultation with Tribal Governments” and Assembly Bill 52 “Consultation with Tribal Governments”. Public awareness of cultural heritage will be stressed. All information and artifacts recovered in this process will be stored in an appropriate institution and made available for public exhibit and scientific review.
- Encourage the use of open space easements in the conservation of high value cultural resources.
- Consider measures which would provide incentives to report archaeological discoveries immediately to the Imperial Valley Desert Museum.
- Coordinate with appropriate federal, state, local, and Tribal agencies to provide regular updates to the “Sensitivity Map for Cultural Resources”.
- Discourage vandalism of cultural resources and excavation by persons other than qualified archaeologists. The County shall study the feasibility of implementing policies and enacting ordinances toward the protection of cultural resources such as can be found in California Penal Code, Title 14, Point 1, Section 622-1/2. The County should maintain confidentiality of specific resource locations to prevent vandalism and desecration of sensitive cultural resources.

4.4.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to cultural resources are based on Appendix G of the CEQA Guidelines. According to Appendix G, a significant impact related to cultural resources would occur if the project would:

1. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.
3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
4. Disturb any human remains, including those interred outside of dedicated cemeteries.
5. Cause a substantial adverse change in the significance of a Tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:
 - a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
 - b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

4.4.4 Impacts Analysis

Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?

Less-Than-Significant Impact. As previously discussed, Dudek conducted a records search in January and February 2017 at the SCIC at San Diego State University. Archival review identified six previously recorded cultural resources within the Proposed Project APE while pedestrian survey identified 12 new cultural resources. These 18 cultural resources include 3 archaeological sites and 15 built environment resources. Previously, the AAC (P-13-007130) was evaluated and determined to be historically significant. Because of their association with the AAC, the EHL Canal (P-13-008333) and the All-American Drain 2/2A (P-13-008668), were previously

recommended eligible for listing on the NRHP. The remaining resources have not been previously evaluated for significance (see Table 5 of Appendix D).

Of the 18 cultural resources located within the APE, 12 are recommended not eligible and for the purpose of this analysis are not further discussed, 3 are not evaluated, 2 are recommended eligible, and 1 is determined eligible. The Proposed Project can avoid two resources, P-13-008668 (recommended eligible) and P-13-014631 (not evaluated). P-13-008668 consists of a single feature that splits into two components, the All American Drain 2 and the All American Drain 2A. P-13-014631 consists of segments of SR-98. The proposed intake channel crosses the path of SR-98 and both segments of P-13-008668. The Proposed Project would avoid impacting these two resources by using box culverts to route the intake channel underneath P-13-014631 and P-13-008668.

The other two resources not evaluated (P-13-000305 and P-13-000316) appear to have been destroyed during agricultural development. These two resources are archaeological resources, and are further analyzed under the following threshold.

The other recommended eligible historical resource, the EHL Canal (P-13-008333), would be directly impacted by the Proposed Project, which proposes the construction of seven pipes and seven gates that will transfer water from the proposed reservoir into the EHL Canal. A concrete structure will be constructed along the bank of the earthen EHL Canal near the northwest corner of the proposed reservoir. The concrete structure will span less than 150 feet along the eastern bank of EHL Canal. This concrete structure will hold the seven discharge pipes in place and prevent erosion around the pipes. The discharge pipes will enter the EHL Canal below the waterline. Upon completion, only the concrete structure will be visible above the waterline. The discharge pipes will proceed approximately due north of the reservoir, entering the existing canal nearly following the direction of its flow.

Applying the criteria of adverse effect, the proposed undertaking would have no affect or significant impact to any major historic features of the EHL Canal, such as bridges, checks, or existing turnouts. Of the approximately 45-mile-long EHL Canal, only a very small portion, less than 150 feet, will be altered by the Proposed Project. The proposed structure that will hold the seven discharge pipes will be constructed from concrete and will be visible along the eastern bank of the EHL Canal. Though this will disrupt the continued earthen bank of the EHL Canal, other concrete structures are located further along the canal. These other concrete structures deliver water from the EHL Canal into the adjacent agricultural fields, which is the original function of the canal. The addition of another concrete structure along the EHL Canal will not impact the integrity of the resource. The proposed connection will support the canal's purpose of reliably delivering water to agricultural fields. The concrete structure will support seven discharge pipes that will protrude from the wall of the EHL Canal. These pipes will enter the canal below the waterline and will not visually impact the canal.

The EHL Canal was previously recommended eligible for the NRHP due to its association with the AAC, an NRHP-eligible resource. None of the major features that associate the EHL Canal with the AAC for inclusion in the NRHP will be impacted by the Proposed Project. Therefore, the Proposed Project would have no adverse effect on this historic property under Section 106 of the NHPA, and the Proposed Project would not have a significant impact on this historical resource.

The one historical resource that is determined NRHP-eligible (P-13-007130) would be directly impacted by the Proposed Project. The project proposes the construction of an open-air intake channel that would transfer water from the AAC and deposit it into the proposed reservoir. Alterations to the AAC include the cutting of approximately 150 feet of the northern bank of the AAC. This 150-foot cut will allow a direct connection to the open intake channel that will traverse north to the proposed reservoir. The direct connection will be open with no gate or other flow-altering apparatus. The connection between the AAC and the proposed intake canal will have a concrete sill to protect the connection from erosion. This concrete sill will extend to the top of the existing earthen embankment of the AAC and will be visible above the waterline.

The Proposed Project would have no adverse effects to the AAC. No alterations are proposed to any major historic features of the AAC, such as bridges, checks, drops, gauging stations, existing inlets, overchutes, syphons, or turnouts. The direct connection of the AAC to the proposed intake canal is similar in structure to the existing connection of the AAC to the EHL Canal, located approximately 1.1 miles west. The concrete sill located at the connection of the intake canal will disrupt the earthen embankment of the AAC; however, there are similar concrete structures located along the AAC where water is diverted into lateral irrigation canals. Finally, the 150-foot wide connection is only a small alteration to the approximately 82-mile-long AAC. The alterations proposed to the AAC are similar to other existing water-diverting features along the AAC, and will not impact the integrity or feel of the resource. None of the major features that qualify the AAC for inclusion in the NRHP will be impacted by the Proposed Project. Therefore, the Proposed Project would have no adverse effect on this historic property under Section 106 of the NHPA. As such, impacts to historical resources, as defined in the CEQA Guidelines Section 15064.5, would be less than significant.

Split Cell Option

The split cell design option would involve splitting the proposed single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed action. Therefore, impacts to historical resources would be the same as the impacts determined for the proposed single cell design.

Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

Less-Than-Significant Impact with Mitigation. The majority of the resources identified within the Proposed Project APE are built environment structures. However, there are three archaeological resources identified within the APE. The current survey identified prehistoric cultural resource P-13-017218, which would be impacted by the Proposed Project. Archaeological testing was conducted to gather information to determine the eligibility of the site for listing on the NRHP or the CRHR. Dudek archaeologists identified the prehistoric ceramic scatter, P-13-017218, during the survey of the Proposed Project APE on January 4, 2018, and revisited the site to conduct formal evaluation excavations on April 4, 2018 (a detailed description of the formal evaluation is provided in Appendix D to this EIR). This newly identified resource consists of a prehistoric ceramic scatter. P-13-017218 was evaluated through additional close-interval survey and excavation of three STPs and two SSUs. The excavated units produced only 10 subsurface ceramic sherds and all were located within the upper 20 centimeters. Laboratory analysis of the ceramics found them to be of types common to the area. Further excavations at P-13-017218 are unlikely to yield information important to prehistory and the current efforts to record, excavate, and analyze the site have exhausted its research potential. Dudek recommends P-13-017218 not eligible for listing on the NRHP or the CRHR under Criterion D/4. Moreover, no information was obtained about this site indicating its significance under NRHP criteria A through C or CRHR criteria 1 through 3. The site was not found to be associated with significant events (Criterion A/1) or persons (Criterion B/2), and no evidence suggests that it qualifies as the distinctive characteristics of a type, period, or method of construction, or that it represents the work of a master, or that possess high artistic values, or that it represents a significant and distinguishable entity whose components may lack individual distinction (Criterion C/3). As such, Dudek recommends P-13-017218 not eligible for listing on the NRHP or the CRHR under any criteria. Besides the ceramic sherds, no other artifacts, features, or strata were identified within the excavation units.

Additionally, resources P-13-000305 and P-13-000316 appear to no longer be extant within the Proposed Project APE. Both consist of poorly documented prehistoric resources recorded in the 1970s. P-13-000305 was described as a “temporary campsite,” 90% of which is located within the path of the Proposed Project intake channel. P-13-000316 was described as “midden soil” and was located entirely within the path of the Proposed Project intake channel. The current pedestrian survey could not relocate these resources. An active agricultural field, concrete irrigation ditch, and dirt road now dominate the recorded boundaries of these resources. It appears that the resources were destroyed during the development of the agricultural field. However, there is still the possibility of uncovering subsurface archaeological deposits near the boundaries of these previously identified resources. Impacts to any such inadvertent discoveries would be considered potentially significant. Monitoring during construction to appropriately treat inadvertent

discoveries would reduce that impact to a level below significance. With incorporation of **Mitigation Measure (MM) CR-1** through **MM-CR-3**, the Proposed Project would result in impacts that are less than significant.

Furthermore, as discussed under Section 4.4.1, Existing Conditions, IID provided Dudek with tile drain construction maps that detail the installation of tile drains throughout the proposed reservoir portion of the APE. This subsurface lattice of ceramic, concrete, metal, and plastic pipes was installed in stages between 1951 and 1989. Because these features exist between 4.5 and 9.2 feet below the surface, the current cultural resources investigation was unable to verify their presence, extent, or materials. As such, Dudek is unable to confirm that these resources are located within the APE and is unable to make statements regarding the resource's integrity or eligibility for historical significance. While tile drains are associated with the history of irrigation and agricultural development in Imperial County, the tile drains within the APE were used by individual property owners for agricultural purposes, and are not part of a larger, more complex system of infrastructure. Tile drains have been commonly used all over the United States since the 1800s. The drains within the APE represent ubiquitous infrastructure seen throughout Imperial Valley. Further, the mix of different material types and dates illustrated on the construction maps provided by IID indicate that these drains are unlikely to retain integrity to their original construction. Given that these drains were developed to serve individual properties (and not intended to operate as part of a larger complex drainage system) they are also unlikely to be eligible for their associations with important events, people, or patterns of development. However, it is recommended that monitoring occur in areas where tile drainages are historically mapped in order to assess and document their condition. With implementation of **MM-CR-1**, potential impacts to tile drains would be less than significant.

Split Cell Option

The split cell design option would involve splitting the proposed single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed action. Therefore, impacts to archaeological resources would be the same as the impacts determined for the proposed single cell design. **MM-CR-1** through **MM-CR-3** would be required for the split cell design option also.

Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less-Than-Significant Impact with Mitigation. A paleontological records search performed by the Natural History Museum of Los Angeles County did not identify any known fossil localities in the Proposed Project APE or within a 1-mile radius of the APE. No fossil bone or shell was observed on the ground surface during the pedestrian survey, and the surface-mapped deposits were confirmed to

be consistent with those mapped throughout the site (Appendix D). However, geological records indicate that the Proposed Project site is situated on Pleistocene-age alluvial sediments that have produced numerous scientifically significant fossils in the region. According to the records search results obtained from the Natural History Museum of Los Angeles County (see Appendix D), the closest fossil locality to the Proposed Project APE is LACM 1719, which yielded a specimen of horse from older Quaternary deposits west–southwest of the APE and west of Calexico and Mount Signal, near the international border (see Appendix D).

Construction methods are anticipated to include minor surface excavations to a depth of approximately 5 feet below the ground surface, impacting only surface Holocene alluvium. BLM has outlined the Potential Fossil Yield Classification system to characterize geological units and their respective paleontological sensitivity rankings. According to BLM’s Potential Fossil Yield Classification system, the lakebed deposits of ancient Lake Cahuilla in this region have been identified as Class 4 (Appendix D). Class 4 is defined by the BLM as an area underlain by geologic units with high potential to yield fossils but with lowered risks of human-caused adverse impacts and/or lowered risk of natural degradation due to alluvial material or other conditions that may lessen or prevent potential impacts to the bedrock resulting from the activity. Dune deposits are also mapped north of the project area within this region, on the north side of the Interstate 8 freeway and the AAC. Lakebed deposits of ancient Lake Cahuilla have yielded fossil remains from numerous localities in Imperial Valley. Lake Cahuilla deposits have also yielded vertebrate fossils, including teeth and bones of birds, horses, bighorn sheep, and reptiles. Surface mapped deposits of Holocene-age younger alluvium are considered to be too young to produce scientifically significant paleontological resources, and thus have been assigned a Potential Fossil Yield Classification rating of Class 2, or low potential, in this region (BLM 2016). Class 2 is defined as unlikely to contain paleontological resources (BLM 2016).

The management concern for paleontological resources is considered to be low due to the construction activities anticipated (Appendix D). A paleontologist shall be retained to determine the potential at depth for impacts to high sensitivity deposits, such as the Lake Cahuilla beds. If unanticipated fossils are discovered during the course of construction, implementation of **MM-CR-4** would reduce adverse effects on paleontological resources. Additionally, standard discovery requirements under Reclamation Guidelines require the applicant implement field procedures to protect paleontological resources in addition to mitigation. Reclamation also requires compliance with the Paleontological Resource Preservation Act of 2009. With compliance with the applicable regulations and implementation of **MM-CR-4**, impacts to paleontological resources would be reduced to an acceptable level.

Split Cell Option

The split cell design option would involve splitting the proposed single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed action. Therefore, impacts to paleontological resources would be the same as the impacts determined for the proposed single cell design. **MM-CR-4** would be required for the split cell design option also.

Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less-Than-Significant Impact with Mitigation. While the presence of human remains in the project area is highly unlikely, a potential still exists for unanticipated human burials or cremations to occur. If human remains are encountered on site, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. **MM-CR-3** requires that the County coroner be notified of the find immediately. If the remains are determined to be prehistoric, the coroner will notify NAHC, which will determine and notify an MLD. With the permission of the landowner or his/her authorized representative, on private land, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Split Cell Option

The split cell design option would involve splitting the proposed single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed action. Therefore, potential impacts to human resources would be the same as the impacts determined for the proposed single cell design. **MM-CR-3** would be required for the split cell design option also.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

5. *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

Less-Than-Significant Impact. PRC Section 21074 provides guidance for defining TCRs as either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following: (A) Included or determined to be eligible for inclusion in the California Register of Cultural Resources. (B) Included in a local register of cultural resources as defined in subdivision (k) of §5020.1.
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of §5024.1. In applying the criteria set forth in subdivision (c) of §5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe. (b) A cultural landscape that meets the criteria of subdivision (a) is a Tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

The project would avoid impacts to all identified resources, excluding the AAC (CA-IMP-7130H) and isolated finds. As previously stated, the Proposed Project would have no adverse effect on this historic property under Section 106 of the NHPA. The NAHC Sacred Lands File search was negative, with no TCRs located in the APE. Additionally, per Tribal consultation efforts, only one Tribe (Viejas Tribal Government) has responded to outreach letters sent to Native American group representatives, with the request for a Kumeyaay cultural monitor during construction activities. Therefore, the AAC is not considered of cultural value to a California Native American Tribe. Impacts related to historical resources would be less than significant.

6. *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

Less-Than-Significant with Mitigation. A search of the NAHC Sacred Lands File was conducted for the APE and a 1-mile buffer on April 10, 2017 (Appendix D). The NAHC search was negative, with no TCRs located in the APE. The NAHC response letter included a list of Native American group representatives who should be contacted for information about these sites.

Outreach letters were mailed on August 23, 2017, to all Native American group representatives included on the NAHC contact list (Appendix D). These letters attempted to solicit additional information relating to TCRs that may be affected by the Proposed Project. Native American representatives were requested to define a general area where known resources intersect the Proposed Project APE. To date, representatives of the Viejas Band of Kumeyaay Indians and the Quechan Tribe of the Fort Yuma Indian Reservation have responded to the outreach letters. On September 3, 2015, Thane Somerville of the Quechan Tribe of the Fort Yuma Indian Reservation requested via letter formal notification of Proposed Projects within the geographic boundaries of

Imperial County and Southern Riverside County pursuant to PRC, Section 21080.3.1(b) (AB 52). On September 18, 2017, IID provided formal notification to the Quechan Tribe of the Fort Yuma Indian Reservation. On August 31, 2017, Ray Teran of the Viejas Band of Kumeyaay Indians stated via letter that the Proposed Project site has cultural significance or ties to the Viejas Band of Kumeyaay Indians. Although the presence of TCRs was not mentioned, Mr. Teran requested that a Kumeyaay cultural monitor be on site for ground-disturbing activities associated with the Proposed Project.

Native American monitoring would be implemented during the construction phases of the Proposed Project to protect unknown resources and to appropriately treat inadvertent discoveries. Should any TCRs be encountered, implementation of **MM-CR-3** would ensure that any impacts would be mitigated to less-than-significant levels.

Split Cell Option

The split cell design option would involve splitting the proposed single cell reservoir into two, separated by a dividing berm, within the same disturbance area as the proposed action. Therefore, impacts to TCRs would be the same as the impacts determined for the proposed single cell design. **MM-CR-3** would be required for the split cell design option also.

4.4.5 Mitigation Measures

The majority of the resources identified within the Proposed Project APE are built environment structures, while the three archaeological resources identified within the APE appear to have been either destroyed during agricultural development (P-13-000305 and P-13-000316) or tested and recommended not eligible (P-13-017218). However, there is the possibility of impacting inadvertent discoveries of buried archaeological deposits during construction, which would have potentially significant impacts. The mitigation measures outlined below have been designed to fulfill the requirements of Section 106 of the NHPA and CEQA guidelines. IID will be the lead agency implementing cultural resource mitigation measures and will provide information to Reclamation for their ongoing Section 106 oversight and consultation obligations.

MM-CR-1 Cultural and Paleontological Resources Monitoring and Treatment Plan

I. Prior to Start of Construction

1. Preparation of Cultural and Paleontological Resources Monitoring and Treatment Plan

- A. Prior to the start of construction, the Principal Investigator (PI) archaeologist shall prepare a Cultural and Paleontological Resources Monitoring and Treatment Plan that specifies and describes:**

- the cultural resources Area of Potential Effect (APE)
- roles and responsibilities
- construction monitoring methods
- Monitoring locations
- reporting protocol
- avoidance and protective measures for cultural resources
- procedures for evaluating resource significance and/or data recovery for significant unanticipated discoveries that cannot be avoided
- curation protocol
- post construction requirements

MM-CR-2 Avoidance. The following shall be implemented to protect known archaeological resources that have not been evaluated for significance or that have been evaluated as significant under Section 106 of National Historic Preservation Act (NHPA) and CEQA:

I. Prior to Start of Construction

1. Identified cultural resources that have not been evaluated for significance or that have been evaluated as significant under Section 106 of the NHPA and CEQA, will be avoided through project design.
 - A. Prior to the start of construction, the Principal Investigator (PI) archaeologist shall ensure that resource-specific avoidance measures are implemented to prevent unanticipated impacts. These measures may include exclusionary fencing, ESA signage, or other measures deemed appropriate and as specified in the Cultural and Paleontological Resources Monitoring and Treatment Plan .

MM-CR-3 Construction Monitoring. The following shall be implemented to protect unknown archaeological resources and/or grave sites that may be identified during Project construction phases.

I. During Construction

1. Monitoring of Grading/Excavation/Trenching

1. The Archaeological Monitor shall be present full-time during all soil disturbing and grading/excavation/trenching activities within 200 feet of previously identified and unevaluated cultural resources.
 2. If cultural resources are encountered during the absence of an Archaeological Monitor, work shall stop within 200 feet of discovery until the PI can determine the significance of the discovery.
 3. The Native American consultant/monitor shall determine the extent of their presence during soil disturbing and grading/excavation/trenching activities in consultation with the PI. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop until the PI can consult with the Native American monitor and determine the significance of the discovery.
 4. The PI may suggest a modification to the monitoring program to IID when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present.
 5. The Archaeological Monitor shall document field activity via the Daily Log.
2. Discovery Notification Process
 1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities within 200 feet of the discovery and immediately notify the PI.
 2. If the PI determines that the resource is significant or requires further evaluation, the PI shall immediately notify IID by phone of the discovery, and shall also submit written documentation to IID within 24 hours by fax or email with photos of the resource in context, if possible.
 3. If the resource is determined significant or requires further evaluation, the IID will notify the United States Bureau of Reclamation.
 4. No soil shall be exported off site until a determination can be made regarding the significance of the resource.
 3. Determination of Significance

- a. The PI and Native American consultant, where Native American resources are discovered, shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section II below.
 - A. The PI shall immediately notify IID by phone to discuss significance determination and whether additional mitigation is required.
 - B. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) to IID and Reclamation. The ADRP and any mitigation must be approved by IID and Reclamation before ground-disturbing activities in the area of discovery will be allowed to resume.
 - C. If the resource is not significant, the PI shall submit a letter or email to IID indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.

II. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and no soil shall be exported off site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

- a. Notification
 - 1. The Archaeological Monitor shall notify the PI immediately.
 - 2. The PI will notify IID and Reclamation immediately by phone.
 - 3. The PI shall notify the Medical Examiner after consultation with IID.
- b. Isolate Discovery
 - 1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.
 - 2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.

3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.
- c. If Human Remains **ARE** determined to be Native American
1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.
 2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendant (MLD) and provide contact information.
 3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Code.
 4. The MLD will have 48 hours to make recommendations to IID and Reclamation, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
 5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:
 - A. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being notified by the Commission, OR;
 - B. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, THEN
 - C. To protect these sites, the landowner shall do one or more of the following:
 - (1) Record the site with the NAHC;
 - (2) Record an open space or conservation easement; or
 - (3) Record a document with the County.
 - D. Upon the discovery of multiple Native American human remains during a ground-disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of

multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and items associated and buried with Native American human remains shall be reinterred with appropriate dignity.

- d. If Human Remains are **NOT** Native American
 - a. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.
 - b. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
 - c. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Archaeological Center for analysis. The decision for internment of the human remains shall be made in consultation with IID, Reclamation, any known descendant group, and the San Diego Archaeological Center.

III. Post Construction

- a. Submittal of Draft Monitoring Report
 - 1. The PI shall submit a Draft Monitoring Report which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program to IID and Reclamation for review and approval following the completion of monitoring.
- b. Recording sites with State of California Department of Parks and Recreation
 - 1. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms, DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program, and for submittal of such forms to the SCIC with the Final Monitoring Report(s).
- c. Final Monitoring Report(s)
 - 1. The PI shall submit the approved Final Monitoring Report to IID and Reclamation.

MM-CR-4 A literature review and paleontological field survey (as needed) will be conducted as part of site-specific CEQA review to identify potential impacts to rock units that may contain significant fossil remains (*this report*).

Modify construction design, when feasible, to avoid impacts to all significant paleontological resources.

Construction monitoring by a qualified paleontologist may be recommended for locations within paleontologically sensitive sediments. If so, a Paleontological Monitoring Plan shall be prepared prior to ground disturbance in sensitive areas.

In the event of an unanticipated discovery during construction, all ground disturbance within 200 feet of the discovery will be halted or re-directed to other areas until the discovery has been recovered by a qualified paleontologist.

All paleontological resources recovered will be appropriately described, processed, and curated in a scientific institution such as a museum or university.

4.4.6 Level of Significance After Mitigation

With incorporation of **MM-CR-1** through **MM-CR-4**, outlined in Section 4.4.5, Mitigation Measures, the Proposed Project (under both the proposed single cell design and the split cell design option) would not result in significant impacts to any historical, archaeological, paleontological, or Tribal cultural resources.

4.5 HAZARDS AND HAZARDOUS MATERIALS

This section describes the existing hazardous materials within the vicinity of the project site, identifies associated regulatory requirements, evaluates potential impacts regarding hazards and hazardous materials, and identifies mitigation measures related to implementation of the proposed East Highline Reservoir and Intake Channel Project (Proposed Project or Project).

4.5.1 Existing Conditions

As defined in the California Health and Safety Code Section 25501, “hazardous material” means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant hazard to human health and safety, or to the environment, if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons, or harmful to the environment, if released into the workplace or the environment. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, or contaminated, or is being stored prior to proper disposal.

In some cases, past industrial or commercial activities on a site may have resulted in spills or leaks of hazardous materials to the ground, resulting in soil and/or groundwater contamination. Hazardous materials may also be present in building materials and released during building demolition activities. If improperly handled, hazardous materials and wastes can cause public health hazards when released to the soil, groundwater, or air. The four basic exposure pathways through which an individual can be exposed to a chemical agent include inhalation, ingestion, bodily contact, and injection. Exposure can come as a result of an accidental release during transportation, storage, or handling of hazardous materials. Disturbance of subsurface soil during construction can also lead to exposure of workers or the public from stockpiling, handling, or transportation of soils contaminated by hazardous materials from previous spills or leaks.

A review of available maps, historical aerial photographs, and the DTSC EnviroStor website was completed on the project site. The site has been used for agricultural cultivation since at least 1996 and is currently being used for that purpose. Besides the historical use of pesticides on the site, no other hazardous materials were observed on the proposed site. DTSC’s EnviroStor website identified no hazardous sites and facilities within a 7-mile radius of the site.

4.5.2 Relevant Plans, Policies, and Ordinances

Federal

The Resource Conservation and Recovery Act of 1976 as amended by the Hazardous and Solid Waste Amendments of 1984

Federal hazardous waste laws are generally promulgated under the Resource Conservation and Recovery Act (RCRA) of 1976, as amended. These laws provide for the cradle-to-grave regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed of.

The EPA has the primary responsibility for implementing the RCRA; however, individual states are encouraged to seek authorization to implement some or all RCRA provisions. California received authority to implement the RCRA program in August 1992. DTSC is responsible for implementing the RCRA program as well as California's own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law. Under the Certified Unified Program Agency program, DTSC has in turn delegated enforcement authority to the Health and Human Services Agency.

Hazardous Materials Transportation Act

The U.S. Department of Transportation regulates hazardous materials transportation under Title 49 of the Code of Federal Regulations. State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and Caltrans. These agencies also govern permitting for hazardous materials transportation.

Uniform Fire Code

The Uniform Fire Code (UFC), created by the National Fire Protection Association, is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The UFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The UFC and the Uniform Building Code use a hazard classification system to determine what protective measures are required to protect against structural fires. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, UFC employs a permit system based on hazard classification. The UFC is updated every 3 years.

State

California Occupational Safety and Health Administration

The California OSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. CalOSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 330 et seq.). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

California Government Code Section 65962.5(a), Cortese List

The Hazardous Waste and Substance Sites (Cortese) List is a planning document used by the state, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires that the California EPA develop an updated Cortese List at least annually. DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous materials release information for the Cortese List.

Title 22 of the California Code of Regulations Chapter 6.5

DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the RCRA and the California Hazardous Waste Control Law. Both laws impose cradle-to-grave regulatory systems for handling hazardous waste in a manner that protects human health and the environment. The California EPA has delegated some of its authority under the Hazardous Waste Control Law to county health departments and other Certified Unified Program Agencies.

California Fire Code

The California Fire Code (CFC) is found in Chapter 9 of Title 24 of the California Code of Regulations. It was created by the California Building Standards Commission and is based on the International Fire Code created by the International Code Council. It is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The CFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The CFC and the California Building Code use a hazard classification system to determine what protective measures are required to ensure fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the CFC employs a permit system based on hazard classification. The CFC is updated every 3 years.

Senate Bill 1889, Accidental Release Prevention Law

Senate Bill 1889 required California to implement a new federally mandated program governing the accidental airborne release of chemicals promulgated under Section 112 of the Clean Air Act (42 USC 7412). Effective January 1, 1997, the California Accidental Release Prevention Law (CalARP) replaced the previous California Risk Management and Prevention Program and incorporated the mandatory federal requirements. CalARP addresses facilities that contain specified hazardous materials, known as “regulated substances,” which, if involved in an accidental release, could result in adverse off-site consequences. CalARP defines regulated substances as chemicals that pose a threat to public health and safety or the environment because they are highly toxic, flammable, or explosive.

Local

County of Imperial General Plan

The County of Imperial General Plan Seismic and Public Safety Element (County of Imperial 1997) contains an implementation program to reduce the threat of seismic and public safety hazards within the unincorporated areas of the County. Implementation programs and policies are divided into three major topics: Seismic/geological hazards, flood hazards, and IID lifelines. The Seismic and Public Safety Element also contains a set of goals and objectives for land use planning and safety, emergency preparedness, and the control of hazardous materials. The goals and objectives, together with the implementation programs and policies, are the statements that will provide direction for private development.

Imperial County Office of Emergency Services – Emergency Operations Plan

The Imperial County Fire Department is the local Office of Emergency Services (OES) in Imperial County. The OES Coordinator is the County Fire Chief, who is assisted by an Assistant OES Coordinator. The Coordinator maintains the OES program for the County of Imperial. The Imperial County Fire Department acts as the lead agency for the Imperial County Operational Area and provides leadership in all phases of developing the emergency management organization, including public education, training, emergency operations center operations, interagency coordination, and plan development (Imperial County OES 2007). The Imperial County Operational Area Emergency Operations Plan provides a comprehensive, single source of guidance and procedures for the County to prepare for and respond to significant or catastrophic natural, environmental, or conflict-related risks that produce situations requiring coordinated response. It further provides guidance regarding management concepts relating to response and abatement of various emergency situations, identifies organizational structures and relationships, and describes responsibilities and functions necessary to protect life and property. The Emergency Operations Plan is consistent with the requirements of the Standardized Emergency Management

System as defined in Government Code Section 8607(a) and the U.S. Department of Homeland Security National Incident Management System for managing response to multi-agency and multijurisdictional emergencies. The Standardized Emergency Management System/National Incident Management System incorporates the use of the Incident Command System, mutual aid, the operational area concept, and interagency coordination (Imperial County OES, 2007). Additionally, IID and Reclamation have Emergency Action Plan's for the AAC.

4.5.3 Issues of Concern with No Applicable Criteria

Valley Fever

Valley Fever is an illness caused by a fungus (*Coccidioides immitis* and *C. posadasii*) that grows in soils under certain conditions. Favorable conditions for the Valley Fever fungus include low rainfall, high summer temperatures, and moderate winter temperatures. Soils within the Imperial Valley, including the project site, fit the profile to harbor Valley Fever spores. When soils are disturbed by the wind or other activities such as construction and farming, Valley Fever fungal spores become airborne. The spores present a potential health hazard when inhaled. Individuals in occupations such as construction, agriculture, and archaeology have a higher risk of exposure due to working in areas of disturbed soils which may have the Valley Fever fungus. Infection risk is highest in California during the 6-month period from June to November. Animals are also susceptible to the disease. In extreme cases, the disease can be fatal, though the majority of Valley Fever cases are very mild, with over 60% of infected people having no symptoms or flu-like symptoms (BLM 2010). The County has a relatively low Valley Fever incidence rate of 1.1 to 4.8 cases for every 100,000 people (CDPH 2017).

4.5.4 Thresholds of Significance

The significance criteria used to evaluate the project impacts related to hazards and hazardous materials are based on Appendix G of the CEQA Guidelines. According to Appendix G, a significant impact related to hazards and hazardous material would occur if the project would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. 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.
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

4. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
5. 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, result in a safety hazard for people residing or working in the project area.
6. For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.
7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
8. Expose people or structures 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.

4.5.5 Impacts Analysis

Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The Proposed Project consists of a single bay reservoir facility covering approximately 370 acres, which would manage up to approximately 3,400 acre-feet of water. The water managed in the proposed reservoir would then gravity flow into the EHL Canal, one of three main canals that branch off the AAC, a facility owned by the U.S. Department of the Interior through the Reclamation, serving IID's water service area. The Proposed Project also includes an approximately 1.3-mile intake channel, which would branch off the north side of the AACI to convey the operational water flows from the AAC through an open channel canal to the proposed reservoir at a flow rate of up to 1,500 cubic feet per second.

Construction

Less-Than-Significant Impact with Mitigation. Construction of the project would involve the excavation of a single cell reservoir facility covering approximately 370 acres, with a ground level depth of 5 feet on the existing farm ground, using equipment such as backhoes, loaders, excavators, and graders, and using water trucks to control dust. As such, construction of the Proposed Project would entail routine transport of materials potentially hazardous to humans, wildlife, and sensitive environments. These potentially hazardous materials include gasoline, oil, solvents, and various other liquids and materials required for the operation of construction equipment. All contractors are required to comply with applicable laws and regulations regarding hazardous materials and hazardous waste management and disposal. Direct impacts to human health and biological

resources from accidental spills of small amounts of hazardous materials from construction equipment could potentially occur because of the Proposed Project. However, the Proposed Project would comply with federal, state, and local health and safety requirements that are intended to minimize hazardous materials risk to the public, such as CalOSHA requirements, the Hazardous Waste Control Act, CalARP, and the California Health and Safety Code.

In addition, all construction waste, including trash, litter, garbage, solid waste, petroleum products, and any other potentially hazardous materials would be removed and transported to a permitted waste facility for treatment, storage, and/or disposal. A stormwater pollution prevention plan will be prepared prior to project construction to comply with the Construction General Permit (State Water Resources Control Board Order 2009-0009-DWQ, as amended). Among other things, the stormwater pollution prevention plan requires that hazardous materials be properly stored, contained, and disposed of to prevent polluted stormwater from being discharged from the site (see Section 4.6, Hydrology and Water Quality).

Due to the Project site being previously used for agriculture, there is the potential to expose previously used pesticides and herbicides. With implementation of **Mitigation Measure (MM) HAZ-1** through **MM-HAZ-3** and **MM-AQ-2** (a dust control plan), proper use and disposal of hazardous materials would not pose a significant risk to the public and the environment.

Valley Fever

Construction of the Proposed Project would occur in an area favorable to the growth of Valley Fever, a fungus that grows in soils in areas of low rainfall, high summer temperatures, and moderate winter temperatures. Project construction would disturb the soil and cause the fungal spores to become airborne, potentially putting construction personnel and wildlife at risk of contracting Valley Fever. Imperial County has a relatively low Valley Fever incidence rate. Data as of September 2017 indicated that there were 2 to 12 cases from 2011 to 2017 (CDPH 2017). Implementation of a dust control plan and the provisions of ICAPCDs Regulation VIII identified to reduce particulate matter less than 10 microns in diameter (PM₁₀) (**MM-AQ-2**) in Section 4.2, Air Quality, would be effective in reducing airborne dust. Implementation of this measure, as well as a dust control plan as required by the ICAPCD, would minimize the spread of fungal spores, thereby reducing potential for contracting Valley Fever during construction. No impacts associated with exposure to Valley Fever are anticipated during operations and maintenance, given that earthmoving is proposed and vehicles would be driven on paved and gravel covered roadways, thereby minimizing dust levels.

Operations

Less-Than-Significant Impact. The operational phase of the Proposed Project primarily involves the storage of up to approximately 3,400 acre-feet of water received by gravity flow from an intake

structure off the north side of the AAC. Maintenance would be undertaken by the IID in accordance with existing practices for inspections and repair. Operations would not include the treatment of the water contained in the proposed reservoir. Operations would be unmanned, and no vehicles would be required. These activities would not include the routine transport, use, or disposal of hazardous materials. Occasional maintenance activities, like for inspections and repair, would be made via crew trucks using existing road infrastructure. Maintenance activities would be in compliance with all current local, state, and federal regulations listed above in the construction discussion. Impacts related to operations of the project would be less than significant.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. The two reservoirs would manage the same amount of water as the single cell design, therefore making the two reservoirs surrounding berms and embankments slightly higher. The additional excavating and constructing of berms would result in an increase in construction activities, including transportation and use of hazardous materials and exposure of previously used herbicides or pesticides. However, the split cell design option would be required to comply with the same restrictions and regulations as the single cell design and **MM-HAZ-1** through **MM-HAZ-3** and **MM-AQ-2** would be required. Therefore, impacts related to creation of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials would be equivalent to the impacts determined for the proposed single cell design.

Would the project 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?

Construction

Less-Than-Significant Impact with Mitigation. As discussed under threshold 1, the Proposed Project site was historically used for agricultural production. Similarly, **MM-HAZ-1** through **MM-HAZ-3** and **MM-AQ-2** would reduce the potential for significant impacts related to the release of hazardous materials. As such, construction impacts would be reduced to less-than-significant impacts with mitigation incorporated.

Operations

Less-Than-Significant Impact. Operations of the Proposed Project include an unstaffed operational reservoir and intake channel. Improper disposal of hazardous materials during construction may cause an accidental release of hazardous materials into the environment. Compliance with standard California Department of Pesticide Regulation practices to inspect equipment for leaks and

promptly respond to any minor spill of fuel or oil would ensure that the potential impact of the Proposed Project is less than significant.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. The two reservoirs would manage slightly less water than the single cell design. The additional excavating and constructing of berms would result in an increase in construction activities, including transportation and use of hazardous materials and exposure of previously used herbicides or pesticides. However, the split cell design option would be required to comply with the same restrictions and regulations as the single cell design and **MM-HAZ-1** through **MM-HAZ-3** and **MM-AQ-2** would be required. Therefore, impacts related to creation of a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be equivalent to the impacts determined for the proposed single cell design.

Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. Operations of the Proposed Project include an unstaffed operational reservoir and intake channel. The Proposed Project site is not located within one-quarter mile of an existing or proposed school. The closest school to the Proposed Project site is Emmett S. Finley Elementary School, located approximately 7.5 miles to the northwest. Therefore, the Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No construction or operational impacts would occur.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. Therefore, impacts related to hazards within one-quarter mile of a school would be equivalent to the impacts determined for the proposed single cell design.

Would the project be located on a site that 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?

No Impact. The Proposed Project site is not designated as a hazardous materials site on the Cortese List, and is not included on any state or federal list of potentially hazardous materials (DTSC

2016). There are no sites within 1,000 feet of the Proposed Project site mapped on the DTSC's EnviroStor database (DTSC 2016). Therefore, the Proposed Project would have no impact related to location on a listed hazardous materials site.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. Therefore, impacts related to hazardous materials sites would be equivalent to the impacts determined for the proposed single cell design.

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 for people residing or working in the project area?

No Impact. The Proposed Project is not located within 2 miles of a public airport or public use airport. The nearest operating public airport is the Callexico International Airport, 13.7 miles southwest of the Proposed Project site. Therefore, no impact would occur.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area as the proposed single cell design. Therefore, impacts related to hazards within 2 miles of an airport would be equivalent to the impacts determined for the proposed single cell design.

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?

No Impact. The Proposed Project is not located within the vicinity of a private airstrip. No private airstrips exist within 2 miles of the Proposed Project site; therefore, there would be no impact. The Holtville Airport, approximately 7.5 miles north of the proposed site, was previously used as a military airfield, but it is no longer operating.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. Therefore, impacts related to hazards in the vicinity of an airstrip would be equivalent to the impacts determined for the proposed single cell design.

Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. Under the Proposed Project, local building codes would be followed to minimize flood, seismic, and fire hazard. Thus, the Proposed Project would not impair the implementation of, or physically interfere with, the Imperial County Operational Area Emergency Operations Plan. Therefore, no impacts would occur.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. Therefore, impacts related to interference with implementation of an emergency plan would be equivalent to the impacts determined for the proposed single cell design.

Would the project expose people or structures 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 Impact. The California Department of Forestry and Fire Protection (CAL FIRE) identifies the Proposed Project site and surrounding areas as having a moderate risk for fire danger. The Proposed Project site and surrounding areas would be serviced by fire protection agencies, including the Imperial County Fire Department. Construction equipment and activities would comply with State Building Construction Regulations, which minimizes fire risk related to construction activities. Operations of the Proposed Project would consist of a reservoir and intake channel, and would not introduce any people or residences to the area. As such, it is unlikely that the Proposed Project would expose people or structures 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. Therefore, impacts would be less than significant.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. Therefore, impacts related to wildfire hazards would be equivalent to the impacts determined for the proposed single cell design.

4.5.6 Mitigation Measures

Implementation of the following mitigation measures would reduce identified impacts related to hazards and hazardous materials to less than significant:

MM-HAZ-1 Due to past uses for agriculture, prior to grading activities, soil shall be sampled and analyzed for metals and residual pesticides. Sampling shall be conducted in accordance with California DTSC guidance documents. The soil testing will confirm the presence or absence of on-site contamination associated with past uses on the project site. Any soils qualifying as hazardous waste shall delineated, removed, and properly disposed of off site. Any soil that exceeds the California Human Health Screening Levels shall be either remediated on site to levels protective of human health or removed and properly disposed of off site. Should contaminants be identified, a qualified Reclamation Hazardous Materials Specialist for the project shall be retained to ensure appropriate remediation is conducted and completed in accordance to the regulations specific to the contaminants identified.

MM-HAZ-2 A hazardous materials contingency plan shall be followed during demolition, excavation, and construction activities for the project. The hazardous materials contingency plan shall include, at a minimum, the following:

- Identification of known areas with hazardous waste and hazardous materials of concern
- Procedures for temporary cessation of construction activity and evaluation of the level of environmental concern
- Procedures for restricting access to the contaminated area except for properly trained personnel
- Procedures for notification and reporting, including internal management and local agencies (e.g., Imperial County Fire Department, Imperial County Public Health Division), as needed
- Health and safety measures for removal and excavation of contaminated soil
- Procedures for characterizing and managing excavated soils
- Procedures for certification of completion of remediation
- Site workers shall be familiar with the hazardous materials contingency plan and should be fully trained on how to identify suspected contaminated soil.

MM-HAZ-3 During construction, if aggregate aboveground oil/fuel storage capacity is greater than 1,320 gallons (or completely buried 42,000 gallons) and there is a reasonable expectation of an oil discharge into or upon navigable waters of the United States or adjoining shorelines, a spill prevention, control, and countermeasures (SPCC) plan pursuant to 40 CFR 112 (or, for small quantities, a spill prevention and response plan) shall be prepared and implemented during construction and, if applicable, during site operations. The SPCC plan (or spill prevention and

response plan) shall identify best management practices for spill and release prevention and provide procedures for cleaning up and disposing of any spills or releases.

MM-AQ-2 (See Section 4.2.6, Mitigation Measures)

4.5.7 Level of Significance After Mitigation

With implementation of **MM-HAZ-1** through **MM-HAZ-3** and **MM-AQ-2**, impacts related to hazards and hazardous materials would be less than significant, under both the proposed single cell design and the split cell design option.

4.6 HYDROLOGY AND WATER QUALITY

This section describes the existing hydrology and water quality associated with the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed East Highline Reservoir and Intake Channel Project (Proposed Project or Project).

4.6.1 Existing Conditions

The Proposed Project is located in a desert climate with no present or seasonal streams or rivers on or near the project site. The County only receives approximately 3 inches of rainfall annually (U.S. Climate Data 2018). As such, any surface runoff on the project site would drain to shallow depths and evaporate.

According to the County General Plan's Water Element, groundwater within the Imperial Valley is stored in the Pleistocene sediments of the Valley floor, the mesas on the west, and the East Mesa and sand hills on the east. However, the fine-grained lake sediments in the principal portion of the Imperial Valley inhibit groundwater movement, and tile-drain systems are required to dewater the sediments to a depth below the root zone of crops and to prevent the accumulation of saline water on the surface. Few wells have been drilled in these lake sediments because the yield is poor and the water is generally saline. The few wells in the County are for domestic use only. Groundwater in the Imperial Valley is of poor quality and is generally unsuitable for domestic or irrigation purposes (IID 2018).

The project site is not located within a 100-year flood hazard area, nor is the site located in the Imperial Dam inundation area, Laguna Dam inundation area, or Senator Wash Dam inundation area, because all of these areas are more than 45 miles away from the project site (County of Imperial 1997; DWR 2016). The project site is approximately 108 miles inland (east) from the Pacific Ocean and 35 miles southeast from the Salton Sea.

4.6.2 Relevant Plans, Policies, and Ordinances

Federal

Clean Water Act

The Clean Water Act (CWA; 33 USC 1251 et seq.), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Key sections of the act are as follows:

- **Sections 303 and 304** provide for water quality standards, criteria, and guidelines. Under Section 303(d) of the CWA, the State of California is required to develop a list of impaired

water bodies that do not meet water quality standards and objectives and establish total maximum daily levels (TMDLs) for each pollutant/stressor. The water quality impairments relevant to the Proposed Project are discussed above in Section 4.6.1.

- **Section 401 (Water Quality Certification)** requires an applicant for any federal permit that proposes an activity which may result in a discharge to waters of the United States, to obtain certification from the state that the discharge will comply with other provisions of the act. The Project area does not support any wetlands under the jurisdiction of the U.S. The AAC, however, is within federal jurisdiction but has been issued an exemption from the USACE. It is not anticipated that the Proposed Project will require a Section 401 water quality certification. Project discussion on jurisdictional waters are addressed in Section 4.3, Biological Resources, of this Draft EIR.
- **Section 402** establishes the NPDES, a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States. This permit program is administered by the SWRCB and the nine RWQCBs, who have several programs that implement individual and general permits related to construction activities, stormwater runoff quality, and various kinds of non-stormwater discharges. The Proposed Project will be in compliance with CWA Section 402, as discussed in the impacts analysis in Section 4.6.4.
- **Section 404** establishes a permit program for the discharge of dredged or fill material into waters of the United States. This permit program is jointly administered by the U.S. Army Corps of Engineers and the EPA. USACE has issued a “No Permit Required” for the Proposed Project, pursuant to 33 CFR 323.4 (a)(1)(i). Discussion on jurisdictional waters are addressed in Section 4.3, Biological Resources, of this Draft EIR.

Numerous agencies have responsibilities for administration and enforcement of the CWA. At the federal level this includes the EPA and the USACE. At the state level, with the exception of tribal lands, the California EPA and its sub-agencies, including the SWRCB, have been delegated primary responsibility for administering and enforcing the CWA in California.

State

Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act (Porter–Cologne Act; codified in the California Water Code, Section 13000 et seq.) is the primary water quality control law for California. Whereas the CWA applies to all waters of the United States, the Porter–Cologne Act applies to waters of the state,¹⁰ which includes isolated wetlands and groundwater in addition to federal

¹⁰ “Waters of the state” are defined in the Porter–Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code, Section 13050(e)).

waters. It is implemented by the SWRCB and the nine RWQCBs. In addition to other regulatory responsibilities, the RWQCBs have the authority to conduct, order, and oversee investigation and cleanup where discharges or threatened discharges of waste to waters of the state could cause pollution or nuisance, including impacts to public health and the environment.

The act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. California Water Code, Section 13260, subdivision a, requires that any person discharging waste or proposing to discharge waste, other than to a community sewer system, that could affect the quality of the waters of the state, must file a Report of Waste Discharge with the applicable RWQCB. For discharges directly to surface water (waters of the United States), an NPDES permit is required, which is issued under both state and federal law; for other types of discharges, such as waste discharges to land (e.g., spoils disposal and storage), erosion from soil disturbance, or discharges to waters of the state (such as groundwater and isolated wetlands), WDRs are mandatory and are issued exclusively under state law. WDRs typically require many of the same best management practices (BMPs) and pollution control technologies as required by NPDES-derived permits.

Basin Planning

The nine RWQCBs throughout California adopt and implement Basin Plans that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The Proposed Project is located within Region 7, the Colorado River Basin RWQCB region. The Colorado River Basin RWQCB Basin Plan must conform to the policies set forth in the Porter–Cologne Act. The Porter–Cologne Act also provides the RWQCBs with authority to include within their Basin Plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Lake or Streambed Alteration Agreement

The CDFW is responsible for conserving, protecting, and managing California’s fish, wildlife, and native plant resources. To meet this responsibility, the law requires the proponent of a project that may impact a river, stream, or lake to notify the CDFW before beginning the Proposed Project. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

Section 1602 of the California Fish and Game Code requires any person who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed, to notify CDFW before beginning the Proposed Project. Similarly, under California Fish and Game Code Section 1602,

before any state or local governmental agency or public utility begins a construction project that will (1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake; (2) use materials from a streambed; or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, it must first notify CDFW of the Proposed Project. If CDFW determines that the Proposed Project may adversely affect existing fish and wildlife resources, a Lake or Streambed Alteration Agreement is required.

California Environmental Quality Act Guidelines

The California Environmental Quality Act (CEQA) Guidelines (Appendix G) establish thresholds for hydrology and water quality impact analysis.

Local

County of Imperial General Plan

The County General Plan serves as the blueprint for growth and development in the unincorporated County. It is based on a set of guiding principles and consists of the following elements: Land Use, Circulation & Scenic Highways, Agriculture, Conservation & Open Space, Renewable Energy & Transmission, Housing, Noise, Seismic & Public Safety, Water, and Parks. The purpose of the Water Element is to provide water conservation measures, programs, and policies that will continue to efficiently utilize the County's water resources. The Water Element includes programs that work toward providing an adequate domestic water supply, protect surface waters, provide adequate agricultural irrigation water supply, protect water resources from hazardous materials, and coordinate water management.

4.6.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts related to hydrology and water quality are based on Appendix G of the CEQA Guidelines. According to Appendix G, a significant impact related to hydrology or water quality would occur if the project would:

1. Violate any water quality standards or waste discharge requirements.
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

4. 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.
5. 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.
6. Otherwise substantially degrade water quality.
7. 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.
8. Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
9. 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.
10. Result in inundation by seiche, tsunami, or mudflow.

4.6.4 Impacts Analysis

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

Less-Than-Significant Impact. The Proposed Project includes the construction of an off-line reservoir on a parcel of agricultural land, planned to manage fluctuating downstream water demands. The project would temporarily redirect a portion of Colorado River supplies through the proposed intake canal to the reservoir. Construction of the Proposed Project could create the potential for erosion during excavation. However, construction activities would be subject to applicable requirements of the Colorado River Basin RWQCB with respect to control of surface erosion, sedimentation, and runoff quality. Additionally, accidental release, through mishap or improper maintenance of equipment, of fuels, oils, lubricants, and other hazardous substances used during construction may impact surface water quality or WDRs. Further, to prevent accidental releases, the Proposed Project would be required to comply with the NPDES SWRCB Construction General Permit Order No. 2009-0009-DWQ (Construction General Permit) for stormwater discharges and general construction activities, and incorporate standard BMPs such as regular cleaning or sweeping of construction areas and impervious areas, and various stormwater BMPs. A water management plan must describe the type, location and function of structural measures to alleviate stormwater impacts and must demonstrate that the combination of measures selected are adequate to meet the discharge prohibitions, effluent standards, and receiving water limitations contained in the Construction General Permit. This would ensure that construction impacts would be less than significant. As such, through compliance with construction regulations, impacts to water quality and WDRs would be less than significant.

Operation of the Proposed Project would include an unstaffed lined operational reservoir and intake channel, so the Proposed Project would not violate water quality standards or WDRs. No groundbreaking activities would occur during operations of the Proposed Project.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts to water quality would be the same.

Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

No Impact. The Proposed Project would not use local groundwater supplies for construction or operation. Construction of the proposed reservoir and intake channel would require soil excavation of approximately 5 feet below ground surface. Groundwater would not be affected at this depth. Any amount of water used for construction would be surface water delivered through the Imperial Irrigation District (IID) conveyance system. The Proposed Project would convey and manage surface water only. The proposed reservoir and intake channel would be lined. Therefore, water flowing through the proposed intake channel and proposed reservoir would not seep into the underlying soils to reach groundwater. Therefore, construction and operations of the Proposed Project would not interfere with groundwater resources or local groundwater recharge. No construction or operational impacts to groundwater would occur.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts to groundwater would be the same.

Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

No Impact. Operations of the Proposed Project would consist of a main canal off-line operational reservoir and intake channel. A proposed intake channel off the north side of the All-American Canal (AAC) would direct Colorado River water supplies through the proposed intake channel to the proposed reservoir. The existing canals and drainage infrastructure are human-made and would not be considered part of the natural drainage pattern for the area. The existing canal infrastructure is not a stream or river and no streams or rivers are located on or near the area of the Proposed Project site. The Proposed Project site is located in a desert climate with no perennial or seasonal streams or rivers on or near the Proposed Project site. The Proposed Project site consists of flat

agricultural land, with human-made tile drainage lines installed approximately 8 to 12 feet below ground surface to route agricultural runoff to IID's existing drainage system, and semi-disturbed desert areas, in which surface runoff would drain to shallow depths and evaporate. Therefore, the construction and operations of the Proposed Project would not alter existing drainage patterns on or near the Proposed Project site and would not result in substantial erosion or siltation on or off site. Therefore, no impact would occur because of the Proposed Project.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts to drainage patterns and erosion or siltation would be the same.

Would the project 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?

No Impact. As previously stated, the Proposed Project would consist of a main canal off-line operational reservoir and an intake channel off the north side of the AAC, which would direct Colorado River water supplies through the proposed intake channel to the proposed reservoir. However, the existing canals and drainage infrastructure are human-made and would not be considered part of the natural drainage pattern for the area. The Proposed Project site is located in a desert climate with no present or seasonal streams or rivers on or near the Proposed Project site. The County only receives approximately 3 inches of rainfall annually (U.S. Climate Data 2018). Thus, any surface runoff on the Proposed Project site would drain to IID's existing human-made drainage system or to shallow depths and evaporate. Therefore, the Proposed Project would not increase the rate or amount of surface runoff in a manner that would result in flooding on or off site. Therefore, no impact would result from the Proposed Project.

Split Cell Option

The single cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts to drainage patterns and flooding would be the same.

Would the project 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?

No Impact. The Proposed Project would consist of a main canal off-line operational reservoir and intake channel. The proposed reservoir and intake channel would be lined. Therefore, water flowing through the proposed intake channel and proposed reservoir would not seep into the underlying soils. The County only receives approximately 3 inches of rainfall annually (U.S. Climate Data 2018). Any precipitation to occur on the Proposed Project site would be minimal and managed on site by draining to IID's existing human-made drainage system or to shallow depths and evaporating. Thus, the Proposed Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. Therefore, no impact would result from the Proposed Project.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts to stormwater drainage systems would be the same.

Would the project otherwise substantially degrade water quality?

Less-Than-Significant Impact. As previously stated, the project would be subject to implementation of the Construction General Permit for stormwater discharges and general construction activities, including preparation of a water quality management plan, and BMPs, as well as compliance with local grading ordinances, would minimize construction impacts on water quality. Therefore, short-term construction impacts associated with the degradation of water quality would be less than significant.

Operations of the Proposed Project include the directing of water to the proposed reservoir and then to the EHL Canal. No impacts to water quality would result from operations, as the Proposed Project would provide lined facilities to convey water generally in the same manner as existing facilities. The proposed reservoir and intake channel would be lined. Therefore, the water flowing through the proposed intake channel and reservoir would be unaffected by the adjacent soils. Compliance with all applicable federal, state, and local stormwater requirements would avoid impacts associated with long-term operational impacts.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts to water quality would be the same.

Would the project 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?

No Impact. According to Flood Insurance Rate Map Number FM06025C2125C, the California Department of Water Resources, and the County General Plan, the Proposed Project site is not located within a 100-year flood hazard area (DWR 2016; FEMA 2016; County of Imperial 1997, Figure 4). The Proposed Project does not include housing. Therefore, no impact would occur because of the Proposed Project.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts to housing within a flood hazard would be the same.

Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact. According to Flood Insurance Rate Map Number FM06025C2125C, the California Department of Water Resources, and the County General Plan, the Proposed Project site is not located within a 100-year flood hazard area. (DWR 2016; FEMA 2016; County of Imperial 1997, Figure 4.) Therefore, no impact would occur.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts to structures within a flood hazard area would be the same.

Would the project 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?

No Impact. The nearest dam or levee is the Imperial Dam, which is located more than 45 miles east of the Proposed Project site and as a result would not result in inundation of the Proposed

Project in the event of failure. According to the County General Plan's Seismic and Public Safety Element, the Proposed Project site is not located in the Imperial Dam inundation area, Laguna Dam inundation area, or Senator Wash Dam inundation area, because all of these areas are more than 45 miles away from the Proposed Project site (County of Imperial 1997). The Proposed Project includes an operational reservoir, an intake channel from the AAC, and an outlet to the EHL Canal. The proposed reservoir would involve the excavation of approximately 370 acres to a depth of approximately 5 feet below ground surface. The height of the embankments would be approximately 10 feet above existing ground surface. The proposed reservoir and intake channel would be concrete lined to prevent seepage or flooding during operations. The construction of the proposed reservoir and intake channel would be fully completed prior to the connection to the outlet gate from the AAC. The construction of the proposed reservoir would not increase water supplies to the region or introduce any new population to the area. The Proposed Project has the primary purpose of managing water and supplying surrounding agricultural uses with water for 12-hour water deliveries or any reductions from the normal 24-hour water delivery period, thereby providing operational flexibility to manage requests for water by agricultural water users. The Proposed Project does not include construction of a levee or dam. The design, location, and purpose of the Proposed Project ensures that it would not 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. Therefore, no impact would occur related to flooding as a result of failure of a levee or dam.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts related to flooding from failure of a levee or dam would be the same.

Would the project result in inundation by seiche, tsunami, or mudflow?

No Impact. The Proposed Project site is approximately 108 miles inland from the Pacific Ocean and would not be subject to inundation by tsunami. Given that the Proposed Project site is not located near a large standing body of water (the nearest is the Salton Sea, approximately 35 miles away), the risk of inundation by seiche (or standing wave) is negligible. In addition, the Proposed Project site is generally flat with no steep slopes and does not contain slopes subject to potential landslide or mudflows. Therefore, no impact would occur related to inundation by seiche, tsunami, or mudflow during construction or operation of the Proposed Project.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing embankment, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts related to risk from inundation by seiche, tsunami, or mudflow would be the same.

4.6.5 Mitigation Measures

As discussed in the impacts analysis provided in Section 4.6.4, the Proposed Project would not result in a significant impact related to hydrology and water quality during construction or operation. Therefore, no mitigation is required.

4.6.6 Level of Significance After Mitigation

Impacts would be less than significant with compliance with applicable permits; therefore, no mitigation is required.

4.7 LAND USE AND PLANNING

This section of the Draft EIR evaluates impacts to land use that could result from future development of the proposed East Highline Reservoir and Intake Channel Project (Proposed Project or Project). The analysis focuses on effects of the Project regarding issues related to land use and planning.

4.7.1 Existing Conditions

4.7.1.1 Environmental Setting and Zoning

The Proposed Project is located in Imperial County, California, southeast of the Salton Sea, west of the Imperial Sand Dunes, and east of Calexico, as shown on Figures 1-1 and 1-2 in Chapter 1, Introduction. Under the County's General Plan, adopted in 1993 and revised and adopted in 2015, the land use designation for the Proposed Project location is Agriculture and Recreation/Open Space. Imperial County's Zoning Map has designated the Proposed Project location as A2 (General Agricultural Zone) and A3 (Heavy Agricultural).

4.7.1.2 Surrounding Land Uses

The surrounding areas of the Proposed Project consist of generally flat agricultural land in a rural, sparsely populated area of Imperial County. The Proposed Project site is bounded to the west by the East Highline (EHL) Canal, and farther west are agricultural fields zoned as A-2 and A-3 parcels. East of the site is open, desert landscape owned by the U.S. Bureau of Land Management (BLM), zoned as BLM. To the north, the Proposed Project site is bounded by scattered agricultural fields and open desert landscape, zoned as A-2 and A-3 uses. To the south, the project site is bounded by land zoned Open Space (S-2) and farther to the south and southwest by land zoned A-2 and A-3.

4.7.2 Relevant Plans, Policies, and Ordinances

Federal

The California Desert Conservation Area (CDCA) Plan of 1980, as amended in 1999, addresses land use for the CDCA, which includes more than 12 million acres of public lands. The CDCA Plan establishes goals for the protection and use of the public lands within the CDCA through designation of distinct multiple-use classes. The CDCA Plan also addresses ACED and special areas. The Federal Land Policy and Management Act, in Section 103(a), defines an ACEC as an area "within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards." Other areas that possess rare,

unique, or unusual qualities of scientific, educational, cultural, or recreational significance are designated as “special areas.” Through the designation of these multiple-use classes and management programs, the goal of the CDCA Plan is to “provide for the use of the public lands, and resources of the CDCA, including economic, educational, scientific, and recreational uses, in a manner which enhances wherever possible—and does not diminish, on balance—the environmental, cultural, and aesthetic values of the Desert and its productivity.” The Salton Sea, the IID water service area and the AAC geographic subregions are within the CDCA. These areas are designated as “private, state, or other Federally managed lands” and are considered unclassified land within the context of the CDCA Plan. In addition, no ACEC or special areas are designated within these geographic subregions.

State

California Planning and Zoning Law

The legal framework in which California cities and counties exercise local planning and land use functions is provided in the California Planning and Zoning Law, Sections 65000 through 66499.58. Under state planning law, each city and county must adopt a comprehensive, long-term general plan. State law gives cities and counties wide latitude in how a jurisdiction may create a general plan, but there are fundamental requirements that must be met. These requirements include the inclusion of seven mandatory elements described in the California Government Code. Each of the elements must contain text and descriptions setting forth objectives, principles, standards, policies, and plan proposals; diagrams and maps that incorporate data and analysis; and mitigation measures.

California Government Code Section 65450

California Government Code Section 65450 authorizes cities and counties to adopt a specific plan. Specific plans provide the land use regulations and guidelines governing the permitted land uses, densities, maximum residential units, required public facilities, infrastructure, open space, and amenities for a planned community in compliance with applicable policies and regulations.

Local

Quantification Settlement Agreement Water Transfer

The QSA and Related Agreements are a set of inter-related contracts that settle certain disputes among the U.S., the State of California, IID, MWD, CVWD, and the SDCWA that became effective in October 2003. The agreements resolve, for a period of 35 to 75 years, issues regarding the reasonable and beneficial use of Colorado River water; the ability to conserve, transfer, and acquire conserved Colorado River water; the quantification and priority of Priorities 3 and 6 within

California for the use of Colorado River water; and the obligation to implement and fund environmental impact mitigation related to the above.

Conserved water transfer agreements between IID and SDCWA, IID and CVWD, and IID and MWD are all part of the QSA and Related Agreements. The QSA and Related Agreements provide the methods and the means to allow IID to elevate its Colorado River water use to efficient twenty-first century standards and ensure the continued availability of this precious supply (IID 2019). Under the QSA and Related Agreements, IID is committed to more efficiently and effectively deliver Colorado River water to the Imperial Valley thus facilitating water transfers under the QSA. System and on-farm conservation efforts are intended to preserve and enhance Imperial Valley agricultural output, with all costs and impacts compensated by the payments to IID for the conserved water.

Imperial County General Plan

The County General Plan serves as the blueprint for growth and development in the unincorporated County. It is based on a set of guiding principles and consists of the following elements: Land Use, Circulation & Scenic Highways, Agriculture, Conservation & Open Space, Renewable Energy & Transmission, Housing, Noise, Seismic & Public Safety, Water, and Parks. The Land Use Element establishes goals and objectives together with implementation programs and policies related to the land uses in Imperial County. In addition to providing policy, the County General Plan provides a Land Use Map, which identifies the type and intensity of future uses on parcels of land throughout the County.

Imperial County Municipal Code

Upon the concurrence of the planning commission, the Proposed Project supports the management of agricultural water, which is a critical resource for agriculture. As provided in the Imperial County Zoning Ordinance:

The A-2 zone permitted uses include agricultural accessory structure(s), buildings, and uses. Permissible uses include storage of agricultural products (County of Imperial 1998).

The A-3 zone permitted uses include agricultural accessory structure(s), miscellaneous uses including water storage or groundwater recharge facilities, aquaculture fish farms, flood control facilities, water storage, water systems, and sewage treatment facilities (County of Imperial 1998).

4.7.3 Methodology

All project alternatives were compared against existing land use to assess consistency with general land use patterns. Additionally, the Proposed Project and alternatives were compared with the existing land

use plans and regulations outlined in Section 4.7.2 to identify any potential inconsistencies. Because the construction aspects of the Proposed Project and alternatives are consistent with existing A-2 and A-3 operations in the Imperial Valley, use of land during construction has not been analyzed.

4.7.4 Thresholds of Significance

The significance criteria used to evaluate the project impacts to land use and planning are based on Appendix G of the CEQA Guidelines. According to Appendix G, a significant impact related to land use and planning would occur if the project would:

1. Physically divide an established community.
2. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
3. Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan.

4.7.5 Impacts Analysis

Would the project physically divide an established community?

No Impact. The Proposed Project would be located on a site that is currently used for agricultural purposes, with the exception of 6 acres of the intake channel, which would cross BLM land. As discussed in Section 4.7.1, the surrounding land uses include agricultural land to the north, west, and south, and lands to the east are BLM desert lands. The closest residential dwelling is located approximately 150 feet south of the Proposed Project. The agricultural lands in the Proposed Project region are sparsely populated, and the open desert areas managed by BLM are not populated. As such, the Proposed Project region would not be considered an established community; therefore, implementation of the Proposed Project would not physically divide an established community, and no impact would occur related to construction and operation of the Proposed Project.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts related to physically dividing an established community are equivalent to the proposed single cell design.

Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less-Than-Significant Impact. As discussed in Section 4.7.1, the land use designations for the Proposed Project location are Agriculture and Recreation/Open Space. The County Zoning Map has designated the Proposed Project location as A-2 (General Agricultural Zone) and A-3 (Heavy Agricultural). The A-2 zone permitted uses include agricultural accessory structure(s), buildings, and uses (County of Imperial 1998). The A-3 zone permitted uses include agricultural accessory structures, miscellaneous uses including water storage or groundwater recharge facilities, and water systems (County of Imperial 1998). The land use of the Proposed Action would be that of an agricultural accessory structure, as the reservoir would be an accessory structure to IID's current irrigation and distribution system which spans over 1,667 miles of canals, contains similar accessory reservoir structures throughout which are designed to enable increased operational flexibility. IID delivers 97 percent of its water to agricultural operations.

Quantification Settlement Agreement

The Proposed Project would be consistent with adopted land use plans and policies. The project would support agricultural land use in the region, a goal of both the Land Use and Agricultural Elements of the County General Plan (Goal 1 of both elements). One objective of the Proposed Project for IID is to protect its historic Colorado River water rights, which provide the essential resource required for agricultural production. Changes in land use within these areas, such as temporary construction of conservation facilities within the IID water service area, would not conflict with the management and protection goals of the CDCA Plan. Construction of some water conservation measures, such as the reservoir and lateral interceptors, might require conversion of some farmland to accommodate the facilities, but the amount of agricultural land required would be minimal. Agricultural zoning would be maintained.

County of Imperial General Plan

The County Land Use Element has the commercial agriculture goal of preserving commercial agriculture as a prime economic force. The Proposed Project would provide a more reliable and consistent agricultural water source for commercial agriculture, thus allowing commercial agriculture to be a prime economic force. The next applicable goal is coordinating local land use planning activities among all local jurisdictions and state and federal agencies. IID has been in consultation and coordination with all applicable jurisdictions throughout the course of the design and environmental review process for the Proposed Project. Through consultation and

coordination with these agencies, IID can ensure that the Proposed Project is compatible with the environment and with state and local regulations.

Split Cell Option

The split cell option would involve splitting the single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts related to conflicts with an applicable land use plan are equivalent to the proposed single cell design.

Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

Less-Than-Significant Impact. As further discussed in Section 4.3, Biological Resources, of this Draft EIR and shown in Table 4.3-7, the Proposed Project does not conflict with the adopted Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP). The project would comply with requirements of local policies and ordinances of the HCP protecting biological resources through the implementation of the recommended mitigation measures. The IID is currently in the process of preparing an NCCP/HCP that is anticipated to cover 96 fish, wildlife, and plant species for a term of up to 75 years (IID 2019). Since these plans are still awaiting approval, the Proposed Project is not subject to IID's NCCP/HCP. As such, with implementation of the mitigation measures included in Section 4.3 of this Draft EIR, impacts related to conflicts with an applicable HCP or NCCP would be less than significant.

Split Cell Option

The split cell design option would involve splitting the single cell reservoir into two cells, separated by a dividing berm, within the same disturbance area and would be consistent with the same regulations as the single cell design. Therefore, impacts related to conflicts with an applicable HCP or NCCP are equivalent to the proposed single cell design.

4.7.6 Mitigation Measures

Because impacts to land use and planning would be less than significant, no mitigation is required.

4.7.7 Level of Significance After Mitigation

Impacts to land use and planning would be less than significant; therefore, no mitigation is required.

4.8 NOISE

This section describes the existing noise setting of the project site, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures related to implementation of the proposed East Highline Reservoir and Intake Channel Project. This section provides an acoustical analysis and is based on the noise report included in this environmental impact report as Appendix G.

4.8.1 Existing Conditions

The Proposed Project is located in Imperial County (County), California, southeast of the Salton Sea, west of the Imperial Sand Dunes, and east of Calexico, as shown on Figure 1-1, Project Location, and Figure 1-2, Vicinity Map. The Proposed Project is located approximately 2 miles north of the Mexican border and just north of SR- 98. The Proposed Project site is located within the Sonoran Desert which is bounded on the west by the Peninsular Ranges and on the east by the Colorado River. The Proposed Project site is relatively flat and ranges from approximately 30 feet above mean sea level at its western extent to 50 feet above mean sea level near SR-98. The Proposed Project site is currently used as agricultural land within rural Imperial County. The current surrounding land uses include agriculture and recreation/open space land uses; however, only properties to the south, west, and northwest are being used for agricultural purposes, and lands to the northeast and east are BLM land designated as open space/recreation under the County General Plan. The closest developed land uses are residential dwellings located 150 feet and 0.2 miles south of the Project location. The Proposed Project vicinity is composed of agricultural lands, which are sparsely populated, and adjacent to open desert areas managed by the federal government, which are not populated.

Existing Noise Environment

Field Data

A field visit was conducted on May 5, 2017, by a Dudek acoustician. The purpose of this visit was to develop existing conditions, or a baseline against which to compare project noise levels. Field noise measurements were taken from four locations in the project vicinity. Data and results are included in the field data report, attached to this environmental impact report as Appendix G. As indicated in Appendix G, existing noise sources from the Proposed Project site primarily consist of birds, distant traffic and aircraft, and distant farming noises.

Noise measurements were made using a Rion NL-52 integrating sound-level meter equipped with a 0.5-inch pre-polarized condenser microphone with pre-amplifier. The sound-level meter meets the current American National Standards Institute standard for a Type 1 (Precision Grade) sound-level meter. The sound-level meter was calibrated before and after the measurements, and the

measurements were conducted with the microphone positioned 5 feet above the ground and covered with a windscreen.

Short-term noise measurements were conducted at four locations in the project vicinity on May 5, 2017, as depicted in Figures 4.8-1. A brief description of where each noise measurement was conducted and the measured time-average sound level and maximum sound level during the measurement interval are summarized in Table 4.8-1. Detailed noise measurement data are included as Appendix G to this report.

Table 4.8-1
Measured Noise Levels

| Receptor Site ID | Description | L _{eq} (dBA) | L _{max} (dBA) |
|------------------|---|--------------------------|---------------------------|
| ST1 | South of Verde School Road, adjacent to residential dwelling | 45.5 | 70 |
| ST2 | Along Bornt Road, adjacent to residential dwelling | 44.6 | 59.5 |
| ST3 | West of Holdridge Road, adjacent to residential dwelling | 38.4 | 50.5 |
| ST4 | Along Verde School Road (next to abandoned Verde School Elementary) | 48.1 | 69 |

Notes: dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval.

Roadway Noise

Motor vehicle noise level information is obtained from measurements using a sound level meter, and is calculated using highway traffic volume, speed, and vehicle mix information. Figure 1-2, Project Location, shows the location of existing principal roadways within the County. The major east–west roadway in the County is Interstate 8, which runs from Yuma, Arizona, to San Diego County, California, through the city of El Centro.

The most traveled roadways in the project vicinity are SR-98 to the south, which serves the City of Calexico, and Interstate 8 to the north of the project. Data regarding the interstate and state highways in the project vicinity (vehicle volumes; percent of each vehicle type; and calculated distances to the 60, 65, and 70 decibel (dB) Community Noise Equivalent Level (CNEL) contours) are presented in Table 4.8-2.

Table 4.8-2
Local Interstate and State Highway Traffic and Noise Data – Existing Conditions

| Road Segment | Traffic | | | | | Noise | | | |
|---------------|-----------------------|----------------|-----------------------|-----|-------|----------------------|----------------|---------|---------|
| | Volume (thousands) | Speed (mph) | Vehicle Mix (percent) | | | Reference CNEL dB | Distance to dB | | |
| | | | Auto | Med | Heavy | | 70 feet | 65 feet | 60 feet |
| I-8 | | | | | | | | | |
| w/o Ocotillo | 10.7 | 65 | 84 | 4.8 | 11.2 | 76 | 180 | 565 | 1605 |
| e/o Ocotillo | 8.6 | 65 | 84 | 4.8 | 11.2 | 75 | 145 | 455 | 1355 |
| w/o El Centro | 10.9 | 65 | 87 | 4 | 9 | 75 | 170 | 525 | 1455 |
| e/o El Centro | 22.9 | 65 | 89 | 3.4 | 7.6 | 78 | 325 | 1005 | 2205 |
| e/o 111 | 8.4 | 65 | 83 | 5 | 12 | 75 | 145 | 455 | 1355 |
| w/o 115 | 6.5 | 65 | 81 | 4.8 | 14.2 | 74 | 125 | 380 | 1155 |
| e/o 115 | 7.2 | 65 | 77 | 4.6 | 18.4 | 75 | 160 | 495 | 1405 |
| e/o 98 | 8.7 | 65 | 80 | 4.4 | 15.6 | 75 | 170 | 530 | 1505 |
| w/o 186 | 10.7 | 65 | 80 | 4.4 | 15.6 | 76 | 215 | 655 | 1705 |
| e/o 186 | 14 | 65 | 80 | 4.4 | 15.6 | 77 | 275 | 855 | 2005 |
| SR-98 | | | | | | | | | |
| e/o Ocotillo | 1.8 | 55 | 89 | 4.6 | 6.4 | 65 | * | 55 | 175 |
| w/o Drew | 2.1 | 55 | 89 | 2.6 | 8.4 | 66 | * | 70 | 220 |
| w/o 111 | 12 | 55 | 93 | 2.8 | 4.2 | 73 | 95 | 300 | 950 |
| w/o 8 | 0.9 | 55 | 77 | 2.3 | 20.7 | 65 | * | 50 | 160 |

Source: County of Imperial 2015.

Notes: dB = decibel; CNEL = Community Noise Equivalent Level; I = Interstate; w/o = west of; e/o = east of; SR = State Route.

All calculations assume flat hard terrain with no obstructions; actual conditions.

* contour lies within the right-of-way.

Agricultural Noise

The predominant land use in the County is agriculture. Noise sources associated with agricultural operations include field machinery, especially diesel engine-driven heavy trucks, used for the delivery of supplies and the distribution of products; and aircraft, used for the spraying of crops (County of Imperial 2015). Typical electric pump noise emissions from agricultural operations range from 69–77 A-weighted decibels (dBA) at 50 feet.

In recognition of the role of agriculture in the County, the Board of Supervisors has adopted a Right to Farm ordinance. This ordinance requires a disclosure to owners and purchasers of property near agricultural lands or operations or areas zoned for agricultural purposes. The disclosure advises persons that discomfort and inconvenience from machinery and aircraft noise resulting from conforming and accepted agricultural operations are a normal and necessary aspect of living in the agricultural areas of the County.

Aircraft Noise

Aircraft are used in the County for private, commercial, and military purposes. Aircraft noise which may affect sensitive land uses occurs in the vicinity of six airports in the County: Imperial County, Brawley Municipal, Calexico International, Calipatria Municipal, Salton Sea, and the Naval Air Facility El Centro. Aircraft noises also occur as part of agricultural operations where aircrafts are used for crop spraying operations.

Sensitive Receptors

Sensitive receptors in the IID water service area and rural Imperial County include residences, schools, hospitals, parks, and office buildings that could occur in the incorporated and unincorporated communities of the IID water service area, as well as rural residences throughout the IID water service area. The nearest residence is located 150 feet south of the Proposed Project. Riparian birds species sensitive to excessive noise occur in the geographic subregion as described in Section 4.3, Biological Resources.

4.8.2 Concepts and Terminology

The following is a brief discussion of noise terminology and fundamental noise concepts.

Sound, Noise, and Acoustics

Sound is a mechanical wave or vibration that travels through the air or another medium, entailing a process that consists of three components: the source, the path, and the receiver. All three components must be present for sound to exist and be perceived. Without a source to produce sound, there is no sound. Likewise, without a medium to transmit sound pressure waves, there is no sound. Finally, sound must be received; a hearing organ, sensor, or object must be present to perceive, register, or be affected by sound or noise. In most situations, there are many different sound sources, paths, and receptors rather than just one of each. Acoustics is the field of science that deals with the production, propagation, reception, effects, and control of sound. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired.

Sound Pressure Levels and Decibels

The amplitude of a sound determines its loudness. Loudness of sound increases with increasing amplitude. Sound pressure amplitude is measured in units of micro-Newton per square meter, also called micro-Pascal. One micro-Pascal is approximately one-hundred billionths (0.0000000001) of normal atmospheric pressure. The pressure of a very loud sound may be 200 million micro-Pascals, or 10 million times the pressure of the weakest audible sound. Because expressing sound levels in terms of micro-Pascal would be very cumbersome, sound

pressure level in logarithmic units is used instead to describe the ratio of actual sound pressures to a reference pressure squared. These units are called Bels. To provide a finer resolution, a Bel is subdivided into 10 decibels, abbreviated dB.

A-Weighted Sound Level

Sound pressure level alone is not a reliable indicator of loudness. The frequency, or pitch, of a sound also has a substantial effect on how humans will respond. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited not only in the range of audible frequencies but also in the way it perceives the sound in that range. In general, the healthy human ear is most sensitive to sounds between 1,000 Hertz and 5,000 Hertz, and it perceives a sound within that range as more intense than a sound of higher or lower frequency with the same magnitude. To approximate the frequency response of the human ear, a series of sound level adjustments is usually applied to the sound measured by a sound level meter. The adjustments (referred to as a weighting network) are frequency dependent.

The A-scale weighting network approximates the frequency response of the average healthy ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special situations (e.g., B-scale, C-scale, D-scale), but these scales are rarely used in conjunction with most environmental noise. Noise levels are typically reported in terms of A-weighted sound levels. All sound levels discussed in this report are A-weighted decibels (dBA). Examples of typical noise levels for common indoor and outdoor activities are depicted in Table 4.8-3.

Table 4.8-3
Typical Sound Levels in the Environment and Industry

| Common Outdoor Activities | Noise Level (dB) | Common Indoor Activities |
|--|------------------|--|
| | 110 | Rock Band |
| Jet Fly-over at 300 meters (1,000 feet) | 100 | |
| Gas Lawn Mower at 1 meter (3 feet) | 90 | |
| Diesel Truck at 15 meters (50 feet), at 80 kilometers/hour (50 miles/hour) | 80 | Food Blender at 1 meter (3 feet) Garbage Disposal at 1 meter (3 feet) |
| Noisy Urban Area, Daytime Gas Lawn Mower at 30 meters (100 feet) | 70 | Vacuum Cleaner at 3 meters (10 feet) |
| Commercial Area Heavy Traffic at 90 meters (300 feet) | 60 | Normal Speech at 1 meter (3 feet) |
| Quiet Urban Daytime | 50 | Large Business Office Dishwasher Next Room |
| Quiet Urban Nighttime | 40 | Theater, Large Conference Room (Background) |

Table 4.8-3
Typical Sound Levels in the Environment and Industry

| Common Outdoor Activities | Noise Level (dB) | Common Indoor Activities |
|-----------------------------------|------------------|---|
| Quiet Suburban Nighttime | 30 | Library |
| Quiet Rural Nighttime | 20 | Bedroom at Night, Concert Hall (Background) |
| | 10 | Broadcast/Recording Studio |
| Lowest Threshold of Human Hearing | 0 | Lowest Threshold of Human Hearing |

Source: Caltrans 2011.

Human Responses to Changes in Noise Levels

Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dB when exposed to steady, single-frequency signals in the mid-frequency range. Outside such controlled conditions, the trained ear can detect changes of 2 dB in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dB. A change of 5 dB is readily perceptible, and a change of 10 dB is perceived as twice or half as loud. A doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a road) would result in a barely perceptible change in sound level.

Noise Descriptors

Additional units of measure have also been developed to evaluate the long-term characteristics of sound. The equivalent sound level (L_{eq}) is also referred to as the time-average sound level. It is the equivalent steady-state sound level which in a stated period of time would contain the same acoustical energy as the time-varying sound level during the same time period. The 1-hour A-weighted equivalent sound level, $L_{eq}(h)$, is the energy average of the A-weighted sound levels occurring during a 1-hour period and is the basis for the City of San Diego Noise Ordinance criteria.

People are generally more sensitive and annoyed by noise occurring during the evening, and CNEL was introduced. The CNEL scale represents a time-weighted 24-hour average noise level based on the A-weighted sound level. The CNEL accounts for the increased noise sensitivity during the evening hours (7:00 p.m. to 10:00 p.m.) and nighttime hours (10:00 p.m. to 7:00 a.m.) by adding 5 dB and 10 dB, respectively, to the average sound levels occurring during evening and nighttime hours.

Sound Propagation

Sound propagation (i.e., the passage of sound from a noise source to a receiver) is influenced by several factors. These factors include geometric spreading, ground absorption, and atmospheric effects, as well as shielding by natural and/or human-made features. Sound levels are attenuated at a rate of approximately 6 dB per doubling of distance from an outdoor point source due to the geometric spreading

of the sound waves. Additional sound attenuation can result from built features such as intervening walls and buildings, as well as natural features such as hills and dense woods. Atmospheric conditions such as humidity, temperature, and wind gradients can temporarily either increase or decrease sound levels. In general, the greater the distance the receiver is from the source, the greater the potential for variation in sound levels due to atmospheric effects.

4.8.3 Relevant Plans, Policies, and Ordinances

Federal

Federal Noise Control Act of 1972

The federal Noise Control Act of 1972 established a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. The act also serves to establish a means for effective coordination of federal research and activities in noise control, authorize the establishment of federal noise emission standards for products distributed in commerce, and provide information to the public respecting the noise emission and noise reduction characteristics of such products. While primary responsibility for control of noise rests with state and local governments, federal action is essential to deal with major noise sources in commerce, control of which requires national uniformity of treatment. The EPA is directed by Congress to coordinate the programs of all federal agencies relating to noise research and noise control.

Federal Transit Administration

The Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2006) provides guidance for the analysis of noise and vibration associated with federally funded transit projects. Section 7 of the manual discusses basic groundborne vibration concepts including terminology, applicable descriptors, analysis procedures, thresholds, and recommended mitigation for groundborne noise and vibration. Groundborne vibration thresholds included in this manual are frequently utilized for state and local projects where local thresholds for the analysis of groundborne noise and vibration have not been adopted. The FTA's maximum acceptable vibration standard for human annoyance in residences where people normally sleep is 80 vibration decibels for vibration events that will occur less than 70 times per day.

Occupational Safety and Health Administration

With regard to noise exposure and workers, OSHA establishes regulations to safeguard the hearing of workers exposed to occupational noise (29 CFR 1910.95). OSHA specifies that sustained noise that is louder than 85 dBA (8-hour time-weighted average) can be a threat to workers' hearing, and, if worker exposure exceeds this amount, the employer must develop and implement a monitoring program (29 CFR 1910.95(d)(1)).

State

California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, find that excessive noise is a serious hazard to public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

California Code of Regulations, Title 24

Title 24 of the California Code of Regulations sets standards that new development in California must meet. According to Title 24, interior noise levels are not to exceed 45 dBA CNEL for new multifamily residences, hotels, and other attached residences.

Title 24 also requires that an interior acoustical study demonstrating that interior noise levels due to exterior sources will be less than or equal to 45 CNEL be performed for affected multifamily structures that are exposed to exterior noise levels in excess of 60 CNEL.

2013 California Green Building Standards Code

Section 5.507 of the California Green Building Standards Code establishes requirements for acoustical control in non-residential buildings. The standards require that wall and roof-ceiling assemblies making up the building envelope shall have a sound transmission class value of at least 50, and exterior windows shall have a minimum sound transmission class of 40 for building locations within the 65 dB CNEL noise contour of an airport or of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the Imperial County General Plan (County of Imperial 2015). Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have a sound transmission class of at least 40. These sound transmission class values measure a material's ability to block or let sound through.

California Environmental Quality Act Guidelines

CEQA Guidelines (Appendix G) establish thresholds for noise impact analysis. Two of these standards apply to what is referred to as a “substantial increase” in ambient noise levels. CEQA does not recognize an official numerical increase as a substantial increase. Industry-accepted standards for what is considered to be a substantial increase range from 3dB to 12 dB. It should be noted that a change of 3 dB is considered to be barely audible to an average healthy ear and that a change of 5 dB is considered to be readily audible.

California Department of Transportation

Caltrans and the Vibration Guidance Manual (Caltrans 2013) recommend a maximum vibration level standard of 0.02 inches/second peak particle velocity for the prevention of structural damage to typical residential buildings.

Local

County of Imperial General Plan

The County has established noise guidelines in the Noise Element of the County General Plan. These guidelines identify compatible exterior noise levels for various land use types. The County of Imperial establishes noise and land use compatibility guidelines. The normally acceptable noise exposure level for residential land uses is up to 60 dB; the level is 70 dB for industrial, manufacturing, utilities, and agriculture land uses. The Noise Element requires projects within Noise Impact Zones to provide acoustical analysis that follows the guidelines within the Noise Element. The County of Imperial defines a Noise Impact Zone as an area that may be exposed to noise greater than 60 dB CNEL or 75 dB $L_{eq(h)}$, and/or that is within 0.25 miles (1,320 feet) of existing farmland in an agricultural zone. An acoustical analysis and report shall describe the existing noise environment, the Proposed Project, the projected noise impact, and, if required, the proposed mitigation to ensure conformance with applicable standards (County of Imperial 2015).

According to the Imperial County General Plan Noise Element, if the future noise levels from the project are within the normally acceptable noise level guideline, but result in an increase of 5 dB CNEL or greater, the project would have a potentially significant noise impact and mitigation measures must be considered. If the future noise level after the project is completed is greater than the normally acceptable noise level, a noise increase of 3 dB CNEL or greater should be considered a potentially significant noise impact and mitigation measures must be considered.

Operational Standards

The Imperial County General Plan Noise Element includes Property Line Noise Limits that apply to noise generation from one property to an adjacent property. The standards imply the existence of a sensitive receptor on the adjacent, or receiving, property. In the absence of a sensitive receptor, an exception or variance to the standards may be appropriate. An analysis is required for any project that has the potential to generate noise in excess of the Property Line Noise Limits. Property Line Noise Limits (Noise Abatement and Control) Section 90702.00 Subsection A (listed in Table 4.8-4) provides acceptable sound level limits based on the property zoning. These standards do not apply to construction noise.

**Table 4.8-4
Property Line Noise Limits**

| Zone | Time | Applicable Limit One-Hour Average Sound Level (Decibels) |
|--|-------------------------|--|
| Residential Zones | 7:00 a.m. to 10:00 p.m. | 50 |
| | 10:00 p.m. to 7:00 a.m. | 45 |
| Multi-Residential Zones | 7:00 a.m. to 10:00 p.m. | 55 |
| | 10:00 p.m. to 7:00 a.m. | 50 |
| Commercial Zones | 7:00 a.m. to 10:00 p.m. | 60 |
| | 10:00 p.m. to 7:00 a.m. | 55 |
| Light Industrial/Industrial Park Zones | Anytime | 70 |
| General Industrial Zones | Anytime | 75 |

Source: County of Imperial 2015.

Note: When the noise-generating property and the receiving property have different uses, the more restrictive standard shall apply. When the ambient noise level is equal to or exceeds the Property Line noise standard, the increase of the existing or proposed noise shall not exceed 3 dB L_{eq} .

County of Imperial Construction Standards

The Imperial County General Plan limits sound levels from construction activities during specific hours of the day and night through a set of construction noise standards. Construction noise from a single piece of equipment or a combination of equipment shall not exceed 75 dB L_{eq} , when averaged over an 8-hour period and measured at the nearest sensitive receptor. This standard assumes a construction period relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a 1-hour period.

Right to Farm Ordinance

In recognition of the role of agriculture in the County, the County has adopted a Right to Farm ordinance (Division 2, Title 6 of the Codified Ordinances of the County of Imperial). This ordinance requires a disclosure to land owners near agricultural land operations or areas zoned for agricultural purposes. The disclosure advises persons that discomfort and inconvenience from machinery resulting from conforming and accepted agricultural operations are a normal and necessary aspect of living in the agricultural areas of the County (County of Imperial 1993).

Significant Increase of Ambient Noise Levels

The increase of noise levels generally results in an adverse impact to the noise environment. The Noise/Land Use Compatibility Guidelines are not intended to allow the increase of ambient noise levels up to the maximum without consideration of feasible noise reduction measures. The following guidelines are established by the County for the evaluation a of significant noise impact:

1. If the future noise level after the project is completed will be within the “normally acceptable” noise levels shown in the Noise/Land Use Compatibility Guidelines, but will

result in an increase of 5 dB CNEL or greater, the project will have a potentially significant noise impact and mitigation measures must be considered.

2. If the future noise level after the project is completed will be greater than the “normally acceptable” noise levels shown in the Noise/Land Use Compatibility Guidelines, a noise increase of 3 dB CNEL or greater shall be considered a potentially significant noise impact and mitigation measures must be considered.

Vibration Standards

The County has not yet adopted vibration criteria. The FTA provides criteria for acceptable levels of groundborne vibration for various types of special buildings that are sensitive to vibration. For purposes of identifying potential project-related vibration impacts, the FTA criteria will be used. The human reaction to various levels of vibration is highly subjective. The upper end of the range shown for the threshold of perception, or roughly 65 vibration decibels, may be considered annoying by some people. Vibration below 65 vibration decibels may also cause secondary audible effects, such as a slight rattling of doors, suspended ceilings/fixtures, windows, and dishes, any of which may result in additional annoyance.

4.8.4 Thresholds of Significance

The significance criteria used to evaluate the project impacts related to noise are based on Appendix G of the CEQA Guidelines. According to Appendix G, a significant impact related to noise would occur if the project would:

1. Result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
2. Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
3. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

4.8.5 Impacts Analysis

Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

As stated in Section 4.8.3, Relevant Plans, Policies, and Ordinances, Property Line Noise Limits (Noise Abatement and Control) Section 90702.00 Subsection A (listed in Table 4.8-4) provides acceptable

sound level limits based on the property zoning. The Property Line standard does not apply to construction noise. As such, the construction noise model run used the distance from the Proposed Project site to the actual dwelling structure, which is 150 feet away from the Proposed Project site.

Construction

Less-Than-Significant Impact. The Proposed Project would result in a temporary increase in noise levels due to transport of workers and equipment and short-term daytime project construction activities and management activities. Construction activities anticipated for the project include grading the site, excavating and recontouring to create basin(s), a new irrigation channel, and modifying road crossings including a local roadway realignment.

The Federal Highway Administration's Roadway Construction Noise Model (FHWA 2008) was used to estimate construction noise levels at these noise-sensitive land uses. Although the model was funded and promulgated by the FHWA, the Roadway Construction Noise Model is often used for non-roadway projects because the same types of construction equipment used for roadway projects are also used for other project types. Input variables for the Roadway Construction Noise Model consist of the receiver/land use types, the equipment type and number of each (e.g., two graders, a loader, a tractor), the duty cycle for each piece of equipment (e.g., percentage of hours the equipment typically works per day), and the distance from the noise-sensitive receiver. No topographical or structural shielding was assumed in the modeling of construction noise. The noise levels from the proposed construction activities using the equipment provided by the client are summarized in Table 4.8-5.

As shown in Table 4.8-5, at the nearest residence (measured from the nearest residence to the project boundary), noise levels would not exceed 74 dBA L_{eq} during the canal and measurement flume, sedimentation, and structures construction phases. Typically, the noise from construction would be substantially lower than the maximum level; generally, construction noise is estimated to be in the range of 63 to 64 dBA L_{eq} .

Table 4.8-5
Construction Noise Model Results Summary

| Project Element | Construction Phase | L_{eq} (dBA) | |
|-----------------|---------------------------------------|--------------------------------------|--|
| | | R1 – Nearest Receiver at 150 Feet | R2 – Typical Receiver at 1,000 Feet |
| Reservoir | Grading | 72 | 55 |
| | Paving | 73 | 60 |
| | Site preparation | 71 | 60 |
| | Noise threshold exceeded? (Yes/No) | No | No |

Table 4.8-5
Construction Noise Model Results Summary

| Project Element | Construction Phase | Leq (dBA) | |
|-----------------------------|---------------------------------------|--------------------------------------|--|
| | | R1 – Nearest Receiver at 150 Feet | R2 – Typical Receiver at 1,000 Feet |
| Canal and Measurement Flume | Building construction | 74 | 60 |
| | Grading | 73 | 58 |
| | Paving | 72 | 56 |
| | Noise threshold exceeded? (Yes/No) | No | No |
| Sedimentation Basin | Building construction | 74 | 60 |
| | Grading | 71 | 59 |
| | Paving | 72 | 56 |
| | Noise threshold exceeded? (Yes/No) | No | No |
| Structures | Building construction | 74 | 60 |
| | Grading | 71 | 59 |
| | Paving | 72 | 56 |
| | Noise threshold exceeded? (Yes/No) | No | No |
| Canal Tie-Ins | Grading | 72 | 58 |
| | Paving | 72 | 57 |
| | Site preparation | 71 | 54 |
| | Noise threshold exceeded? (Yes/No) | No | No |
| SR-98 Detour Roadway | Grading | 74 | 60 |
| | Paving | 67 | 51 |
| | Noise threshold exceeded? (Yes/No) | No | No |

Source: Appendix G.

Notes: Leq = equivalent sound level; dBA = A-weighted decibels; SR = State Route.

As indicated in Table 4.8-5, thresholds would not be exceeded during construction of the Proposed Project. However, average noise levels from construction activities may be annoying, since levels are expected to be higher than the ambient noise level in the site vicinity. This is particularly true for the residential building located near the project site. However, restricting construction activities to the daytime period will avoid disruption of evening relaxation and overnight sleep periods. Therefore, this would be further reduced provided that the standard noise control measures included in **Project Design Feature (PDF) NOI-1** would be implemented.

PDF-NOI-1: Noise-generating activities at the construction site or in areas adjacent to the construction site associated with the project in any way shall be restricted to the hours of 8:00 a.m. to 6:00 p.m. In addition, all construction activity shall comply with the following requirements:

- a. Available noise suppression devices shall be used and loud construction equipment shall be properly maintained and muffled.
- b. Unnecessary idling of equipment shall be avoided and construction equipment shall be staged as far as reasonable from residences.
- c. Adjacent uses shall be notified of the construction schedule.
- d. A “noise disturbance coordinator” who would be responsible for responding to any local complaints about construction noise shall be designated. The disturbance coordinator would determine the cause of the noise complaints (e.g., starting too early, bad muffler) and would require that reasonable measures warranted to correct the problem be implemented. A telephone number for the disturbance coordinator shall be posted conspicuously at the construction site and included in the notice sent to neighbors regarding the construction schedule.
- e. All noise-producing project equipment and vehicles using internal combustion engines shall be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.
- f. All mobile or fixed noise-producing equipment used on the project that are regulated for noise output by a local, state, or federal agency shall comply with such regulation while in the course of project activity.
- g. Construction site and access road speed limits shall be established and enforced during the construction period.
- h. The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.
- i. Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow surrounding property owners to contact the job superintendent if necessary.

Operations

Less-Than-Significant Impact. Once operational, the project would consist of a main canal off-line water storage reservoir project and related infrastructure, which would not generate noise levels in excess of established standards. Furthermore, the project would not have any operational staff who would be traveling to and from the project site. As such, operational noise impacts are anticipated to be less than significant.

Split Cell Option

Less-Than-Significant Impact. The split cell design option would involve building two reservoirs, separated by a dividing embankment, within the same disturbance area as the proposed single cell design. The two cell design option would manage slightly less water than the proposed single cell design. The additional constructing of berms would result in an increase in construction activities. However, the increased construction would be achieved with an increased number of peak days rather than increased amounts of equipment on any given day or prolonged construction duration. As such, there would not be a resulting increase in noise impacts and noise levels would be the same as the proposed single cell design.

Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Construction

Less-Than-Significant Impact. Construction activities that might expose persons to excessive groundborne vibration or groundborne noise could cause a potentially significant impact. Groundborne vibration information related to construction activities has been collected by Caltrans (Caltrans 2013). Information from Caltrans indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inches/second begin to annoy people. The heavier pieces of construction equipment, such as bulldozers, would have peak particle velocities of approximately 0.089 inches/second or less at a distance of 25 feet (DOT 2006). Ground-borne vibration is typically attenuated over short distances. At the distance from the nearest residence to the construction area (approximately 150 feet) and with the anticipated construction equipment, the peak particle velocity would be approximately 0.006 inches/second.

The major concern with regards to construction vibration is related to building damage. Construction vibration as a result of the Proposed Project would not result in structural building damage, which typically occurs at vibration levels of 0.5 inches/second or greater for buildings of reinforced-concrete, steel, or timber construction. The heavier pieces of construction equipment used would include typical construction equipment for this type project such as excavators, graders, dump trucks, and vendor trucks. Pile driving, blasting, or other special construction techniques would not to be used for construction of

the Proposed Project; therefore, excessive groundborne vibration and groundborne noise would not be generated. Groundborne vibration would not be associated with the Proposed Project following construction activities. Impacts related to groundborne vibration are considered to be less than significant. No mitigation is required.

Operations

Less-Than-Significant Impact. Once operational, the project would consist of a main canal off-line reservoir storage project and related infrastructure. No components of operations or maintenance of the project are anticipated to generate groundborne vibration or groundborne noise levels. Thus, the project would result in less than significant operational impacts.

Split Cell Option

Less-Than-Significant Impact. The split cell design option would involve building two cells instead of one, separated by a dividing berm, within the same disturbance area as the proposed single cell design. The two cells would manage slightly less water than the proposed single cell design. The additional constructing of berms would result in an increase in construction activities. However, the increased construction would be achieved with an increased number of peak days rather than increased amounts of equipment on any given day or prolonged construction duration. As such, there would not be a resulting increase in groundborne vibration or noise and impacts would be the same as the proposed single cell design.

Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction

Less-Than-Significant Impact. As previously discussed, Proposed Project construction would consist of several phases. Noise levels generated by construction equipment would vary greatly, depending on factors such as the type and specific model of the equipment, the operation being performed, and the condition of the equipment.

Construction equipment would include standard equipment such as graders, scrapers, backhoes, loaders, cranes, dozers, water trucks, portable generators and air compressors, and miscellaneous trucks. The maximum noise levels at 150 feet for typical equipment would be up to 74 dBA. However, because equipment will be used throughout the site and at different intervals during the construction day, and due to the typical operating cycles for construction equipment, the hourly average noise levels would vary and would likely be lower than the maximum noise levels discussed in Section 4.8.3. Construction noise in a well-defined area typically attenuates at approximately 6 dB per doubling of distance.

Noise from construction could result in annoyance at times to nearby noise-sensitive land uses—specifically, residences. However, the duration at any one location would be relatively brief, and project construction would comply with County construction noise ordinance standards (i.e., construction activities would take place only between the hours of 8:00 a.m. and 6:00 p.m.). Therefore, noise from construction would have a less-than-significant impact.

Operations

Less-Than-Significant Impact. Once operational, the Proposed Project would consist of a main canal off-line reservoir storage project and related infrastructure. No components of the project are anticipated to increase ambient noise levels in the project area. Thus, the project would result in less-than-significant operational impacts.

Split Cell Option

Less-Than-Significant Impact. The split cell design option would involve building two cells, separated by a dividing berm, within the same disturbance area as the proposed single cell design. The two reservoirs would manage slightly less water than the proposed single cell design. The additional excavating and constructing of berms would result in an increase in construction activities. However, the increased construction would be achieved with an increased number of peak days rather than increased amounts of equipment on any given day or prolonged construction duration. As such, there would not be a resulting increase in temporary or periodic noise and impacts would be the same as the proposed single cell design.

4.8.6 Mitigation Measures

As discussed in the analysis provided in Section 4.8.5, Impacts Analysis, the Proposed Project would not result in a significant impact related to construction and operational noise levels, groundborne noise and vibrations, or ambient noise levels. Therefore, no mitigation is required.

4.8.7 Level of Significance After Mitigation

Impacts would be less than significant with compliance with County construction noise ordinance standards for both the proposed single cell design and the split cell design option.

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CHAPTER 5

EFFECTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the CEQA Guidelines requires that an EIR briefly describe potential environmental effects that were determined not to be significant and therefore were not discussed in detail in the EIR. The environmental issues discussed in the following sections are not considered significant, and the reasons for the conclusion of non-significance are subsequently discussed. Because the proposed single cell design and split cell design option for the proposed East Highline Reservoir and Intake Channel Project (Proposed Project or Project) are proposed in the same location and are similar in all ways save for a slightly lower water volume to the latter, the evaluation provided below is applicable to both options.

No comments were received in response to the Notice of Preparation (NOP) with concerns regarding impacts on geology and soils, mineral resources, population and housing, public services, recreation, transportation and traffic, or utilities and service systems. During the NOP comment period, the IID received a comment letter with concerns about the Proposed Project's compliance with aesthetics and with the underlying land use and zoning. These topics were subsequently evaluated in the EIR (see Sections 4.1, Aesthetics, and 4.7, Land Use and Planning).

5.1 AGRICULTURAL AND FORESTRY RESOURCES

The project area is made up of tracts of agricultural land, located on prime farmland and farmland of statewide importance (DOC 2014). The project would develop a main canal off-line reservoir and related infrastructure on land currently being used for agriculture. The project site is on land owned by the IID and a small portion of the intake channel traverses federal land withdrawn to Reclamation. However, the Proposed Project would provide similar uses to those expressly allowed by Imperial County (County) land use regulations and would be supportive of agricultural practices because it would manage the water delivery for agricultural use, supplying surrounding and downstream agricultural uses with a stable water supply. The Proposed Project would not convert farmlands to non-agricultural uses. The Proposed Project site is not located on a Williamson Act contract, therefore no impact would occur (DOC 2013). The Proposed Project site is not located on forest land, timberland, or timberland production land as defined in California Public Resources Code Sections 12220(g), 4526, and 51104(g), nor would it result in the loss of forest land. As such, impacts to agricultural and forestry resources would be less than significant.

5.2 ENERGY

Appendix F (Energy Conservation) of the CEQA Guidelines provides that potentially significant energy implications of a project must be considered in an EIR, with particular emphasis on avoiding or reducing the inefficient, wasteful, and unnecessary consumption of energy. As such, this discussion

considers the Proposed Project's consumption of energy resources, particularly electricity, natural gas, and transportation fuels, during both the project's construction and operational phases.

The physical environmental impacts associated with the generation of electricity were evaluated in Sections 4.2, Air Quality; 5.4, Greenhouse Gas Emissions; and 5.10, Utilities and Service Systems, of this EIR.

Construction of the Proposed Project is expected to last approximately 15 months to complete. Construction activities would consume energy through the operation of off-road equipment, trucks, and worker trips. The off-road equipment, as summarized in Section 4.2, would use diesel fuel during each phase of project construction. The minimum requirement to meet Toxics-Best Available Control Technology (Toxics-BACT) standards is for construction fleets to be comprised of 10% Tier 2 and Tier 3 equipment. Based on the analysis given in the Air Quality Impact Report, construction fleets used for the project would be comprised mainly of Tier 2 and Tier 3 equipment, and would therefore meet the Toxics-BACT standards, and lead to an improved efficiency for use of fuel. California regulations (CCR Title 13, Sections 2449(d)(3) and 2485) limit idling from both on-road and off-road diesel-powered equipment and are enforced by the Air Resources Board (ARB). Despite the increase in energy demand, primarily related to fuel use, during construction, project construction equipment requirements, combined with local, state, and federal regulations, which limit engine idling times and require recycling of construction debris, would reduce short-term energy demand due to project construction. Therefore, it is anticipated that the construction phase would not result in a wasteful or inefficient use of energy, and the Proposed Project's impact on the wasteful and inefficient use of nonrenewable resources during construction of the project would be less than significant.

Long-term operational energy use associated with the project includes the storage of approximately 2,500 to 3,400 acre-feet of water in the proposed reservoir. The proposed reservoir is anticipated to receive water by gravity flow only (i.e., no pumping) from an intake structure off the north side of the AAC. Water that is stored for a later operational delivery from the proposed reservoir would be delivered through an automated gate outlet and structure with a gravity flow capacity of approximately 1,500 cubic feet per second for delivery into the EHL Canal. The outlet gate would be controlled by a remote operated automated mechanism. The electricity used to operate the automated outlet gate would be minimal, considering IID supplies electricity to more than 150,000 customers in the Imperial Valley and parts of Riverside and San Diego Counties (IID 2018). As the sixth-largest utility in California, IID controls more than 1,100 megawatts of energy derived from a diverse resource portfolio that includes its own generation as well as long- and short-term power purchases. IID has met or exceeded all Renewables Portfolio Standard requirements to date, procuring renewable energy from diverse sources, including biomass, biowaste, geothermal, hydroelectric, solar, and wind (IID 2018). Therefore, the energy required to operate the Proposed Project would be minimal compared to the overall, energy generated for the

rest of IID's jurisdiction. As such, impacts would be less than significant with regard to consumption of energy.

Therefore, the Proposed Project would be developed in accordance with Appendix F of the CEQA Guidelines, and would meet the goals of energy conservation by decreasing overall per capita energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. Energy consumption associated with operation of the project would not be expected to be wasteful or inefficient. Therefore, the project's operational impacts relating to energy consumption would be less than significant.

5.3 GEOLOGY AND SOILS

The Alquist-Priolo Earthquake Fault Zoning Act identifies no active faults within the Bonds Corner Quadrangle within Imperial County. Consequently, the risk of surface rupture is low. Ground-shaking hazards associated with construction of the proposed reservoir and intake channel would be avoided through project design features in accordance with the USACE and Reclamation regulations on waterways. Additionally, ground-shaking hazards during construction of the proposed reservoir and intake channel would be avoided through project design features in accordance with the Uniform Building Code. The Proposed Project would implement structural design measures that reduce liquefaction risk. Therefore, impacts associated with liquefaction are expected to be less than significant, due to the generally flat topography of the project area, the Proposed Project is not anticipated to be susceptible to landslides and would be constructed in accordance with approval requirements of Reclamation. Construction activities for the Proposed Project, including the proposed reservoir, EHL Canal connection, and the intake route to the AAC, would not be at risk of causing landslides. Compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit would be necessary, as well as preparation of a stormwater pollution prevention plan (SWPPP) that would minimize or eliminate the potential soil erosion that could result from construction. The site has previously been developed and disturbed, and there are no known cases of landslide, lateral spreading, subsidence, liquefaction, or collapse occurring on site. Additionally, the Proposed Project would not be approved or built without compliance with the California Building Code and applicable geologic hazards regulations. Due to the generally flat topography of the project area, the Proposed Project is not anticipated to be susceptible to landslides and would be constructed in accordance with approval requirements of Reclamation.

According to USDA's Web Soil Survey, the project site is located on predominantly Rositas fine sand; other soils include Rositas sand, Meloland and Holtville loams, Meloland very fine sandy loam, and Holtville silty clay (USDA 2019), as shown on Figure 5-1, Soils. These soils are predominantly considered well to moderately well drained. Prior to construction, a geotechnical report recommendations would be prepared to assess the Proposed Project's susceptibility to landslides, lateral spreading, subsidence, liquefaction, or collapse. Geotechnical recommendations would be

implemented as a part of the project design and construction plans to protect the project from landslides, lateral spreading, subsidence, liquefaction, and collapse. Therefore, by preparing a geotechnical report and complying with the California Building Code and other applicable geologic regulations, impacts to geology and soils are expected to be less than significant.

Operations of the Proposed Project would include an unstaffed operational reservoir and intake channel. No groundbreaking activities would result during operations of the Proposed Project. Therefore, no impact would occur during operations.

5.4 GREENHOUSE GAS EMISSIONS

An Air Quality and Greenhouse Gas Emissions Assessment Technical Memorandum was prepared by Dudek in April 2019, and is included in this EIR as Appendix B. The memorandum estimates criteria air pollutant and greenhouse gas (GHG) emissions from construction of the Proposed Project and evaluates potential air quality and GHG emissions impacts resulting from project construction. The estimated commencement date for project construction is anticipated to occur at a later date compared to the construction schedule assumed at the time of modeling included in Appendix B. However, for the purposes of construction modeling, the models do not need to use the exact commencement and completion dates to accurately represent the project construction emissions. This is because state and local regulations, restrictions, and increased market penetration of cleaner construction equipment are anticipated to continue to reduce emissions in the future. In other words, because California's construction-related emission sources are regulated and will foreseeably continue to be more strictly regulated in the future, project emissions are reasonably expected to continue to decline. Thus, by utilizing an earlier start date of October 2018, the estimated emissions used in the analysis for this EIR likely overstate actual emission levels. Therefore, the analysis and modeling included herein continue to provide an accurate and conservative assessment of the project's construction-related air pollutant emissions.

Construction of the reservoir would occur over an approximately 15-month construction period and involve the following components: construction of the reservoir; canal and measurement flume; sedimentation basin; construction of the SR- 98 crossing, Holdridge Road realignment, canal inlet structure, reservoir outlet gate, meter vault, and EHL Canal outfall structure; construction of the AAC and EHL Canal tie-ins; and construction of the SR-98 detour roadway.

5.4.1 Construction Emissions

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor and haul trucks, and worker vehicles. The Imperial County APCD does not have adopted GHG thresholds; however, total construction emissions of the Proposed Project were calculated.

The California Emissions Estimator Model (CalEEMod) was used to calculate the annual GHG emissions based on the construction scenario described in Attachment A of Appendix B. Construction of the Proposed Project is anticipated to commence in October 2019, lasting a total of approximately 15 months. However, the analysis presented herein assumes a construction start date of October 2018, which was the original earliest date at which construction would initiate per the project's preliminary construction schedule. On-site sources of GHG emissions include off-road equipment and off-site sources include on-road vehicles (haul trucks, vendor trucks, and worker vehicles). Table 5-1 presents construction GHG emissions for the Proposed Project from on-site and off-site emission sources.

Table 5-1
Estimated Annual Construction GHG Emissions

| Project Component | CO ₂ | CH ₄ | N ₂ O | CO ₂ e |
|------------------------------|----------------------|-----------------|------------------|-------------------|
| | Metric Tons Per Year | | | |
| Modelling Year 2018 | | | | |
| Reservoir | 99.78 | 0.03 | 0.00 | 100.50 |
| SR-98 Detour | 46.79 | 0.01 | 0.00 | 47.14 |
| Canal Tie-Ins | 50.92 | 0.01 | 0.00 | 51.17 |
| Sedimentation Basin | 300.46 | 0.06 | 0.00 | 301.91 |
| Canal and Measurement Flumes | 220.69 | 0.03 | 0.00 | 221.53 |
| Modelling Year 2019 | | | | |
| Reservoir | 506.24 | 0.11 | 0.00 | 509.02 |
| Canal Tie-Ins | 38.65 | 0.00 | 0.00 | 38.75 |
| Structures | 282.13 | 0.05 | 0.00 | 283.43 |
| Total | 1,545.66 | 0.30 | 0.00 | 1,553.45 |

Notes: GHG = greenhouse gas; CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent; SR = State Route. See Attachment A to Appendix B for complete results.

As shown in Table 5-1, the estimated total GHG emissions during construction would be approximately 1,553 metric tons (MT) MT carbon dioxide equivalent (CO₂e) over the entire construction period. As with project-generated construction air quality pollutant emissions, GHG emissions generated during construction of the Proposed Project would be short term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions.

To evaluate whether a project's construction GHG emissions are cumulatively considerable, ICAPCD recommends that projects be assessed based on whether a project would conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

The Proposed Project would not conflict with the state's trajectory toward future GHG reductions. Furthermore, construction activities would occur over a short duration of approximately 15 months and would cease once construction is completed. Per guidance from the South Coast Air Quality

Management District (SCAQMD 2008), construction emissions are typically amortized over a 30-year period) to account for the contribution of construction emissions over the lifetime of a project. Thresholds have been proposed by various agencies and air districts including both the Bay Area Air Quality Management District and the SCQGM. The Bay Area and South Coast Air Quality Management Districts have each developed significance thresholds of 1,100 MT CO₂e and 3,000 MT CO₂e per year. The Proposed Project would result in amortized construction emissions of approximately 52 MT CO₂e per year, which is substantially less than these thresholds. Based on the preceding considerations, the Proposed Project's construction GHG emissions are not cumulatively considerable and are considered less than significant.

Applicable Plans, Policies, or Regulations

Imperial County has not adopted a comprehensive climate action plan or an equivalent GHG reduction plan and there is currently no local guidance that would be applicable to the Proposed Project. At this time, no mandatory GHG plans, policies, or regulations or finalized agency guidelines would apply to the construction of the Proposed Project, thus no conflict would occur.

Consistency with the CARB Scoping Plan

The Climate Change Scoping Plan, approved by California Air Resources Board (CARB) in 2008 and updated in 2014 and 2017, provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. As such, the Scoping Plan is not directly applicable to specific projects. Moreover, the Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009). Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others. While state regulatory measures would ultimately reduce GHG emissions associated with the Proposed Project through their effect on these sources, no statewide plan, policy, or regulation would be specifically applicable to reductions in GHG emissions from the Proposed Project.

Consistency with the SCAG 2016–2040 RTP/SCS

At the regional level, SCAG has adopted the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the purpose of reducing GHG emissions attributable to

passenger vehicles in Imperial County and surrounding areas. The RTP/SCS quantified an 8% reduction in emissions per capita by 2020, an 18% reduction by 2035, and a 21% reduction by 2040 (SCAG 2016). Although the RTP/SCS does not regulate land use or supersede the exercise of land use authority by SCAG's member jurisdictions (i.e., Imperial County), the RTP/SCS is a relevant regional reference document for purposes of evaluating the connection of land use and transportation patterns and the corresponding GHG emissions. The RTP/SCS is not directly applicable to the Proposed Project because the underlying purpose of the RTP/SCS is to provide direction and guidance on future regional growth (i.e., the location of new residential and non-residential land uses) and transportation patterns throughout the region, as stipulated under Senate Bill 375. The Proposed Project involves construction of a reservoir and associated infrastructure, which entails short-term use of construction equipment and worker vehicle trips. As such, the Proposed Project would not conflict with the goals and policies of the RTP/SCS.

Consistency with Executive Order S-3-05

This executive order establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050.

Consistency with Senate Bill 32

Senate Bill 32 establishes a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030.

The CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the Scoping Plan First Update that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the Scoping Plan First Update (CARB 2014) states the following:

This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, Senate Bill 32, and Executive Order S-3-05. This is confirmed in the Second Update, which states, “[t]his Plan draws from the experiences in developing and implementing previous plans to present a path to reaching California’s 2030 GHG reduction target. The Plan is a package of economically viable and technologically feasible actions to not just keep California on track to achieve its 2030 target, but stay on track for a low- to zero-carbon economy by involving every part of the state” (CARB 2017). The Second Update also states that although “the Scoping Plan charts the path to achieving the 2030 GHG emissions reduction target, we also need momentum to propel us to the 2050 statewide GHG target (80% below 1990 levels). In developing this Scoping Plan, we considered what policies are needed to meet our mid-term and long-term goals” (CARB 2017).

The Proposed Project would not interfere with implementation of the previously described GHG reduction goals for 2030 or 2050, because the Proposed Project’s GHG emissions would cease after construction activities have been completed. Therefore, the Proposed Project would not conflict with the state’s trajectory toward future GHG reductions, and the Proposed Project’s impacts on GHG emissions in the 2030 and 2050 horizon years would be considered less than significant.

Based on the discussion above, the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Furthermore, the Proposed Project would thus not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and impacts would be less than significant.

5.4.2 Operational Emissions

Once operational, the project would consist of a single cell reservoir facility (or split cell design option within same project footprint), covering approximately 370 acres, which would manage up to approximately 3,400 acre-feet of water. Once constructed, the reservoir and associated infrastructure would not have any components that emit GHG emissions. The Proposed Project’s GHG emissions would cease after construction activities have been completed and once operational would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Further, operations of the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Therefore, operational impacts are considered less than significant.

5.5 MINERAL RESOURCES

There are no anticipated known mineral resources within the project site, and no evidence exists indicating that there could be mineral resources in the project vicinity (County of Imperial 2016). Furthermore, the project site is not designated as a locally important mineral resource recovery site in the Conservation and Open Space Element of the County of Imperial General Plan. There would

be no loss of availability of a known mineral resource of value to the region due to construction and operation of the project. Therefore, no significant impacts to mineral resources would occur, and additional analysis is unnecessary.

5.6 POPULATION AND HOUSING

For purposes of evaluating worst-case environmental impacts, it is assumed that a total of approximately 100 construction workers, all of whom could be on site on a single given day, would be employed during construction of the Proposed Project. It is anticipated that these new jobs would be filled by the existing residential population in the greater Imperial County area. Therefore, the Proposed Project would not generate substantial population growth. The project would not remove an impediment to growth to the surrounding area by removing infrastructure limitations. The Proposed Project would not result in the demolition of housing, which would necessitate replacement housing to be constructed elsewhere. Further, the project would not result in substantial displacement of people, because no aspect of the project would result in the demolition of housing. As such, no significant impacts to population and housing would occur, and additional analysis is unnecessary.

5.7 PUBLIC SERVICES

The Proposed Project would not introduce any people or residences to the area. For purposes of evaluating worst-case environmental impacts, it is assumed that a total of 100 construction workers, all of whom could be on site on a single given day, would be employed during construction of the Proposed Project. It is anticipated that these new jobs would be filled by the existing residential population in the greater Imperial County area. Therefore, the Proposed Project would not generate substantial population growth. Construction activities may result in an increased need for fire and police protection in the area due to the increase in personnel at the project site for construction. However, compliance with local, state, and federal fire regulations and well as traffic and building regulations during construction activities would minimize the need for fire protection and police services. Schools, parks, and other public facilities in the area would not be adversely affected by the Proposed Project, and impacts would be less than significant. No additional analysis is necessary.

5.8 RECREATION

For purposes of evaluating worst-case environmental impacts, it is assumed that a total of 100 construction workers, all of whom could be on site on a single given day, would be employed during construction of the Proposed Project. It is anticipated that these new jobs would be filled by the existing residential population in the greater Imperial County area. Therefore, the Proposed Project would not generate substantial population growth. The Proposed Project would not introduce a new population to the area, and thus would not increase the use of existing neighborhoods, regional parks, or other

recreational facilities. Additionally, the Proposed Project does not include any recreational facilities. As such, impacts would be less than significant and no additional analysis is necessary.

5.9 TRANSPORTATION AND TRAFFIC

The proposed driveway is not anticipated to affect existing traffic, because existing traffic volumes in the vicinity are so low and the project does not include any off-site roadway improvements. Operations of the Proposed Project would be unstaffed, and therefore would not result in additional daily trips to the project site. The project would result in the partial abandonment and realignment of Holdridge Road, which is a County road through the proposed reservoir site and turns into a dirt road as it extends onto BLM lands. During construction, notice of the road closure and the detour would be posted, diverting potential drivers to SR-98 east to I-8 or west to Bonds Corner Road. An encroachment permit would be secured through Caltrans for proposed improvements within SR-98 right-of-way and for temporary detour route. Additionally, IID would secure an encroachment permit for Holdridge Road through the County of Imperial.

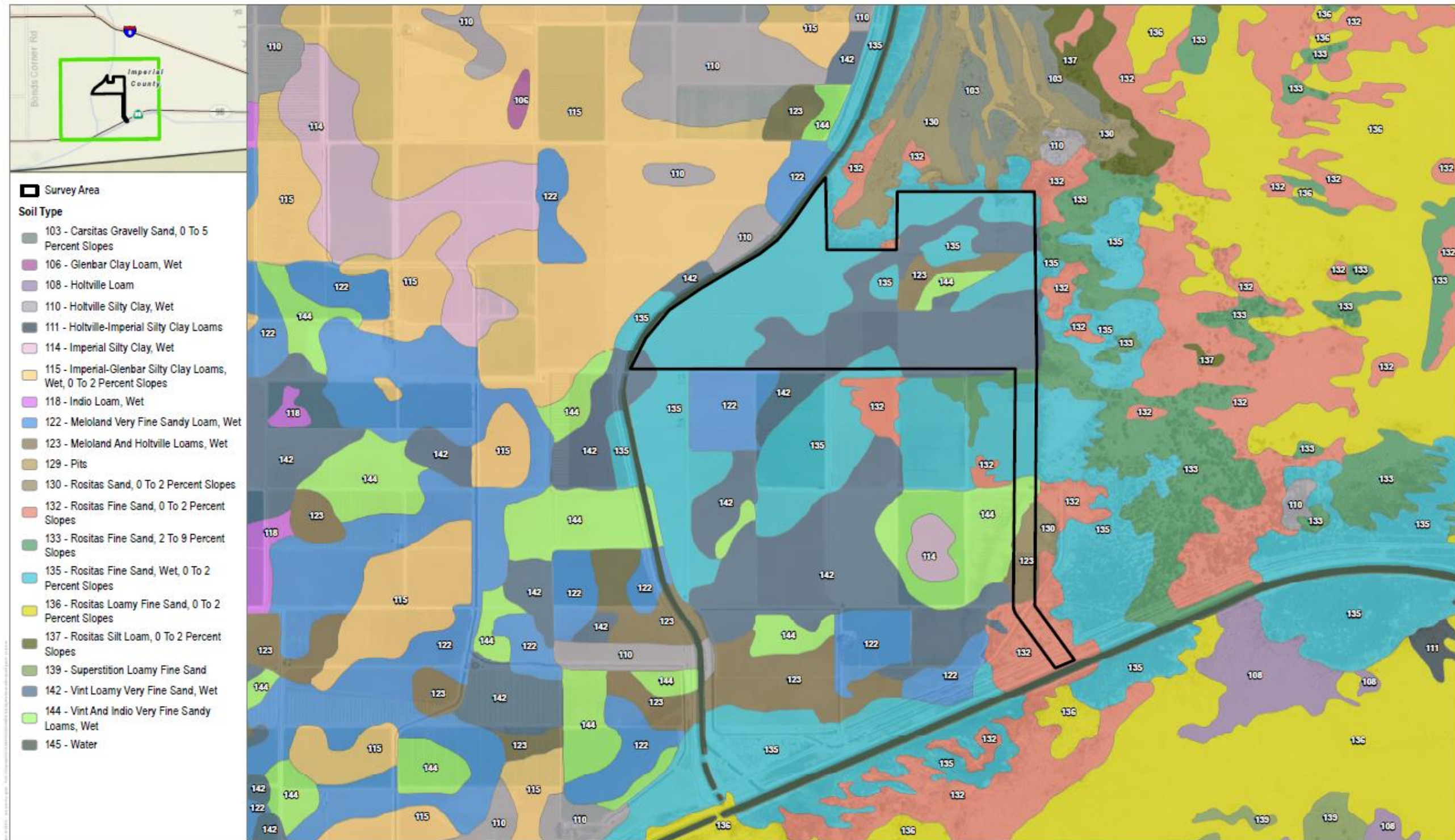
During activities to install the intake channel, a temporary partial closure of SR-98 lanes may be necessary, and a detour or traffic control would be implemented during that construction activity. The Proposed Project would be consistent with the goals and objectives of the Circulation and Scenic Highway Element as well as the Imperial County Long Range Transportation Plan 2013 Update, because the project would not result in population growth, new construction, or any other changes that would affect traffic (County of Imperial 2008). The Holtville Airport, which is 7.5 miles north of the site, does not have a Compatibility Map, but given the distance from the site and the relatively small size of the airport, no impacts would occur. The Proposed Project is not within Calexico International Airport Compatibility Map's range (Calexico International Airport 2017). As the project does not include any off-site roadway improvements, the project is not expected to result in hazards due to a design feature or incompatible use. No emergency access roads would be included in the Proposed Project, because the operation of facility would be unstaffed. Additionally, the Proposed Project would not block any existing circulation element roadways, including emergency access roads. As such, traffic impacts would be less than significant. No additional analysis is necessary.

5.10 UTILITIES AND SERVICE SYSTEMS

The project would not increase the amount of wastewater produced or increase the demands for water supplies in the area, because the Proposed Project would not introduce a new population to the area. Thus, the project would not increase the amount of wastewater produced in the area, nor would it exceed wastewater treatment requirements of the applicable RWQCB. The project would not require or result in the construction of new water, wastewater treatment, or stormwater drainage facilities or expansion of existing facilities. Construction waste would be taken to the Holtville Solid Waste

Services Landfill, which has the capacity for the anticipated construction waste. Operations of the project would not increase the generation of solid waste in the area and therefore would not increase demand on landfills. Additionally, disposal of solid waste generated during construction would comply with federal, state, and local statutes and regulations related to solid waste. Impacts related to utilities and service systems would be less than significant.

Figure 5-1 Soils



SOURCE: NAIP 2016, USDA 2015

DUDEK

0 1,000 2,000 Feet

FIGURE 5-1

Soils

East Highline Reservoir and Intake Channel Project

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CHAPTER 6 OTHER CEQA CONSIDERATIONS

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CHAPTER 6 OTHER CEQA CONSIDERATIONS

6.1 OVERVIEW

This chapter, as required by the CEQA Guidelines, presents discussions of the significant and unavoidable impacts, growth-inducing impacts, mandatory findings of significance, and cumulative impacts.

6.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

Section 15126.2(b) of the CEQA Guidelines requires an EIR to describe any significant impacts that cannot be mitigated or avoided through project alternatives to a less-than-significant level. All of the impacts associated with the proposed East Highline Reservoir and Intake Channel Project (Proposed Project) would be reduced to a less-than-significant level through implementation of **Mitigation Measure (MM) AQ-1 and MM-AQ-2, MM-BIO-1 through MM-BIO-10, MM-CR-1 through MM-CR-4, and MM-HAZ-1 through MM-HAZ-3**. As such, there would be no significant and unavoidable impacts.

6.3 GROWTH INDUCEMENT

Implementation of the proposed project would result in a single cell reservoir (or split cell design option), up to approximately 3,400 acre-feet capacity reservoir on agricultural land, in Imperial County (the County). As discussed in Section 5.6, Population and Housing, for purposes of evaluating the worst-case environmental impacts, it is assumed that up to 100 construction workers, all of whom could be on site on a single given day, would be employed during construction of the proposed project. It is anticipated that these new jobs would be filled by the existing residential population in the greater Imperial County area. Therefore, the proposed project would not generate substantial population growth. The project would not remove an impediment to growth to the surrounding area by removing infrastructure limitations.

According to the U.S. Bureau of Labor Statistics, Western Information Office, Imperial County has a civilian labor force of approximately 96,717, which is 52.9% of the total population in the County (USCB 2017). Therefore, the proposed project would represent a nominal increase in the labor force, and thus a nominal increase in economic growth. Additionally, project implementation would not remove barriers or obstacles to growth; the project would be developed on a site owned by IID, which is currently primarily used for agriculture. While the project would result in the construction of water infrastructure, these utilities would connect with existing infrastructure and would not induce growth. While the project would induce growth in relationship to the increased employment in the area, project implementation would not result in

substantial growth inducement above and beyond what has been considered in and planned for in regional and local planning documents.

6.4 CUMULATIVE

The CEQA Guidelines Section 15355 indicates that a cumulative impact refers to two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. Section 15130 of the CEQA Guidelines requires that an EIR address cumulative impacts of a project when a project's incremental effect is cumulatively considerable, where "cumulatively considerable" means that the effects of an individual project are significant when added to the effects of past, present, and probable future projects, causing related effects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. A project's contribution is not considered cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact (14 CCR 15130(a)(3)).

The CEQA Guidelines further state that "an EIR should not discuss impacts which do not result in part from the project evaluated in the EIR" (14 CCR 15000 et seq.). This section provides a description of the related projects assessed for cumulative impacts when combined with the incremental impacts of the proposed project, the potential environmental impacts that relate to the proposed project, the status of the environmental review process for the related projects, and the potential cumulative impacts when the incremental contribution of the related projects is combined with the incremental impacts of the proposed project.

Section 6.4.1, Cumulative Projects, describes the projects considered in this cumulative impact analysis. It also describes each project's environmental status and the anticipated impacts of each project that could contribute to a cumulative impact when added to incremental impacts of the proposed project. Section 6.4.2, Cumulative Impacts, aggregates the potential cumulative impacts of the proposed project in conjunction with all of the projects considered in this analysis by resource area.

6.4.1 Cumulative Projects

Table 6-1 presents a summary of the six cumulative projects. This section provides a discussion of the effects that the proposed project may have on each environmental category of concern, such as air quality, biology, traffic, and noise. Consistent with CEQA, this discussion is guided by the standards of practicality and reasonableness. Cumulative projects are depicted on Figure 6-1, Cumulative Projects.

**Table 6-1
Cumulative Projects List**

| Map ID No. | Project Title | Project Location | Project Description | Status |
|----------------|--|---|---|---------------------------------------|
| 1 | AAC Seepage Recovery Project | Southern side of the AAC between Drop 3 and Drop 4 | The development of up to nine shallow surface water wells to recover surface water seeping from unlined portions of the AAC. | Under review. |
| 2 ^a | MWD/CVWD SWP Water Transfer and Exchange | N/A – statewide | An exchange between MWD and CVWD involving SWP entitlement and Colorado River water. CVWD would transfer 35,000 AF/year of its SWP entitlement to MWD. The delivery would be made to MWD at the existing Devil Canyon Afterbay. | Under review. |
| 3 | CA Ethanol & Power | 4.5 miles south-southeast of the City of Brawley, on the north side of Keystone Road approximately 0.5 miles west of SR-111 and 2.5 miles east of SR-86 | A sugarcane and sweet sorghum-to-ethanol, electricity, and bio-methane facility, and 41,000 acres of sugarcane supplemented by 33,000 acres of sweet sorghum. The operation will generate 49.9 MW of renewable electricity, 33.6 MW of which will be available for sale into the electrical grid on an annual basis. The facility will also produce 930 million cubic feet of bio-methane and 28,000 tons of inorganic fertilizer annually. | Final EIR submitted in August 2013. |
| 4 | Wistaria Ranch Solar Energy Center | 6 miles southwest of the City of El Centro, south of I-8, east of Pulliam Road, and north of the AAC in southwestern unincorporated Imperial County | Up to 17 individual solar projects or clusters of multiple solar projects on 32 parcels, totaling approximately 2,793 acres. | Final EIR submitted in December 2014. |
| 5 | Iris Cluster Solar Farm Project | Approximately 2 miles west of Calexico, California | Solar farm on 1,400 acres in southern Imperial County. | Final EIR submitted in January 2015. |
| 6 | Big Rock Cluster Solar Farms Project | 8 miles southwest of the City of El Centro and 3 miles south of Seeley | Construction of four utility-scale PV solar facilities on approximately 1,396 acres. The four projects would generate up to 325 MW. | Draft EIR submitted January 2018. |

Notes: AAC = All-American Canal; MWD = Metropolitan Water District of Southern California; CVWD = Coachella Valley Water District; SWP = State Water Project; N/A = not applicable; AF = acre-feet; SR = State Route; MW = megawatts; EIR = environmental impact report; I = Interstate; PV = photovoltaic.

^a Not shown on map, as location is statewide.

6.4.2 Cumulative Impacts

Aesthetics

As discussed in Section 4.1, Aesthetics, the proposed project would not result in significant aesthetic impacts. The closest cumulative project is the AAC Surface Waters Seepage Recovery Project, which is located on the opposite side of the AAC and is not visible from the project site or vantages that include the project site. The project is not within a viewshed shared with other listed cumulative projects and as such would not contribute to a cumulative aesthetic impact.

Air Quality

Air pollution is largely a cumulative impact. The cumulative setting for air quality is the geographic scope encompassed by the SSAB. Currently, the SSAB is either in attainment or unclassified for all federal and state air pollutant standards with the exception of ozone (8-hour) and particulate matter less than 10 microns in diameter (PM₁₀). Air pollutants transported into the SSAB from the adjacent South Coast Air Basin (Los Angeles, San Bernardino County, Orange County, and Riverside County) and from Mexicali (Mexico) substantially contribute to the non-attainment conditions in the SSAB. The nonattainment status of regional pollutants is a result of past and present development, and the Imperial County Air Pollution Control District (ICAPCD) develops and implements plans for future attainment of ambient air quality standards. The SSAB has been designated as a federal and state nonattainment area for ozone (O₃) and PM₁₀. The nonattainment status is the result of cumulative emissions from various sources of air pollutants and their precursors within the SSAB, including motor vehicles, off-road equipment, and commercial and industrial facilities. Based on these considerations, project-level thresholds of significance for criteria pollutants are used to help determine whether a project's individual emissions would have a cumulatively considerable contribution on air quality. If a project's emissions would exceed the ICAPCD significance thresholds, it would be considered to have a cumulatively considerable contribution. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant. Construction of the proposed project would generate reactive organic gases and oxides of nitrogen emissions (which are precursors to ozone) and emissions of PM₁₀ and particulate matter less than 2.5 microns in diameter (PM_{2.5}). As indicated in Table 4.2-2, project-generated construction oxides of nitrogen (NO_x) emissions would likely exceed the ICAPCD emission-based significance threshold. **MM-AQ-1** and **MM-AQ-2** would reduce impacts to levels below significance. Cumulative PM₁₀ and PM_{2.5} emissions would be reduced because all future projects would be subject to Regulation VIII – Fugitive Dust Control Measures, which sets forth general and specific requirements for all construction sites in the ICAPCD. Based on the previous considerations, the project would result in a cumulatively considerable increase in emissions of nonattainment pollutants, absent mitigation

measures. Impacts would be reduced to levels below significance with implementation of **MM-AQ-1** and **MM-AQ-2**.

Operations of the proposed project would not interfere with implementation short-term construction emissions would be mitigated to below a level of significance, and the cumulative projects would also result in less than significant impacts. Further, the proposed project would not conflict with any of the state's greenhouse gas (GHG) reduction goals for 2030 or 2050 because the proposed project's GHG emissions would cease after construction activities have been completed. Therefore, the proposed project would not conflict with the state's trajectory toward future GHG reductions, and the proposed project's impacts on GHG emissions in the 2030 and 2050 horizon years would not be cumulatively considerable. As such, the proposed project would not result in a cumulatively considerable impact related to air quality.

Biological Resources

As stated in Section 4.3, Biological Resources, temporary and permanent impacts would occur with construction of the proposed project. In addition, there would be construction and operation-related indirect impacts related to dust and chemical pollutants, and chemical releases from vehicles. As discussed in Section 4.6, Hydrology and Water Quality, operations of the proposed project would not result in significant water quality impacts as the proposed intake channel would be lined, reducing the amount of erosion and sedimentation of the water passing through. In addition, the proposed project would not increase or decrease the amount of agricultural water diverted from the AAC, since the proposed reservoir serves as temporary storage to support water conservation and management efforts. Considering the proposed project would not substantially affect water quality or water quantity, cumulative impacts to downstream biological resources and water bodies such as the Salton Sea would not be substantially affected by the proposed project.

Impacts to biological resources as a result of the proposed project would be mitigated to levels below significance. Cumulative projects listed in Table 6-1, such as the AAC Surface Waters Seepage Recovery Project, that may have temporary and permanent impacts to biological resources would also be mitigated on a project-by-project basis and subject to federal, state, and local regulations. Therefore, cumulative impacts to biological resources are considered less than cumulatively considerable.

Cultural Resources

As stated in Section 4.4, Cultural Resources, there is the possibility of impacting inadvertent discoveries of buried archaeological deposits during construction, which would have potentially significant impacts. **MM-CR-1** through **MM-CR-4** would ensure oversight and consultation obligations, protection of unknown archaeological resources, paleontological resources, and/or grave sites. Implementation of the proposed project, in combination with large-scale proposed, approved,

and reasonably foreseeable projects in the region, has the potential to result in impacts to archaeological and historic resources. Further, the cumulative projects listed in Table 6-1 would be subject to the applicable federal, state, and local regulations protecting these resources. Therefore, considering impacts are addressed on a project-by-project basis, this would be a less than cumulatively considerable impact.

Hazards and Hazardous Materials

As discussed in Section 4.5, Hazards and Hazardous Materials, the proposed project would comply with federal, state, and local health and safety requirements that are intended to minimize hazardous materials risk to the public, such as California Occupational Safety and Health Administration requirements, the Hazardous Waste Control Act, California Accidental Release Prevention, and the California Health and Safety Code. In addition, with incorporation of **MM-HAZ-1** through **MM-HAZ-3** and **MM-AQ-2**, use and disposal of hazardous materials would not pose a significant risk to the public and environment. However, hazards and hazardous materials cumulative impacts are addressed on a project-by-project basis, and considering there are no projects listed in Table 6-1 within a 1-mile radius of the proposed project, there are no projects within the geographic scope for the consideration of cumulative effects from hazardous materials sites. Therefore, cumulative impacts to hazards and hazardous materials would be less than cumulatively considerable.

Hydrology and Water Quality

As discussed in Section 4.6, Hydrology and Water Quality, the proposed project would not result in significant hydrology or water quality impacts. The project in combination with cumulative projects listed in Table 6-1, specifically the AAC Surface Waters Seepage Recovery Project, would result in increased water management leading to improved efficiencies in water delivery and conservation within IID's system. The proposed project and each of the cumulative projects listed in Table 6-1 would be required to adhere to all applicable regulations, including the National Pollutant Discharge Elimination System and stormwater pollution prevention plan requirements that would avoid impacts to water quality and drainage. Further, the proposed project would not use or otherwise alter the groundwater conditions in the area. As such, the proposed project would not contribute to a cumulative hydrology or water quality impact.

Land Use and Planning

As discussed in Section 4.7, Land Use and Planning, the proposed project would not result in significant land use impacts. The proposed project would not conflict with applicable adopted plans and none of the projects listed in Table 6-1 would conflict with applicable adopted plans through either project design or undertaking any necessary planning approvals, such as a

conditional use permit. As such, the project would not contribute to a cumulative land use and planning impact.

Noise

As discussed in Section 4.8, Noise, impacts associated with noise from construction activities as operations were considered less than significant. The project area is rural, with few sensitive receptors, and construction noise would occur for a limited duration. No other cumulative projects are proposed to be constructed within 1 mile of the proposed project. The nearest project is the AAC Seepage Recovery Project, located approximately 3.3 miles away from the proposed project. Therefore, the proposed project's contribution to cumulative noise levels would be less than cumulatively considerable during construction. Therefore, cumulative noise impacts would be less than cumulatively considerable.

6.4.3 Conclusion

None of the documents identified significant new cumulative impacts in association with the proposed project. Overall, there are no significant new cumulative impact circumstances or information relevant to environmental concerns and bearing on the project or its impacts.

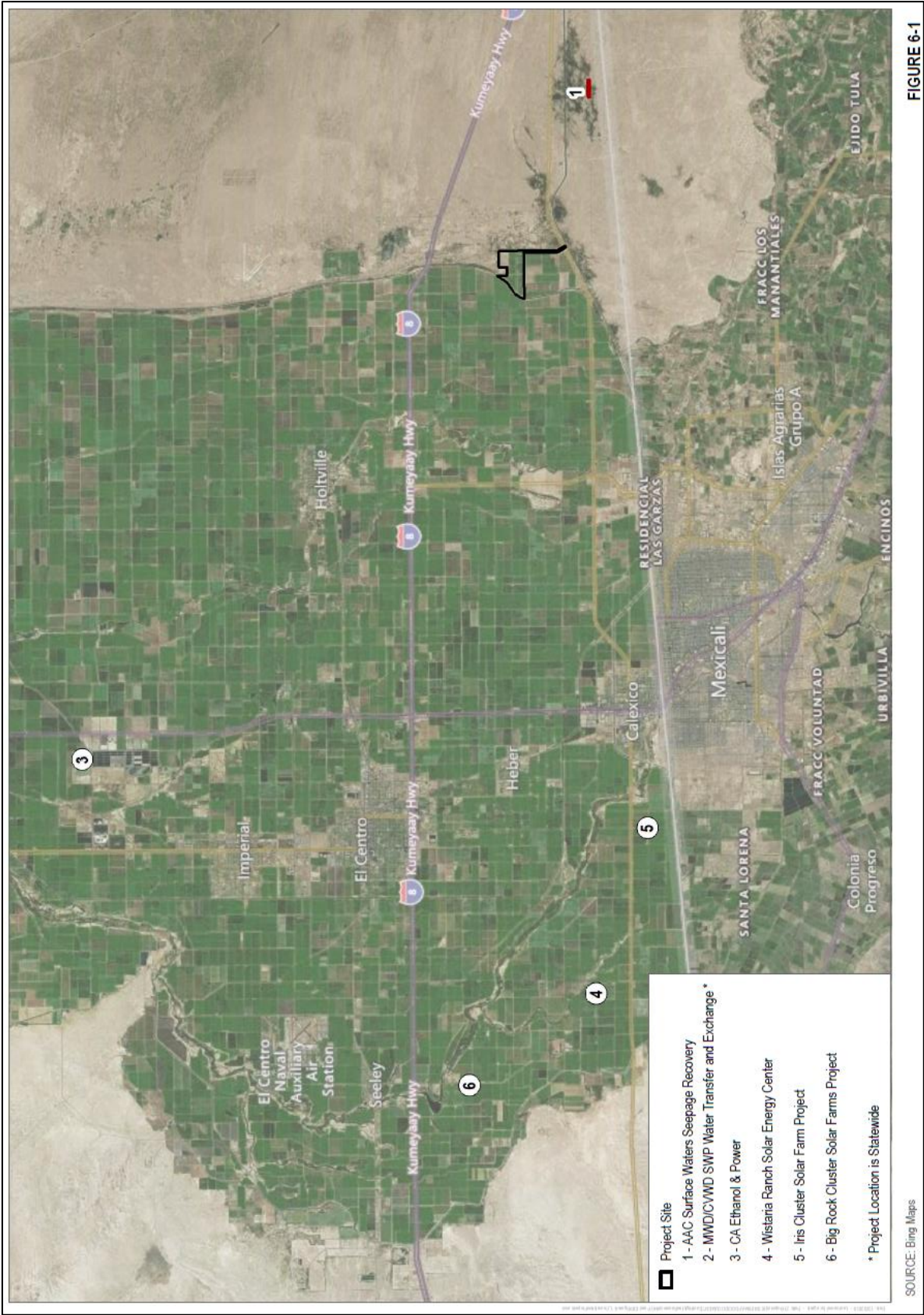
6.5 MANDATORY FINDINGS OF SIGNIFICANCE

The proposed project would include groundbreaking activities in a rural, undeveloped area, and would thus have the potential to interfere with the habitat of a wildlife species, as well as impact cultural, paleontological, and tribal resources. However, as discussed in Section 4.3, with implementation of **MM-BIO-1** through **MM-BIO-10**, the proposed project would have a less-than-significant impact on biological resources. Additionally, as discussed in Section 4.4, with incorporation of **MM-CR-1** through **MM-CR-4**, the proposed project would not result in significant impacts to any historical, archaeological, paleontological, or tribal cultural resources. As such, the proposed project would not degrade the quality of the environment, substantially reduce suitable habitat of a fish or wildlife species, or eliminate important examples of the major periods of California history or prehistory.

As stated in Sections 4.2 and 5.4, construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor and haul trucks, and worker vehicles. To evaluate whether the proposed project's construction GHG emissions are cumulatively considerable, ICAPCD recommends that projects are assessed based on if a project would conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. The proposed project would not conflict with the state's trajectory toward future GHG reductions. Furthermore, construction activities would occur over a short duration of approximately 15 months and would cease once construction is completed. The

proposed project would result in amortized construction emissions of approximately 52 metric tons carbon dioxide equivalent per year, which is substantially less than the thresholds provided in Section 4.2. Based on the preceding considerations, the proposed project's construction GHG emissions are not cumulatively considerable and are considered less than significant.

The proposed project would include the use of construction equipment that would produce emissions. The contribution of emissions to the airshed has the potential to have an adverse effect on human beings. Construction activity would occur at various locations within the project site and would not be situated in the same location for an extended period of time. The nearest receptors are 150 feet and 0.2 miles south from the proposed project site, otherwise there are no other sensitive receptors within 5,000 feet (0.95 miles) of the project site. As such, the site is surrounded by an insignificant number of people and therefore would not create a significant air quality impact affecting a substantial number of people. As stated in Section 4.8, Noise, at the nearest residence (measured from the nearest residence to the project boundary), noise levels would not exceed 74 A-weighted decibels equivalent sound level (dBA L_{eq}) during the most intensive construction phases. Typically, the noise from construction would be substantially lower, within a range of 63 to 64 dBA L_{eq} . As such, thresholds would not be exceeded during construction of the proposed project. However, average noise levels from construction activities may be annoying from the nearest sensitive receptors since levels are expected to be higher than the ambient noise level in the site vicinity. However, restricting construction activities to the daytime period will avoid disruption of evening relaxation and overnight sleep periods. Additionally, this would be further reduced provided that the standard noise control measures included in **Project Design Feature (PDF) NOI-1** would be implemented. Considering that the nearest receptors are 150 feet and 0.2 miles south from the proposed project site, there are no other sensitive receptors within 5,000 feet (0.95 miles) of the project site, and the project would not result in significant direct or indirect impacts in regard to air quality and noise, the proposed project would not cause substantial adverse effects on human beings.



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CHAPTER 7 PROJECT ALTERNATIVES

The California Environmental Quality Act requires that an EIR evaluate a “reasonable” range of alternatives to a Proposed Project that would feasibly attain most of the basic objectives of the project and would avoid or lessen any significant environmental impacts. EIRs are also required to evaluate the comparative merits of the alternatives. This chapter of the EIR describes and evaluates alternatives to the proposed East Highline Reservoir and Intake Channel Project and implements the requirements set forth in the CEQA Guidelines for alternatives analysis. This chapter also identifies the Environmentally Superior Project Alternative as required by CEQA Guidelines, Section 15126.6(e)(2).

7.1 RATIONALE FOR ALTERNATIVES SELECTION

The Proposed Project was determined to result in potentially significant short-term impacts related to air quality, biological resources, cultural resources, and hazardous materials. However, with implementation of appropriate mitigation, all potentially significant impacts identified in the EIR would be reduced to less-than-significant levels, and it is fully anticipated that mitigation will appropriately occur. As a result, for the purposes of this document, these alternatives would only reduce potential impacts in severity, since all project impacts would be reduced to below levels of significance.

Section 15126.6(f) of the CEQA Guidelines states that “the range of alternatives in an EIR is governed by the ‘rule of reason’ that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.” The CEQA Guidelines provide several factors that should be considered in regard to the feasibility of an alternative. Those factors include: (1) site suitability; (2) economic viability; (3) availability of infrastructure; (4) general plan consistency; (5) other plans or regulatory limitations; (6) jurisdictional boundaries; and (7) whether the project applicant can reasonably acquire, control, or otherwise have access to the alternative site (if an off-site alternative is evaluated). This EIR analyzes a total of three alternatives: the No Project Alternative, a Reduced Size Reservoir Alternative, and an Alternative Intake Route. All of these are evaluated under Section 7.5, Alternatives Identified and Analyzed, of this chapter.

7.2 PROJECT OBJECTIVES

The purpose of the Proposed Project is to augment IID’s current levels of operational flexibility while creating an additional tool to assist in meeting main-system and on-farm conservation program goals consistent with IID’s Water Conservation Plan. The Project is also consistent with the State of California’s water conservation objectives established under Executive Order B-37-

16 and the Reclamation Reform Act. The specific objectives for the Proposed Project are further described below.

- The Project will increase delivery flexibility and provide conservation opportunities within the district to accommodate in-valley water demand. These efforts are consistent with the objectives set forth in IID's 2016 Water Conservation Plan. Mid lateral and off line reservoirs are an integral part of the IID System Conservation Program.
- The Project will help support IID's 12-Hour Delivery Program via maximized operational storage capacity and flexibility, enabling farmers to match crop water requirements and conserve water. The reservoir will help balance supply-demand mismatches due in part to conveyance travel time, peak demands, unavailable storage, and rain events.
- The Project will provide consistency with the 2018 California Water Plan goals: Goal 2-Strengthen Resiliency and Operational Flexibility of Existing and Future Infrastructure; Goal 4-Empower California's Under-Represented and Vulnerable Communities; and, Goal 6-Support Real-time Decision-making, Adaptive Management, and Long-term Planning.
- The Project will be in support of the Reclamation Reform Act of 1982 to "... encourage ... consideration and incorporation of prudent and responsible water conservation measures ... by ... recipients of irrigation, municipal and industrial water ..."

The specific project design objectives are described below.

- Optimal reservoir placement that will benefit the greatest number of downstream IID water users and on-farm water conservation efforts.
- Utilize a route with the most beneficial hydrologic conditions to accommodate gravity flow (i.e., avoiding/minimizing pumping).
- Minimize the length of the intake channel from AAC and the outflow channel to EHL Canal.
- Minimize displacement of existing IID and farming infrastructure.

7.3 SELECTION OF ALTERNATIVES

The range of alternatives and methods for selection is governed by CEQA and applicable CEQA case law. This chapter includes the range of project alternatives that have been considered by the lead agency (IID) for examination, as well as its reasoning for selecting these alternatives. As stated in Section 15126.6(a) of the CEQA Guidelines (14 CCR 15126.6(a)), there is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. This rule is described in Section 15126.6(f) of the CEQA Guidelines (14 CCR 15126.6(f)) and requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. As defined in Section 15126.6(f) of the CEQA Guidelines, the rule of reason limits alternatives analyzed to those that would avoid or substantially lessen one or more of the significant effects of a project. Of those alternatives, an EIR needs to examine in detail only the ones that the lead agency determines could feasibly attain most of

the basic objectives of the project. Other relevant provisions set forth in the CEQA Guidelines (14 CCR 15000 et. seq.) state that EIRs neither need to consider every conceivable alternative to a project nor are they required to consider alternatives that are infeasible.

In addition to attaining most of the objectives of the project and lessening significant effects of the project, the development of alternatives was based on potential feasibility. Potential site locations were selected based on a number of planning, environmental, design, and engineering criteria. A reasonable range of potentially feasible alternatives is presented in this section, describing their impacts and benefits.

7.4 ALTERNATIVES CONSIDERED BUT REJECTED FROM FURTHER STUDY

In accordance with CEQA Guidelines Section 15126.6(f)(2), an alternative project site location should be considered if development of another site is feasible, and if development of another site would avoid or substantially lessen significant impacts of the Proposed Project. Factors that may be considered when identifying an alternative site location include the size of the site, its location, the General Plan (or Community Plan) land use designations, and availability of infrastructure. CEQA Guidelines Section 15126.6(f)(2)(A) states that a key question in looking at an off-site alternative is “whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location.” Further, CEQA Guidelines Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the project proponent can reasonably acquire, control, or otherwise have access to the alternative site (or whether the site is already owned by the proponent).

An effort was made to identify an alternative location for the project. The selection criteria were developed to identify potential alternative project sites that would be fairly easy to acquire, and large enough to accommodate the proposed uses. When looking for the alternative sites, the following criteria were used:

- Alternative site had to be within the identified market area
- Land had to be privately owned and located adjacent to existing IID water infrastructure

With these considerations in mind, the Single Reservoir Alternative Site Locations and Multiple Smaller Reservoirs Alternatives were considered during the early planning stages and prior to identifying the preferred site for the Proposed Project.

Single Reservoir Alternative Site Locations

IID considered 11 sites, including the Proposed Project site, prior to identifying the preferred site for the Proposed Action. However, 10 of these alternative sites were quickly eliminated as prospective sites due to one or more of the following reasons: the hydraulic conditions of the site are not adequate to be redeveloped as a reservoir and supporting infrastructure, the site is located

on BLM property and inside an ACEC, or the site was considered financially infeasible. The 10 alternatives site locations considered but eliminated from further evaluation are listed below.

1. North of Anza Road, east of Bowker Road, and southwest of the AAC.
2. North of the AAC, east of Claverie Road, south of Carr Road, and west of SR 7
3. North of the AAC, east of Hawk Road and south of the 98
4. North of the Mexico Border, south of the AAC, approximately 1 mile southeast of Bonesteele Road
5. Southeast of Holdridge Road, approximately 0.25 mile north of SR-98
6. Northwest of Holdridge Road, approximately 0.15 mile southeast of the EHL Canal
7. Southwest of Holdridge Road, approximately 0.7 mile southeast of the EHL Canal
8. South of Desert Road, approximately 0.7 mile northeast of Verde School Road
9. North of SR-98, approximately 1.15 east of Holdridge Road
10. South of SR-98, approximately 4 miles northwest of the SR-98 and I-8 intersection

Multiple Smaller Reservoirs

The Multiple Smaller Reservoirs Alternative would construct seven reservoirs on privately owned agricultural parcels instead of a single large reservoir. These reservoirs would be smaller in size, and each would be operated by the landowner of the land on which the reservoir is located. The Multiple Smaller Reservoirs Alternative was developed to provide an alternative to the Proposed Project that would benefit the local farmers and provide nearby farms with a plentiful, independent water supply.

An alternative site would have to feasibly accomplish most of the basic objectives of the project. The project objectives require that the project benefit the greatest number of downstream IID water users, maximize system-wide water deliveries, and provide the greatest opportunity to store returned flows that are backed out of main system canals. This alternative would partially accomplish the project objectives of supporting on-farm efficiency conservation measures and minimizing displacement of existing IID and farming infrastructure. However, this alternative would not accomplish the remaining project objectives. This alternative would only provide a few landowners with increased water deliveries, thus leaving the remaining water supply infrastructure as is. In addition, this alternative would maximize the length of the intake channel from AAC and the outflow channel to EHL Canal, rather than minimize the length. Additionally, the construction of seven separate reservoirs would likely result in higher greenhouse gas (GHG) emissions and construction noise levels due to the increase in construction duration, compared to the construction of one reservoir. Therefore, the need for additional evaluation of this alternative was also rejected from further consideration.

7.5 ALTERNATIVES IDENTIFIED AND ANALYZED

7.5.1 No Project Alternative

The No Project Alternative is the scenario under which the Proposed Project is not permitted, constructed, or implemented. The No Project Alternative provides a basis for comparison of the environmental consequences of the proposed action. It is defined as “existing environmental conditions” as well as what would reasonably be expected to occur in the foreseeable future if the Proposed Project were not approved, based on current plans and consistent with available infrastructure (14 CCR 15126.6(e)(2)). In this EIR, the No Project Alternative assumes that the project would not occur and the existing East Highline Canal would be operated and maintained in its current condition.

Under the No Project Alternative construction of the Proposed Project would not be conducted and the existing site conditions would remain as is. The agricultural land would continue to be farmed and, similar to the surrounding agricultural uses, the site would continue receiving water supplies by diverting water from the EHL Canal and the AAC. The No Project Alternative would not fully accomplish the goals of the QSA, which reallocates conserved Colorado River water among IID (including SDCWA), CVWD, and MWD. As stated in Section 1.3.2, Program EIR for the Implementation of the Colorado River Quantification Settlement Agreement, of this EIR, the implementation of the QSA would result in a net reduction of Colorado River diversions to California. The No Project Alternative would also not achieve the goal of increasing operational storage to more effectively manage IID’s daily water diversions at the Colorado River. As such, with implementation of this alternative, operational efficiency and conservation efforts for Imperial County water supplies would not be maximized.

Environmental Analysis

Aesthetics

Under the No Project Alternative, no development would occur and no changes to the existing condition of the Proposed Project area would occur. Therefore, no changes to the existing visual character of the project area would occur, and there would be no aesthetic impacts from the No Project Alternative.

Agricultural and Forestry Resources

Under the No Project Alternative, no development would occur and no changes to the existing condition of the Proposed Project area would occur. Therefore, no impacts to agricultural and forestry resources would result from the No Project Alternative.

Air Quality

The No Project Alternative would generate no construction or operational air quality impacts since the Proposed Project area would remain in its current state and no construction would occur. Therefore, the No Project Alternative would result in no air quality impacts.

Biological Resources

Under the No Project Alternative, no development would occur and no changes to the existing condition of the Proposed Project area would occur. Therefore, no impacts to biological resources would result from the No Project Alternative.

Cultural Resources

Under the No Project Alternative, no development would occur and no changes to the existing condition of the Proposed Project area would occur. Therefore, no impacts to cultural resources would result from the No Project Alternative.

Energy

The No Project Alternative would not consume energy for construction or operation since the Proposed Project area would remain in its current state and no construction would occur. Therefore, the No Project Alternative would result in no energy impacts.

Geology and Soils

Under the No Project Alternative, no development would occur and no changes to the existing condition of the Proposed Project area would occur. Therefore, no impacts to geology and soils would result from the No Project Alternative.

Greenhouse Gas Emissions

The No Project Alternative would generate no construction or operational GHG emissions impacts since the Proposed Project area would remain in its current state and no construction would occur. Therefore, the No Project Alternative would result in no GHG emissions impacts.

Hazards and Hazardous Materials

Under the No Project Alternative, no development would occur and no hazardous substances or wildfire hazards would be introduced to Proposed Project area. Therefore, no impacts from hazards or hazardous materials would result from the No Project Alternative.

Hydrology and Water Quality

The No Project Alternative would not result in any impacts related to hydrology or water quality, since no construction would occur and there would be no increase in runoff from the Proposed Project area. No construction or development activities would take place that could generate potential pollutants; therefore, the No Project Alternative would result in no impacts to hydrology and water quality.

Land Use and Planning

Under the No Project Alternative, no development would occur and the Proposed Project site would retain its existing land use and zoning designations. Therefore, no impacts to land use and planning would result from the No Project Alternative.

Mineral Resources

Under the No Project Alternative, no development would occur and no changes to the existing condition of the Proposed Project area would occur. Therefore, no impacts to mineral resources would result from the No Project Alternative.

Noise

Under the No Project Alternative, no construction or development would occur. Further, the use of construction equipment and other noise-generating construction activities would not occur. Therefore, no noise impacts would result from the No Project Alternative.

Population and Housing

Under the No Project Alternative, no development or population growth would occur within the Proposed Project area. Therefore, no impacts to population and housing would result from the No Project Alternative.

Public Services

Under the No Project Alternative, no development or population growth that would generate any demand for public services or need for additional public service infrastructure would occur within the Proposed Project area. Therefore, no impacts to public services would result from the No Project Alternative.

Recreation

Under the No Project Alternative, no new parks or recreational facilities would be provided, and no new or increased demand for parks and recreational facilities would occur, since no new population would be introduced or generated by this alternative. Therefore, no impacts to recreation would result from the No Project Alternative.

Transportation and Traffic

The No Project Alternative would have no impacts on transportation or traffic since the Proposed Project area would remain in its existing condition. Further, there would be no vehicle trips generated by the No Project Alternative. Therefore, no impacts to transportation and traffic would result from the No Project Alternative.

Utilities and Service Systems

Under the No Project Alternative, no development or population growth that would generate any demand for utilities and service systems or need for additional utilities infrastructure would occur within the Proposed Project area. Therefore, no impacts to utilities and service systems would result from the No Project Alternative.

7.5.2 Reduced Size Reservoir Alternative

As stated above, CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.

As determined by this EIR, the Proposed Project would result in potentially significant impacts associated with air quality, biological resources, cultural resources, and hazards and hazardous materials. All significant impacts would be reduced to below significant levels with incorporation of mitigation measures presented in this EIR; therefore, the analyzed alternatives would only reduce potential impacts in severity. As described in Sections 4.2, Air Quality, and 4.4, Cultural Resources, the Proposed Project would result in significant impacts that would be mitigatable with **Mitigation Measure (MM) AQ-1, MM-AQ-2, and MM-CR-1 through MM-CR-4**. However, under the Reduced Size Reservoir Alternative, these significant impacts would be lessened in severity prior to mitigation.

The Reduced Size Reservoir Alternative, as shown on Figure 3-2, would manage up to approximately 2,700 acre-feet of water, over approximately 290 acres of agricultural land. Compared to the proposed 370-acre reservoir, the Reduced Size Reservoir would cover approximately 80 acres less, with 700 acre-feet less water capacity. By reducing the footprint and depth of the reservoir, potential impacts related to cultural, paleontological, tribal, biological, and agricultural resources are reduced. Due to its smaller water capacity, this alternative would not benefit the greatest number of downstream IID water users, nor would it maximize system-wide water deliveries, in comparison to the Proposed Project. In addition, the Reduced Size Reservoir Alternative would not provide the greatest opportunity to store returned flows that are backed out of main system canals, as the Proposed Project would have a larger capacity, thus more storage for returned flows. As such, the Reduced Size Reservoir Alternative would not fully accomplish all project objectives to the extent the Proposed Project would.

Additionally, the Reduced Size Reservoir Alternative would not fully accomplish the goals of the QSA, which reallocates conserved Colorado River water among IID (including SDCWA), CVWD, and MWD. As such, with implementation of this alternative, less water would be conserved for diversion to additional IID water users, SDCWA, CVWD, and MWD, thus reducing the water going directly to agricultural uses in Imperial County.

Environmental Analysis

Aesthetics

The Reduced Size Reservoir would cover approximately 70 acres less land (3 percent less) than the Proposed Project and would have lower berm heights than the Proposed Project. With physical development lessened, the Reduced Size Reservoir Alternative would result in reduced impacts to the visual character of the surrounding agricultural landscape. Therefore, while the Proposed Project would not result in significant impacts to aesthetics, the Reduced Size Reservoir Alternative would result in marginally reduced aesthetic impacts compared to the Proposed Project.

Agricultural and Forestry Resources

With physical development lessened, the Reduced Size Reservoir Alternative would result in reduced impacts to the agricultural uses on the Proposed Project site (up to 3 percent less). Therefore, while the Proposed Project would not result in significant impacts to agricultural and forestry resources, the Reduced Size Reservoir Alternative would result in reduced impacts to agricultural and forestry resources compared to the Proposed Project.

Air Quality

With physical development lessened, the Reduced Size Reservoir Alternative would result in less construction and operational emissions and thereby reduced air quality impacts compared to the Proposed Project. Therefore, while the Proposed Project would not result in significant impacts to air quality with implementation of **MM-AQ-1** and **MM-AQ-2**, the Reduced Size Reservoir Alternative would result in reduced air quality impacts compared to the Proposed Project.

Biological Resources

With physical development lessened, the Reduced Size Reservoir Alternative would result in fewer impacts to biological resources. Therefore, while the Proposed Project would not result in significant impacts to biological resources with implementation of **MM-BIO-1** through **MM-BIO-10**, the Reduced Size Reservoir Alternative would result in fewer impacts to biological resources compared to the Proposed Project.

Cultural Resources

With physical development lessened, both acreage and excavation depths, the Reduced Size Reservoir Alternative would result in reduced impacts to cultural resources. Therefore, while the Proposed Project would not result in significant impacts to cultural resources with implementation of **MM-CR-1** through **MM-CR-3** and **MM-PAL-1**, the Reduced Size Reservoir Alternative would result in reduced impacts to cultural resources compared to the Proposed Project.

Energy

With physical development lessened, the Reduced Size Reservoir Alternative would result in less construction energy consumption, while operational energy remains the same, and thereby reduced energy impacts compared to the Proposed Project. Therefore, while the Proposed Project would not result in significant impacts to energy consumption, the Reduced Size Reservoir Alternative would result in reduced energy impacts compared to the Proposed Project.

Geology and Soils

With physical development lessened, the Reduced Size Reservoir Alternative would result in reduced impacts to geology and soils. Therefore, while the Proposed Project is not expected to result in significant impacts to geology and soils, the Reduced Size Reservoir Alternative would result in reduced impacts to geology and soils compared to the Proposed Project.

Greenhouse Gas Emissions

With physical development lessened, the Reduced Size Reservoir Alternative would result in less construction and operational GHG emissions and thereby reduced GHG emissions impacts compared to the Proposed Project. Therefore, while the Proposed Project would not result in significant GHG emissions impacts, the Reduced Size Reservoir Alternative would result in reduced GHG emissions impacts compared to the Proposed Project.

Hazards and Hazardous Materials

With physical development lessened, the Reduced Size Reservoir Alternative would result in less construction and possibility of disturbing pesticides, herbicides, and valley fever, and thereby reduced impacts from hazards and hazardous materials. Therefore, while the Proposed Project is not expected to result in significant impacts from hazards and hazardous materials with implementation of **MM-HAZ-1** through **MM-HAZ-4** and **MM-AQ-2**, the Reduced Size Reservoir Alternative would result in reduced impacts relating to hazards and hazardous materials compared to the Proposed Project.

Hydrology and Water Quality

With physical development lessened, the Reduced Size Reservoir Alternative would result in reduced construction activity and impacts to hydrology and water quality within the project area. Therefore, while the Proposed Project would not result in significant impacts to hydrology and water quality, the Reduced Size Reservoir Alternative would result in reduced impacts to hydrology and water quality compared to the Proposed Project.

Land Use and Planning

The Proposed Project would not result in inconsistencies with the County Zoning Ordinance or significant impacts to land use and planning. Because the Reduced Size Reservoir Alternative would occupy the same parcels of land, it would result in similar impacts to land use and planning as the Proposed Project.

Mineral Resources

With physical development lessened, the Reduced Size Reservoir Alternative would result in reduced impacts to mineral resources. Therefore, while the Proposed Project is not expected to result in significant impacts to mineral resources, the Reduced Size Reservoir Alternative would result in reduced impacts to mineral resources compared to the Proposed Project.

Noise

With physical development lessened, the Reduced Size Reservoir Alternative would result in less construction and operational noise generation and thereby reduced noise impacts than the Proposed Project. Therefore, while the Proposed Project would not result in significant impacts from noise generation, the Reduced Size Reservoir Alternative would result in reduced noise impacts compared to the Proposed Project.

Population and Housing

While construction of the Reduced Size Reservoir Alternative would likely require fewer construction workers than would the Proposed Project, these new jobs would be locally sourced and would not result in population growth. Similarly, both the Reduced Size Reservoir Alternative and the Proposed Project would not displace people or demolish existing housing. Therefore, although development would be decreased under the Reduced Size Reservoir Alternative, this alternative would result in similar less-than-significant impacts to population and housing as compared to the Proposed Project.

Public Services

While construction of the Reduced Size Reservoir Alternative would likely require fewer construction workers than would the Proposed Project, these new jobs would be locally sourced and would not result in population growth that would increase demand on public services. Similarly, construction of both the Reduced Size Reservoir Alternative and Proposed Project may result in increased need for fire and police protection. Therefore, although development would be decreased under the Reduced Size Reservoir Alternative, this alternative would result in similar less-than-significant impacts to public services as compared to the Proposed Project.

Recreation

While construction of the Reduced Size Reservoir Alternative would likely require fewer construction workers than would the Proposed Project, these new jobs would be locally sourced and would not result in population growth that would increase demand on nearby recreation facilities. Similarly, construction of both the Reduced Size Reservoir Alternative and the Proposed Project do not include development of recreation facilities. Therefore, although development would be decreased under the Reduced Size Reservoir Alternative, this alternative would result in similar less-than-significant impacts to recreation as compared to the Proposed Project.

Transportation and Traffic

While construction of the Reduced Size Reservoir Alternative would likely require fewer construction workers and daily vehicle trips than would the Proposed Project, existing traffic volumes in the vicinity are low and no road improvements are proposed that would introduce traffic congestion or hazards. Similarly, construction and operation of the Reduced Size Reservoir Alternative would not result in population growth, new construction, or any other changes that would affect traffic. Therefore, although development would be decreased under the Reduced Size Reservoir Alternative, this alternative would result in similar less-than-significant impacts to transportation and traffic as compared to the Proposed Project.

Utilities and Service Systems

While construction of the Reduced Size Reservoir Alternative would likely require fewer construction workers than would the Proposed Project, these new jobs would be locally sourced and would not result in population growth that would increase demand on utilities and service systems. Similarly, construction and operation of both the Reduced Size Reservoir Alternative and Proposed Project would not increase the amount of wastewater produced, or increase the demands for water supplies in the area since this alternative and the Proposed Project would not introduce a new population to the area. Therefore, although development would be decreased under the Reduced Size Reservoir Alternative, this alternative would result in similar less-than-significant impacts to utilities and service systems as compared to the Proposed Project.

7.5.3 Alternative Intake Route Alternative

The Alternative Intake Route Alternative, as shown on Figure 3-3, would entail siting the proposed reservoir in the same place; however, the intake route to the AAC would be located farther east of where the proposed intake route is. This alternative would extend northwest from the AAC to the proposed reservoir, through BLM lands. This alternative would avoid impacts related to the proposed intake route's intersection with the AAC Drain 2A, which would include biological and cultural impacts. The Alternative Intake Route Alternative would use gravity to route water to the proposed reservoir, similar to the Proposed Project.

However, due to access and time constraints, biological resource surveying was not completed for the potential placement of the alternative. As determined by this EIR, the Proposed Project would result in potentially significant impacts associated with air quality, biological resources, cultural resources, and hazards and hazardous materials. All significant impacts would be reduced to below significant levels with incorporation of mitigation measures presented in this EIR; therefore, the analyzed alternatives would only reduce potential impacts in severity.

As described in Section 4.3, Biological Resources, and Section 4.4, Cultural Resources, the Proposed Project would result in impacts to sensitive vegetation communities and jurisdictional resources, as well as impact the AAC Drain 2A along the proposed intake route (as depicted on Figure 4.3-1g, Biological Resources – Map 6). The proposed intake channel would remove agricultural land and also interrupt the irrigation systems supporting that agriculture, including the AAC Drain Number 2, shown on Figure 3-3. Although avoiding these resources and infrastructure would not lower a CEQA threshold, it would lessen the interference with existing infrastructure.

Given the amount of biological resources identified within the Proposed Project area, the likelihood of encountering biological resources under the Alternative Intake Route Alternative would be very high. Additionally, considering the cultural resources report prepared for the Proposed Project encountered a scatter of prehistoric ceramic buffware fragments, as well as other previously identified resources, the likelihood of encountering cultural resources is also high under the Alternative Intake Route Alternative. Therefore, this alternative would not be considered the Environmentally Superior Alternative.

Environmental Analysis

Aesthetics

The Alternative Intake Route Alternative would develop a reservoir to the same extent as the Proposed Project; however, the proposed intake channel would extend southeast from the reservoir to the AAC, through BLM land. The visual quality of the BLM land that the Alternative Intake Route would traverse is identified as having “High Value” (County of Imperial 2016). The alternative intake route would remain hidden from public view, with exception to drivers on SR-

98, where it would be visible approximately 1 mile east from where the Proposed Project would connect to the AAC. However, because the alternative intake route would pass SR-98 within BLM land, the intake channel would have an increased impact on the visual quality compared to the proposed intake channel that connects within the existing agricultural field. Although SR-98 is not designated as a scenic highway, so impacts would be less than significant, the Alternative Intake Route Alternative would result in an increase in severity to aesthetics compared to the Proposed Project.

Agricultural and Forestry Resources

The Alternative Intake Route Alternative would develop the intake route farther east of the proposed intake route, through BLM land. In doing so, the Alternative Intake Route Alternative would avoid disrupting and converting the existing agricultural use to the proposed intake channel. Similar to the Proposed Project, the Alternative Intake Route Alternative would not be located on Williamson Act contract land, forest land, timberland, or timberland production land. Therefore, impacts to agricultural and forestry resources as a result of the Alternative Intake Route Alternative would be less than significant, similar to the Proposed Project.

Air Quality

The Alternative Intake Route would be approximately 1.16 miles (6,113 linear feet), in comparison to the proposed intake route, which would be approximately 1.3 miles (approximately 6,740 linear feet). Therefore, with implementation of the Alternative Intake Route Alternative, construction of approximately 0.14 miles, or 739 feet, of intake channel would be avoided, which would slightly reduce the pollutants from construction activities. Operations of the Alternative Intake Route Alternative would result in comparable effects regarding air quality, as this alternative would use gravity flows to route the intake water to a reservoir of the same size. While the Proposed Project would not result in significant impacts to air quality with implementation of **MM-AQ-1** and **MM-AQ-2**, the Alternative Intake Route Alternative would result in slightly reduced severity of air quality impacts compared to the Proposed Project.

Biological Resources

The Alternative Intake Route would be located farther east on BLM lands. Given the amount of biological resources identified within the Proposed Project area, the likelihood of encountering biological resources within the BLM lands would be increased. Therefore, while the potential for additional specific biological resources is unknown, the likelihood of additional impacts to biological resources is high, though reduced with application of the identified mitigation measures for the Proposed Project. Therefore, impacts related to biological resources would be increased in severity under the Alternative Intake Route Alternative, but would be mitigated to less than significant, similar to the Proposed Project.

Cultural Resources

The Alternative Intake Route Alternative would locate the intake farther north and east on BLM lands. This area of the BLM lands is within an ACEC for cultural resources and there are known previously identified resources in this area; therefore, the likelihood of encountering cultural resources is increased under the Alternative Intake Route Alternative. Therefore, under this alternative, potential impacts related to cultural resources would be increased in severity, but would be mitigated to less than significant, similar to the Proposed Project.

Energy

The Alternative Intake Route Alternative would result in approximately 0.14 miles less constructed intake channel. Therefore, the Alternative Intake Route Alternative would result in slightly less construction energy consumption and thereby fewer energy impacts than the Proposed Project. Operational energy consumption would be similar to the Proposed Project. Therefore, while the Proposed Project would not result in significant impacts to energy consumption, the Alternative Intake Route Alternative would result in fewer energy impacts compared to the Proposed Project.

Geology and Soils

There are no active faults within the Alternative Intake Route Alternative area. The Alternative Intake Route Alternative would implement structural design measures that reduce liquefaction risk, as well as complying with any recommendations in the geotechnical report and applicable regulations within the California Building Code. Therefore, the Alternative Intake Route Alternative would not result in significant impacts to geology and soils, similar to the Proposed Project.

Greenhouse Gas Emissions

The Alternative Intake Route would be approximately 1.16 miles (6,113 linear feet), in comparison to the proposed intake route, which would be approximately 1.3 miles (approximately 6,740 linear feet). Therefore, with implementation of the Alternative Intake Route Alternative, construction of approximately 0.14 miles, or 739 feet, of intake channel construction would be avoided, which would slightly reduce GHG emissions from construction equipment. However, the Alternative Intake Route would be more secluded and farther from any landfill or other off-site location that construction trucks would route to. Therefore, GHG emissions resulting from construction of the Alternative Intake Route Alternative would be comparable to those of the Proposed Project. Once operational, the Alternative Intake Route Alternative would operate in the same way as the Proposed Project. Therefore, the Alternative Intake Route Alternative would result in less-than-significant impacts related to GHG emissions, similar to the Proposed Project.

Hazards and Hazardous Materials

The Alternative Intake Route would avoid the agricultural uses along the course of the proposed intake channel, which would therefore reduce the severity of potential impact as a result of construction on agricultural land. However, the reservoir would be constructed in the same location, which is located on agricultural land, so **MM-HAZ-1** through **MM-HAZ-3** would still apply to the Alternative Intake Route Alternative. Therefore, the Alternative Intake Route Alternative would result in slightly reduced impacts related to hazards and hazardous materials compared to the Proposed Project. Operations of the Alternative Intake Route Alternative would be comparable to the Proposed Project; therefore, operational impacts related to hazards and hazardous materials would be similar.

Hydrology and Water Quality

The Alternative Intake Route Alternative would consist of a main canal off-line reservoir storage project in the same location as the Proposed Project and an intake channel located farther east of the proposed intake channel. Similar to the Proposed Project, the Alternative Intake Route Alternative would comply with the Construction General Permit, and no wells or direct connections to the underlying aquifers are proposed for project construction or operations, and any dust control actions would utilize water imported via water trucks. Therefore, construction and operations of the Alternative Intake Route Alternative would not interfere with groundwater resources or local groundwater recharge. Lastly, the Alternative Intake Route would not be located within a 100-year flood hazard area and would be more than 45 miles from a dam. Therefore, the Alternative Intake Route Alternative would result in less-than-significant impacts related to hydrology and water quality, similar to the Proposed Project.

Land Use and Planning

The Alternative Intake Route Alternative would consist of a main canal off-line reservoir storage project in the same location as the Proposed Project and an intake channel located farther east than the proposed intake channel, within BLM land. The Alternative Intake Route Alternative would potentially be inconsistent with BLM's ACEC and the Desert Renewable Energy Conservation Plan. Impacts would be potentially significant and unavoidable. Therefore, the Alternative Intake Route Alternative would potentially have an increased impact related to land use and planning compared to the Proposed Project.

Mineral Resources

The Alternative Intake Route Alternative would consist of a main canal off-line reservoir storage project in the same location as the Proposed Project and an intake channel located farther east than the proposed intake channel, within BLM land. Mineral resource data has not been provided for land under BLM jurisdiction; however, no active mineral recovery is underway or historically known for the area and the area is considered an ACEC by the BLM, which would limit the potential for mineral recovery. Therefore, the Alternative Intake Route Alternative would result similarly in less-than-significant impacts to mineral resources.

Noise

The Alternative Intake Route Alternative would relocate the intake channel farther north and east of the proposed intake channel, within BLM land and away from the existing agricultural uses. While the Alternative Intake Route Alternative would result in approximately 0.14 miles less intake channel being constructed, the Alternative Intake Route would be imperceptible from sensitive receptors due to its relocated location. Therefore, while the Proposed Project would not result in significant impacts from noise generation, the Alternative Intake Route Alternative would result in reduced severity in noise impacts compared to the Proposed Project. Considering the reservoir would be the same location and size as under the Proposed Project, the project design features proposed to further reduce construction noise for the project would still apply to the Alternative Intake Route Alternative. The Alternative Intake Route Alternative would result in comparable noise impacts during operations.

Population and Housing

Construction of the Alternative Intake Route Alternative would likely require a similar number of construction workers, who would be locally sourced, which would not result in population growth. Similarly, both the Alternative Intake Route Alternative and the Proposed Project would not displace people or demolish existing housing. Therefore, the Alternative Intake Route Alternative would result in less-than-significant impacts to population and housing, similar to the Proposed Project.

Public Services

Construction of the Alternative Intake Route Alternative would likely require a similar number of construction workers, who would be locally sourced, which would not result in population growth that would increase demand on public services. Similarly, construction of both the Alternative Intake Route Alternative and the Proposed Project may result in increased need for fire and police protection. Therefore, the Alternative Intake Route Alternative would result in similar less-than-significant impacts to public services as the Proposed Project.

Recreation

The Alternative Intake Route Alternative would result in the same acreage of the reservoir, with the intake channel located farther north and east than the proposed intake, within BLM land. Construction of the Alternative Intake Route Alternative would likely require a similar number of construction workers, who would be locally sourced, which would not result in population growth that would increase demand on nearby recreation facilities. Similarly, construction of both the Alternative Intake Route Alternative and the Proposed Project would not include development of recreation facilities. Therefore, the Alternative Intake Route Alternative would result in similar less-than-significant impacts to recreation as the Proposed Project.

Transportation and Traffic

Construction of the Alternative Intake Route Alternative would likely require a similar number of construction workers and daily vehicle trips. As with the Proposed Project, existing traffic volumes in the vicinity are low and no road improvements are proposed that would introduce traffic congestion or hazards. Similarly, construction and operation of the Alternative Intake Route Alternative would not result in population growth, new construction, or any other changes that would affect traffic. Therefore, the Alternative Intake Route Alternative would result in similar less-than-significant impacts to transportation and traffic as the Proposed Project.

Utilities and Service Systems

Construction of the Alternative Intake Route Alternative would likely require a similar number of construction workers, who would be locally sourced, which would not result in population growth that would increase demand on utilities and service systems. Similarly, construction and operation of both the Alternative Intake Route Alternative and Proposed Project would not increase the amount of wastewater produced, or increase the demand for water supplies in the area, since this alternative and the Proposed Project would not introduce a new population to the area. Therefore, the Alternative Intake Route Alternative would result in similar less-than-significant impacts to utilities and service systems as the Proposed Project.

7.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The No Project Alternative would result in the least environmental impacts and would be the environmentally superior alternative. However, Section 15126.6(e)(2) of the CEQA Guidelines states that if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. In this case, the environmentally superior alternative is the Reduced Size Reservoir Alternative.

7.7 COMPARISON OF ALTERNATIVES

Table 7-1 summarizes the potential impacts identified for alternatives in comparison with those identified for the Proposed Project. The table addresses each of the alternatives. The Reduced Size Reservoir Alternative would meet most of the project objectives, but to a lesser extent than the Proposed Project. This alternative would construct a large operational reservoir that would utilize a route with the most beneficial hydrologic conditions, and support on-farm efficiency conservation measures. The Reduced Size Reservoir Alternative would result in decreased agricultural, biological, cultural, and noise effects. However, due to the reduction in reservoir capacity, the ability to meet the QSA transfers and obligations with ease would not be possible.

Table 7-1
Summary of Impacts for Each Alternative

| Environmental Issue | Project | No Project Alternative | Reduced Size Reservoir Alternative | Alternative Intake Route Alternative |
|-------------------------------------|--|---------------------------------------|---|---|
| Aesthetics | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Increased severity compared to the project, less-than-significant impact |
| Agricultural and Forestry Resources | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Air Quality | Less than significant with incorporation of mitigation | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Less than Proposed Project, less-than-significant impact |
| Biological Resources | Less than significant with incorporation of mitigation | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Increased severity compared to the project, less-than-significant impact with mitigation incorporated |
| Cultural Resources | Less than significant with incorporation of mitigation | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Increased severity compared to the project, less-than-significant impact with mitigation incorporated |
| Energy | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Less than Proposed Project, less-than-significant impact |
| Geology and Soils | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Greenhouse Gases | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Less than Proposed Project, less-than-significant impact |
| Hazards and Hazardous Materials | Less than significant with incorporation of mitigation | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Less than Proposed Project, less-than-significant impact with mitigation incorporated |
| Hydrology and Water Quality | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Land Use and Planning | Less than significant | Less than Proposed Project, no impact | Similar impacts as Proposed Project, less-than-significant impact | Increased severity compared to the project, significant and unavoidable |
| Mineral Resources | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |

Table 7-1
Summary of Impacts for Each Alternative

| Environmental Issue | Project | No Project Alternative | Reduced Size Reservoir Alternative | Alternative Intake Route Alternative |
|---|-----------------------|---------------------------------------|---|---|
| Noise | Less than significant | Less than Proposed Project, no impact | Less than Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Population and Housing | Less than significant | Less than Proposed Project, no impact | Similar impacts as Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Public Services | Less than significant | Less than Proposed Project, no impact | Similar impacts as Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Recreation | Less than significant | Less than Proposed Project, no impact | Similar impacts as Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Transportation/ Circulation | Less than significant | Less than Proposed Project, no impact | Similar impacts as Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Utilities and Service Systems | Less than significant | Less than Proposed Project, no impact | Similar impacts as Proposed Project, less-than-significant impact | Similar impacts as Proposed Project, less-than-significant impact |
| Meets Most of the Basic Project Objectives? | Yes | No | Yes | Yes |

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CHAPTER 8 REFERENCES

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CHAPTER 9

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