RECLAMATION

Managing Water in the West

Environmental Assessment

East Highline Reservoir (EHL Reservoir) and Intake Channel Project

BUREAU OF RECLAMATION

Interior Region 8 - Lower Colorado Basin
Arizona, California, Nevada
Yuma Area Office
Yuma, Arizona

April 2024

Mission Statements

The U.S. Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated Island Communities. The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Environmental Assessment
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Acronyms and Abbreviations

Acronym or Abbreviation	Description
AAC	All-American Canal
AF	Acre-Feet
APE	Area of Potential Effect
BMPs	Best Management Practices
BLM	Bureau of Land Management
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
Cfs	Cubic feet per second
CWA	Clean Water Act
CVWD	Coachella Valley Water District
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EA	Environmental Assessment
EHL	East Highline
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FTHL	Flat-tailed Horned Lizard
FONSI	Finding of No Significant Impact
I-8	Interstate Highway 8
IA	Implementation Agreement
ICAPCD	Imperial County Air Pollution Control District
ICPWD	Imperial County Public Works Department
IID	Imperial Irrigation District
NHPA	National Historic Preservation Act
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O&M	Operation and Management
PM_{10}	Coarse particulate matter
QSA	Quantification Settlement Agreement
Reclamation	Bureau of Reclamation
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SR-98	State Route 98
SPCC	Spill Prevention, Control, and Countermeasures
SHPO	State Historic Preservation Officer
US	United States
USFWS	United States Fish and Wildlife Service
USACE	United States Army Corps of Engineers

YRR	Yuma Ridgway's rail

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Chapter 1. Introduction

1.1 Introduction

The United State Department of the Interior, Bureau of Reclamation (Reclamation) has prepared this Environmental Assessment (EA) to evaluate potential impacts associated with the proposed EHL (East Highline) Reservoir and Intake Channel Project ("Project" or "Proposed Action"). This EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.), the Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508) the United States Department of the Interior Implementation of NEPA regulations (43 CFR Part 46), and Reclamation NEPA Handbook (February 2012). Reclamation is the lead Federal agency pursuant to NEPA. Because the Project would be implemented on Reclamation lands and introduce new facilities within Reclamation rights-of-way, a land use authorization from Reclamation is required in accordance with Reclamation's Directives and Standards LND 08-01 (dated January 3, 2002 and last revised September 16, 2021).

Imperial Irrigation District (IID) intends to undertake the Proposed Action if a land use authorization is granted by Reclamation. The Proposed Action consists of construction of a new single cell, operational water reservoir and construction of an open intake channel to convey water from an All-American Canal (AAC) reach. The open intake channel would traverse land owned by Reclamation. Water would be gravitationally conveyed from the AAC reach to the proposed reservoir basin via a new open intake channel. Water would then be delivered through automated gates and a discharge structure into the East Highline Canal which is owned and operated by IID. The reservoir would have a temporarily storage capacity of approximately 2,100 acre-feet (AF) and operationally manage up to approximately 365,000 AF of water annually.

1.2 Project Location

The Proposed Action is located in the southern region of Imperial County, California, east of Calexico and southeast of the city of Holtville (**Figure 1-1, Project Regional Location**). Specifically, the Proposed Action area is located approximately ½ a mile north of the AAC and located immediately on the east side of the AAC Reach and East Highline Canal on the USGS Bonds Corner 7.5-minute topographic quadrangle in Sections 25, 26 and 36 of Township 16 South, Range 16 East, and Section 1 of Township 17 South, Range 16 East. The latitude and longitude coordinates of the proposed Project area are 32°43'35″N and 115°16'52"W.

The Proposed Action is located east of the EHL Canal, and west of lands managed by the Bureau of Land Management (BLM). The BLM lands to the east are open and vacant desert land with desert shrubbery and patches of groundcover. Agricultural fields surround the Project site to the

northwest, west and south. The Proposed Action is approximately 0.1 miles north of State Highway 98 (SR-98) and approximately 2 miles south of Interstate Highway 8 (I-8) (**Figure 1-2, Vicinity Map**), approximately three miles north of the U.S./Mexico border. The proposed Project footprint is located within four parcels having Assessor's Parcel Number (APN) 055-250-020, 059-310-005, 055-310-007 and 055-310-008. The reservoir basin is proposed immediately north of Verde School Road on a parcel owned by IID, while the intake channel would be constructed west of and adjacent to Holdridge Road and require right-of-way acquisition from two private owners and Reclamation. (**Figure 1-3, Conceptual Layout**).

1.3 Project Background

IID is a limited-purpose public agency, formed under the laws of the State of California. IID holds rights to divert water from the Colorado River and deliver it to tenants and landowners in portions of Imperial County. IID provides agricultural water to approximately 475,000 acres of farmed land. Irrigated agriculture is the primary economic enterprise within the IID water service area, which contains seven cities (Brawley, Calexico, El Centro, Imperial, Holtville, Westmorland, and Calipatria), three census-designated places (Niland, Seeley, and Heber), the Naval Air Station El Centro, and two State prisons (Calipatria and Centinela). Landowners and tenants within IID's water service area conduct on-farm operations, which include crop irrigation (e.g., applying water to fields) and maintaining on-farm drainage systems. 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 (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 irrigation drainage waters to the Salton Sea through its drainage system), hydroelectric power, and energy services.

In 1942, construction of the 82-mile-long AAC was completed. Operated by IID, the AAC became the sole water source for Imperial Valley residents and area farmlands. The AAC is a federal facility under the ownership of Reclamation. IID, in accordance with contractual agreements with Reclamation's Yuma Area Office, has operation and maintenance responsibility for the AAC and appurtenant facilities. Three main canals receive water from the AAC, the Westside Main, Central Main and East Highline Canals. The East Highline Canal being the furthest upstream serving the Imperial Valley. A water diversion point from the AAC occurs south of the intersection of Bornt Road and SR-98 via an AAC reach prior to converging into the East Highline Canal. The East Highline Canal also directly deviates from the AAC prior to this conversion point, thus jointly bringing water north to the eastern Imperial Valley areas.

A major challenge in maximizing water management is the span of time between an IID delivery request to an actual water supply delivery in-valley. IID orders water from Hoover Dam on the Colorado River. It takes four days for water released at Hoover Dam to arrive at Imperial Dam and the head gates of the AAC. Once turned into the AAC, the ordered water takes an additional 24-30 hours to reach the ends of the irrigated farm lands of the Imperial Valley as it is delivered via gravity flow. The Imperial Valley does not have a way to return unused water to the Colorado River System and the lack of sufficient temporary storage facilities make water management a challenge.

As Colorado River water supplies are stressed by growing populations and climate challenges, it is IID's responsibility, as the largest water contractor in the basin, to serve as a good steward of this natural resource for the benefit of all Colorado River contractors. The proposed 2,100 acre-feet capacity, off-line, operational reservoir would be located upstream of IID's distribution system for continuous, short term water storage with the immediate purpose of maximizing water distribution system efficiency.

1.4 Project Purpose and Need

Under NEPA, an EA "shall briefly specify the underlying purpose and need to which the agency is responding" with the Proposed Action (40 CFR 1502.13). Reclamation's (2012) NEPA Handbook states that the purpose and need "shall present a brief statement explaining why the action is being considered." Taken together, the purpose and need for a Proposed Action establish the basic parameters for identifying the range of alternatives to be considered in an EA prepared in accordance with NEPA.

The purpose and need of the Proposed Action 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. The Proposed Action is further consistent with the intended use of Reclamation's withdrawn lands for water management use. The specific objectives for IID, and the purpose and need, are further described below:

- The Proposed Action will enhance 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 2021 Water Conservation Plan and an integral part of the IID System Conservation Program.
- The Proposed Action 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 Proposed Action is 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 . . ."

Additional Project specific design objectives are as follows:

- Minimize the length of the intake channel, the outflow channel, and their impacts to existing infrastructure, agricultural operations and environmental resources.
- Utilize a route with the most beneficial hydrologic conditions to accommodate gravity flow (i.e., avoiding/minimizing pumping).
- Avoid environmentally sensitive areas wherever feasible.

The construction and use of the Proposed Action 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 Action will allow IID to better match water demands by creating a more efficient canal system with the additional water management facility upstream of most of IID's water service. Improved management of Colorado River water deliveries to agricultural users within IID's distribution system will further maximize water conservation opportunities yielding an estimated 15,000 acre-feet of conserved water annually.

1.5 Reclamation Authority and Policy

Reclamation's authority to grant land use authorizations is stated in the Reclamation Manual, Directives and Standards LND 08-01 (dated September 16, 2021). This document provides standard procedures for issuing land use authorization documents such as easements, leases, licenses, and permits, which allow others to use Reclamation lands and interests in its lands, facilities, and water surfaces. According to LND 08-01 item 2.C,

"Permits and licenses are similar in nature. Permits are generally considered a form, or subset, of licenses. They do not convey possessory interest, but grant only permission to use real property under specific, limited conditions. Licenses, including permits, are use authorizations that grant personal, revocable permission or authority for a person or entity to utilize a specific parcel of land for a specific purpose or purposes. Licenses, including permits do not convey any ownership interest in the land and are not generally considered appurtenant to a parcel of land, thus are

personal in nature. In Reclamation, the term 'permit' is generally used to refer to short-term and less intense uses (less than 3 years) and 'license' generally is used to refer to longer and more substantial uses."

IID is requesting a license from Reclamation. The license would grant IID access to withdrawn lands to implement the Proposed Action. It would be the responsibility of the IID to adhere to guidance detailed in this EA concerning implementation. It would also be the responsibility of the IID to provide funding, labor and materials to implement and maintain the plan. Therefore, since the Project would result in the addition of permanent infrastructure involving a Reclamation facility that would be a long and substantial use requiring a license, the Project is subject to the provisions in LND 08-01 item 7.A-C regarding licenses.

1.6 Purpose of the Environmental Assessment

The Proposed Action consists of construction, operation, and maintenance of a new reservoir and intake channel structure on withdrawn lands managed by Reclamation. Reclamation's decision to issue a license to IID is considered a federal undertaking and triggers the requirement under NEPA to assess environmental effects.

Reclamation is the federal lead agency for NEPA and is responsible for the preparation of an EA to evaluate the environmental effects associated with the Proposed Action. As such, this EA was prepared to meet the environmental compliance requirements for federal agencies. This EA includes an assessment of the effects that could reasonably be expected should Reclamation grant authorization to IID for construction, use, and maintenance activities associated with the Proposed Action. Furthermore, this EA identifies minimization and mitigation measures that would reduce potential environmental effects and considers alternatives to the Proposed Action. As discussed in the introduction to Chapter 3, the scope of this EA is focused on effects determined to have a potential environmental effect and serves as an informational document to provide public disclosure of potential effects of the Proposed Action, identify ways to minimize those effects, and consider alternatives to the Proposed Action.

Fieldwork and resource mapping conducted to evaluate conditions within the Proposed Action area focused on the 525-acre reservoir site and multiple intake channel areas. The intake channel would affect 3 acres of federally managed land. The broader area included in the corridor where expanded fieldwork and resource mapping occurred is referred to in this EA as the Study Area. The total acreage of all affected parcels of land is approximately 591 acres.

1.7 Determinations to be Made

This EA will be distributed to appropriate Reclamation decision-makers for review to determine whether a Finding of No Significant Impact (FONSI) is appropriate. This decision will be based on a determination that all potential effects are either not significant or can be reduced to not significant levels through the implementation of mitigation measures. If any potential effects are considered significant and cannot be avoided or reduced to non-significant levels, the preparation and processing of an Environmental Impact Statement is required to implement the Proposed Action. In lieu of processing an Environmental Impact Statement, IID may choose to forego implementation of the Proposed Project, thus selecting the No Action alternative described later in this EA.

Permits and Approvals

Permits, and approvals required from Reclamation and from other coordinating or responsible agencies to authorize construction, operation and maintenance of the Proposed Action are as follows:

- **Implementation Agreement (IA) Construction and Operation:** Reclamation would issue an IA to IID, to allow for construction and operation of an intake channel and associated facilities to convey water from the AAC Reach to the proposed reservoir basin.
- **Federal Endangered Species Act Section 7 Consultation:** Prior to issuing an IA, Reclamation shall determine and consult, if necessary, with the U.S. Fish and Wildlife Service (USFWS) whether the Proposed Action 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 State Historic Preservation Officer (SHPO) to determine whether the Proposed Action could adversely affect cultural or historic resources.
- **Clean Water Act Section 401 Certification:** At the time that construction is proposed, IID will apply for a Water Quality Certification from the Colorado River Basin Regional Water Quality Control Board (to which federal authority under the Clean Water Act relevant to water quality is delegated in the Proposed Action area) to authorize construction across the approximately 0.21 acres of jurisdictional wetlands (seepage recovery drain).
- **Streambed Alteration Agreement:** At the time that construction is proposed, IID may need to apply for a Streambed Alteration Agreement from California Department of Fish and Wildlife (CDFW) to authorize construction across the All American Drain 2/2A (seepage recovery drain).

- **Standard Form 299:** Prior to obtaining an easement from Reclamation, IID will submit a Standard Form 299 application to Reclamation for authorization to construct and operate utility systems on federal lands and property.
- **Easement for Operation and Maintenance**: Reclamation would issue a permanent easement to IID to allow for ongoing operation and maintenance activities associated with the Proposed Action.

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Figure 1-1 Project Regional Location

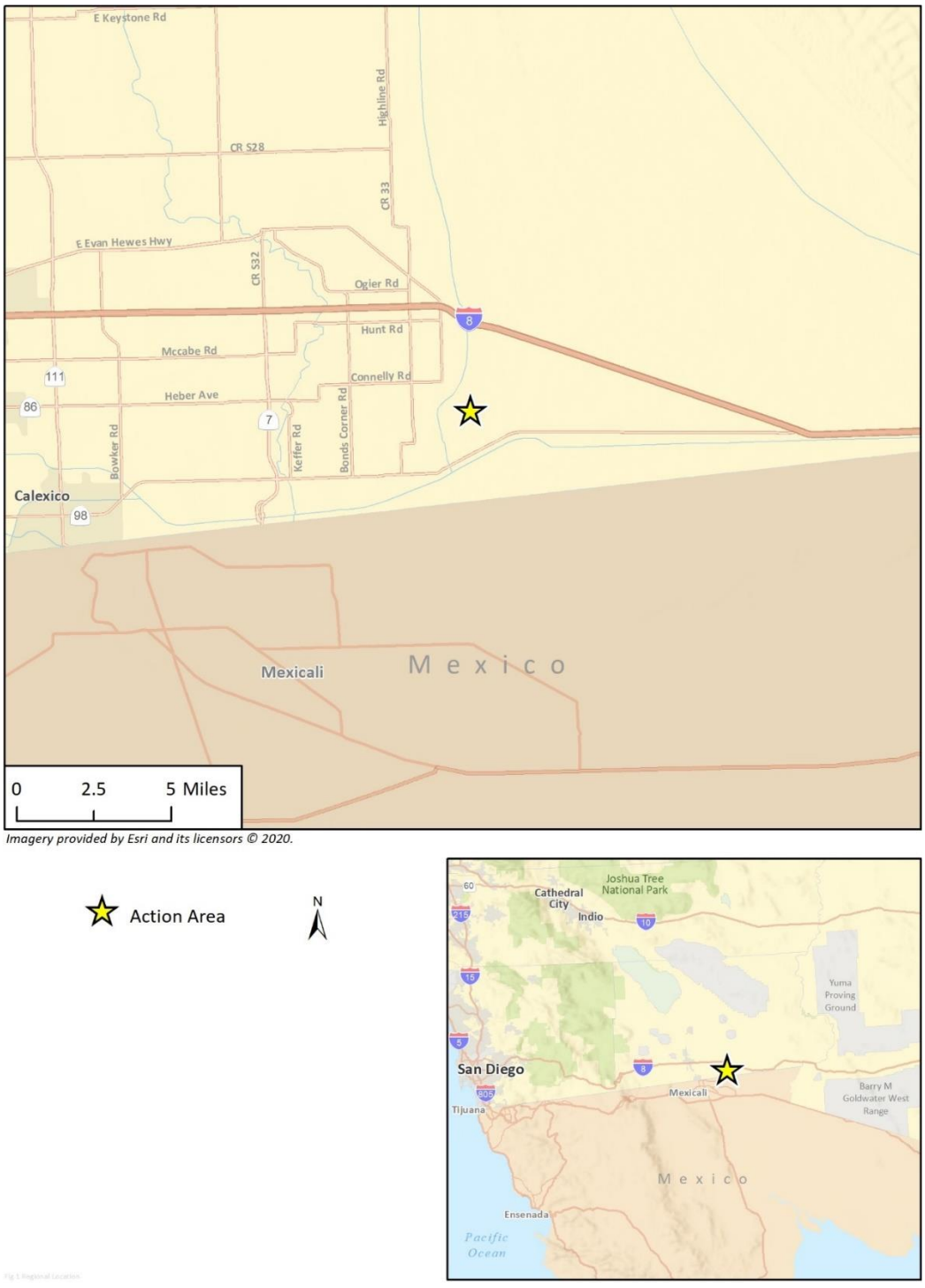

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Figure 1-2 Project Vicinity

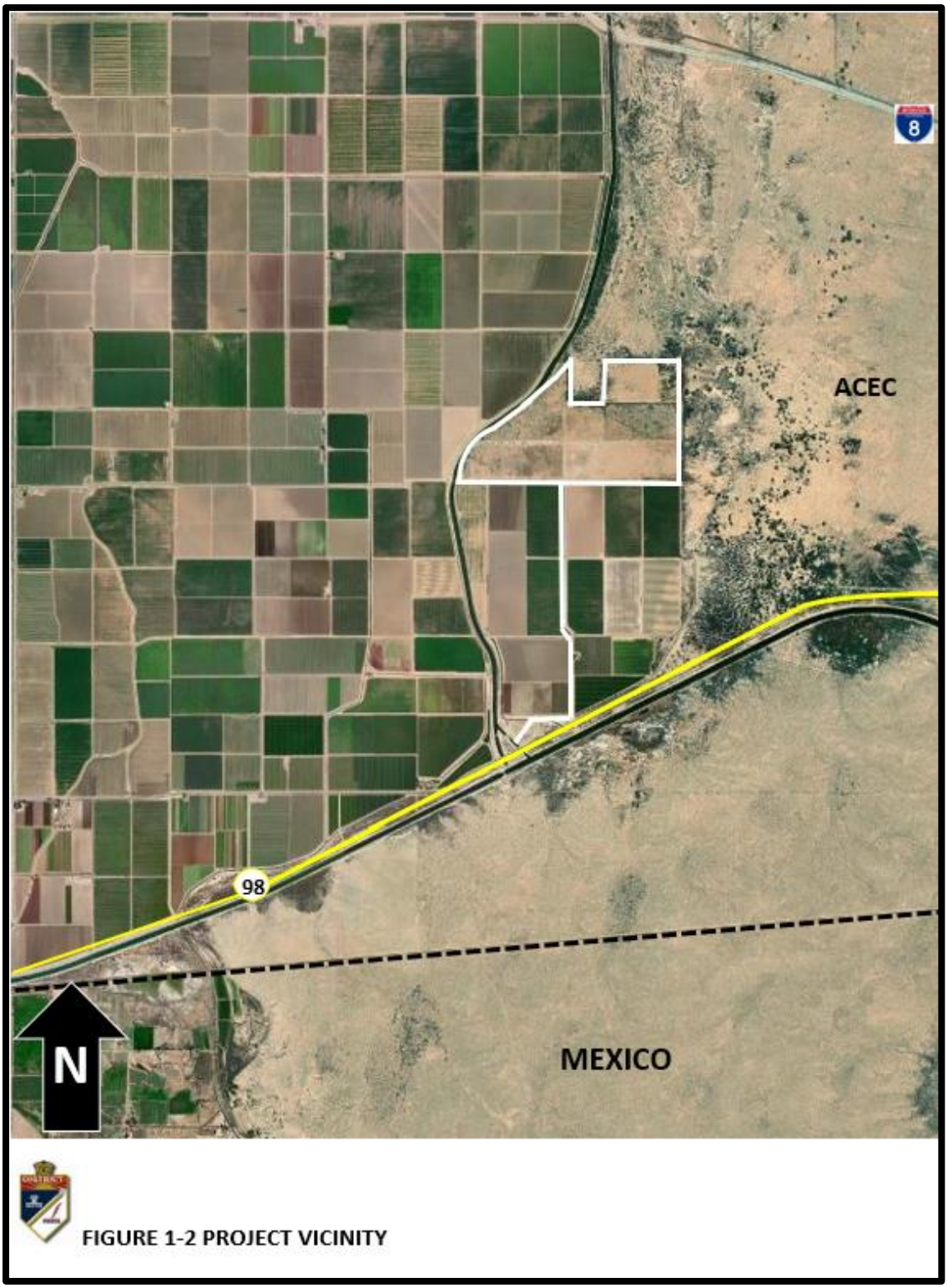

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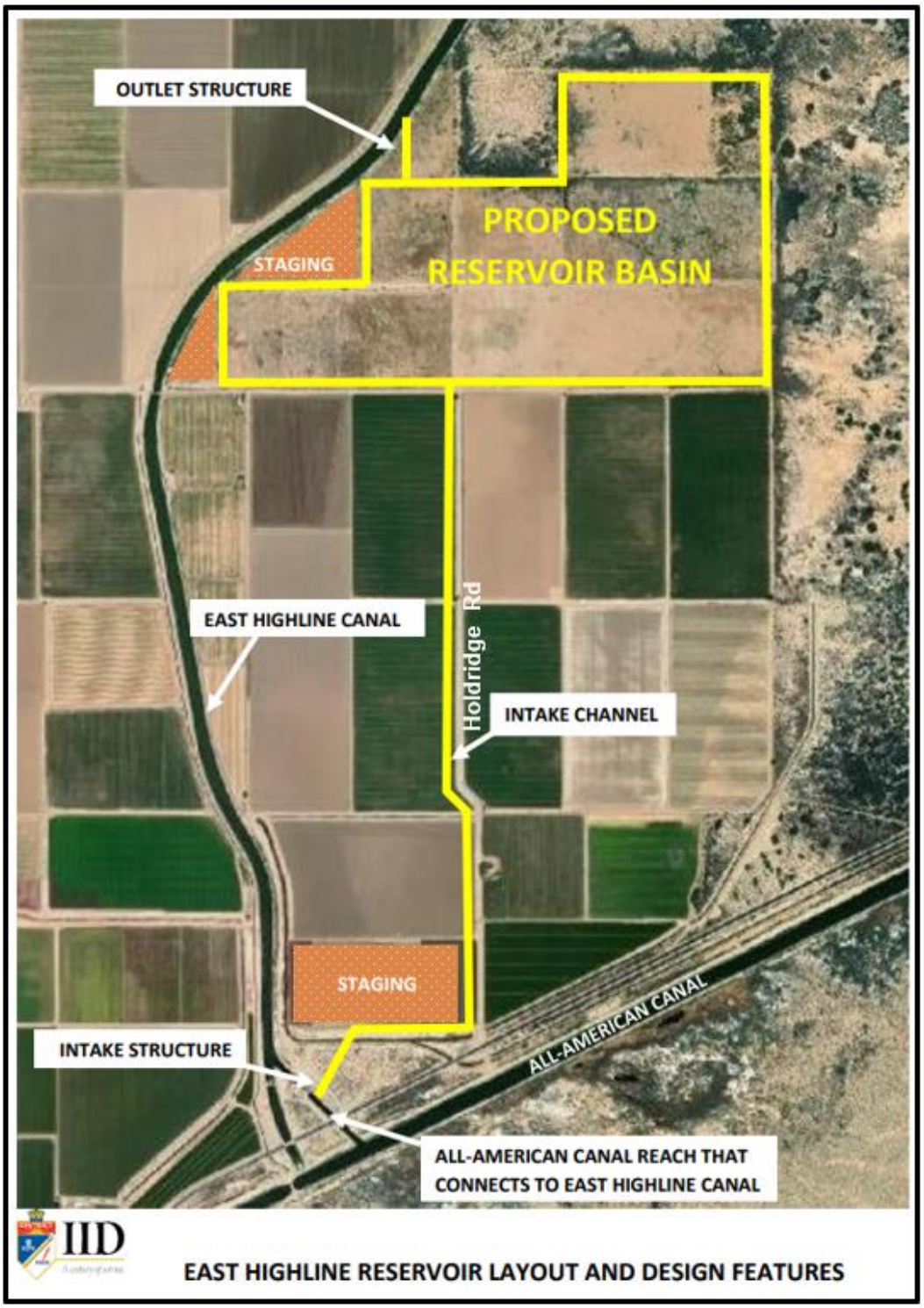
Figure 1-3 Conceptual Layout



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Chapter 2. Proposed Action and Alternatives

2.1 Introduction

NEPA guidelines require that an EA evaluate the "No Action" alternative in addition to the Proposed Action. This chapter describes the alternatives considered for the Proposed Action, including a No Action alternative, and alternatives that have been eliminated from further analysis due to infeasibility, or economic or environmental restraints.

2.2 No Action Alternative

The No Action alternative provides a basis for comparison of the environmental consequences of the Proposed Action or any other potential action. In this EA, the no action alternative assumes that no activities would occur and the IID system would continue to be operated and maintained in its current condition. Under the No Action alternative, construction of the Proposed Action would not be conducted and the AAC reach and East Highline canals would continue to function in their current state, which would eliminate the potential increase in water conservation and operational flexibility with the demands of downstream water users from new facilities.

2.3 Proposed Action

The Proposed Action consists of constructing an agricultural, operational, water storage reservoir and intake channel, covering approximately 506 acres, within a 591-acre Project footprint north of the AAC and east of the East Highline Canal. Additional staging areas within maximum disturbance areas may be accessed if needed. The reservoir currently has a conceptual design of a single cell reservoir. The purpose of the reservoir is for the operational management of up to 365,000 acre-feet per year (AFY) and a storage capacity of 2,100 acre-feet of water. The reservoir would have concrete lined embankments and a geo-membrane liner on the base floor and have a maximum water storage depth of six feet. Water would be gravitationally conveyed from the AAC Reach to the proposed reservoir basin via an open canal intake channel, within a proposed 200/250-foot wide right-of-way (ROW) at the intake location and expand to a 300-foot wide ROW as it traverses northerly along Holdridge Road. The total approximate length of the intake channel ROW is approximately 2 miles and covers approximately 66 acres. The intake channel would serve a dual purpose as a sedimentation basin prior to the water being transferred and temporarily stored in the reservoir basin. Water from the proposed reservoir would be delivered into the East Highline Canal to serve downstream water user demands through an automated gate outlet with a gravity flow capacity of approximately 1,000 cubic feet per second (cfs).

Up to three potential staging areas having a maximum total of 85 acres are anticipated in the northwest portion (35 acres) of the Proposed Action site within IID owned land and in the southwest portion of the intake channel within privately owned land (50 acres), as indicated in Figure 1-3. The reservoir footprint would be constructed over fallow agricultural land also owned by IID. Approximately 63 acres of the proposed intake channel and ROW would be constructed on agricultural land and an additional 3 acres would cross federal lands withdrawn to Reclamation. The federally owned land is located at the southern end of the proposed intake channel route abutting the AAC Reach which is owned and operated by IID.

The proposed intake channel will run from the east side of the AAC Reach within a new, proposed 100-250 foot wide ROW located within federally owned land. Impacts to the AAC Reach include cutting the AAC Reach bank to allow a direct connection to the intake channel. The cut bank and intake structure would alter approximately 150 feet of the AAC Reach embankment. At its narrowest point, beginning at the AAC Reach, the ROW will consist of three intake culverts having a length of approximately 500 feet. The culverts are anticipated to be less than 50 feet in total width thus accommodating 24-foot wide maintenance roads over and/or along the southeast side of the culvert, if needed. The culverts will extend beyond Bornt Road, for approximately 500 feet, traverse federal land prior to leading into a conventional trapezoid open concrete channel. Bornt Road which parallels the AAC Reach to the east would continue to remain operational with an access ramp over the culverts. The actual channel would have a maximum bottom width of approximately 28 feet with a total open channel width of approximately 70 feet (concrete edge to concrete edge) and a maximum depth of 10-15 feet from the top of the embankments.

The new ROW, at its broadest width (beyond federal land), would be a maximum of 300 feet and include the concrete intake channel, embankments on either side, 24-foot wide operation and maintenance roads on either side (top of embankment), and respective setback on either side. The overall embankment and channel width will be roughly 150 feet wide with a 75-foot buffer on each side of the channel. The buffer areas at the toe of the embankments will be suitable for maintenance roads if the needed. Construction areas will be fenced prior to construction and to prevent accidental encroachment into unauthorized private and/or public lands.

Construction Activities

Construction of the reservoir and intake channel would take a total of approximately 15 months and involve six principal activities that may be phased (but include overlapping and/or concurrent activities) as follows.

Reservoir Basin (Phase 1): The construction of the reservoir is anticipated to occur over the 15-month construction period. Construction of the reservoir will require a crew consisting of an average of 20 workers. The total area that will be excavated and graded is approximately 506 acres,

including embankment areas and areas where excess material will be deposited and regraded along the northwest areas of the proposed reservoir site. The temporary disposal facility (located within the staging areas) is primarily proposed adjacent to the proposed reservoir basin within IID owned land. However, a material balance is expected at project end resulting from material demand for embankment and rerouting of Holdridge roadway. Any incidental excess would be re-graded to the site areas. The quantity of concrete lining for the reservoir is expected to be under 25,000 cubic yards for channel, reservoir, outlet and related support structures. A geo-membrane liner would be installed to cover the bottom of the reservoir and continue up under the concrete on the inside embankments. Construction equipment likely to be utilized at various times during the construction of the reservoir is detailed in Table 2-1. Holdridge Road realignment would take place within the proposed action area and at the same time as the reservoir construction activities. Access to the north of Holdridge road will be around the perimeter of the proposed reservoir.

Bornt and Holdridge Road Detours (Phase 2): County roadway detours would be initiated during the first month of construction. The detour plans would be coordinated through, and approved by, the Imperial County Public Works Department (ICPWD) as well as Reclamation for a small portion affecting federal withdrawn lands. The detour would be temporary, while construction of the intake channel intersects with Bornt Road and Holdridge Road. Construction equipment likely to be utilized at various times during the construction of the roadway detour is detailed in Table 2-1.

Sedimentation Basin (Phase 3): The construction of the sedimentation basin (located within intake canal's footprint) would be anticipated to occur over a 3-month construction period. Construction of the sedimentation basin would require a crew consisting of an average of 15 workers over the duration of the construction period. 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 disposal facility is located within the staging areas, predominantly west and adjacent to the reservoir. The quantity of concrete lining for the sedimentation basin would be approximately 3,000 cubic yards. Construction equipment likely to be utilized during the construction of the sedimentation basin is detailed in Table 2-1. This phase would overlap with Phase 4, Intake Channel and Measurement Flume.

Intake Channel and Measurement Flume (Phase 4): The construction of the intake channel and measurement flume would be anticipated to occur over a 3-month construction period. Construction of the channel and measurement flume would require a crew consisting of an average of 20 workers over the duration of the 3-month period. The total area that would be graded is approximately 66 acres. The total volume of canal embankment is estimated to be about 250,000 cubic yards. The material would be hauled primarily from the reservoir basin excavation for the construction of the channel embankment. The quantity of concrete lining would be approximately

4,000 cubic yards. Construction equipment likely to be utilized during the construction of the intake channel and measurement flume is detailed in Table 2-1.

Canal Tie-Ins (Phase 5): The construction of the AAC Reach inflow Tie-In and East Highline Canal outfall Tie-In would occur over an approximate 3-month period and would require a crew consisting of an average of 10 workers over the duration of the construction period, after the roadway detours, and would overlap partially with the sedimentation basin scope of work (Phase 3) and the intake channel and measurement flume scope of work (Phase 4). Table 2-1 presents the Construction equipment likely be required at various times during the construction of the tie-ins.

Structures (Phase 6): The construction of the roadway crossings, channel inlet structure, reservoir outlet structure, meter vault, diesel generator stations and East Highline Canal outfall structure would occur over an approximate 6-month period and would require a crew consisting of an average of 12 workers over the duration of that construction period. Construction equipment likely to be utilized during the construction of these structures are detailed in Table 2-1.

Table 2-1
Phasing and Equipment

Phase Number	Phase Name	Months of Construction	List of Equipment*
Phase 1	Reservoir Basin	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	Bornt Road and Holdridge Road Detours	2	Pickups, Dozer, Large Excavator Backhoe, Dump Truck (40-ton wagons), Flat Bed Truck, Water Truck, Caterpillar motor grader
Phase 3	Sedimentation Basin/Channel	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	Intake Channel 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 Number	Phase Name	Months of Construction	List of Equipment*
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	6	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

Access

The Proposed Action site is accessible from existing County dirt roads, Verde School Road, Holdridge Road and Bornt Road to some extent. Bornt Road and Holdridge Road are accessible via SR-98.

Maintenance

Maintenance of the proposed facilities would be undertaken by IID in accordance with existing practices for inspections and repair. No regular on-site operations and maintenance would be provided. Inspections would be made via crew trucks and using the existing road infrastructure and the constructed perimeter road around the reservoir and along the intake channel.

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2.4 Alternatives Considered and Eliminated from Further Analysis

2.4.1 Alternative Sites Eliminated

IID considered 11 locations throughout the region, including the proposed location, 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 alternative site are not adequate to be redeveloped as a reservoir and supporting infrastructure, the alternative site is located on BLM property identified as an Area of Critical Environmental Concern (ACEC), or the alternative site was considered financially infeasible. The 10 alternative site locations are listed below (**Figure 2-1 Alternative Sites Eliminated**). Eliminated alternative sites numbers (5, 6, 7, 8 and 9) are all within close proximity to the Proposed Action area.

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 International Border with Mexico, 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 miles east of Holdridge Road
10) South of SR-98, approximately 4 miles northwest of the SR-98 and I-8 intersection

2.4.2 Multiple Smaller Reservoirs Alternative

The Multiple Smaller Reservoirs Alternative would construct up to seven reservoirs on privately owned agricultural parcels along IID's main canal system but at undetermined locations. These reservoirs would be much smaller in size and would be operated by the land owner in which the reservoir is located. The Multiple Smaller Reservoirs Alternative option was developed to benefit the local farmers and provide nearby farms with plentiful, independent water supply management. Therefore, this alternative would only partially accomplish the Proposed Action's purpose and need of supporting on-farm efficiency and water conservation measures valley-wide. The Multiple Smaller Reservoirs Alternative would not accomplish the remaining Proposed Action 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. Additionally, the construction of up to seven separate reservoirs would likely result in higher dust and greenhouse gas emissions and construction noise levels due to the increase in construction duration, compared to the construction of one reservoir. Overall, the Multiple Smaller Reservoirs Alternative would not accomplish the Proposed Action objectives. Therefore, this alternative was eliminated from further analysis.

2.4.3 Larger Sized Reservoir Alternative

The Larger Sized Reservoir Alternative would construct an approximately 3,400 acre-foot capacity reservoir at the same site location. The Larger Sized Reservoir would encompass the same basin footprint as the Proposed Action but designed with a deeper basin and increasing the necessary embankment height and the associated construction activities. The larger sized basin would also necessitate a split cell design in order to accommodate long-term maintenance activities. Due to its larger water capacity, this alternative would be classified as a dam under the Department of Water Resources, Division of Safety of Dams, necessitating construction standards requirements that would substantially increase project costs in comparison to the Proposed Action. Consequently, the Larger Sized Reservoir would not be supported under a cost-benefit analysis. The deeper basin may increase the potential to encounter traditional cultural properties, archaeological, and paleontological resources, and monitoring measures would still be required. The Larger Reservoir Alternative would likely result in higher dust and greenhouse gas emissions and construction noise levels due to the increase in construction duration. All other environmental effects would have similar severities as the Proposed Action. In conclusion, the Larger Sized Reservoir Alternative would not accomplish all Proposed Action objectives in a cost-effective manner, yet would result in a potential increase of environmental effects. As such, the Larger Sized Reservoir Alternative was eliminated from further analysis under this EA.

2.4.4 Intake Channel Route Alternatives

The Intake Channel Route Alternative (**shown in Figure 2-2**) would consist of the proposed reservoir with the same basin footprint; however, the intake channel route would be located further east from the proposed AAC Reach location and initiate from a direct connection at the AAC. The alternative intake locations were limited to those that would be able to connect the AAC/main canal and intake channel at a 90-degree angle for hydrological reasons. One alternative intake channel route considered would have connected to the proposed reservoir in the same location as the preferred alternative at a straight, southerly connection along Holdridge Road and to the AAC (Mesa 5 Alternative). A second alternative intake channel route considered would have connected at a point furthest east of the basin providing greater gravity flow capabilities and having the least amount of impact to farmland prior to connecting to the AAC (Original Intake Alternative). A third alternative intake channel route considered would have also connected at a point furthest east

of the basin, offering the most optimal gravity flow capabilities but traversing the BLM managed ACEC (ACEC Intake Alternative). All three alternative intake channel routes would require pipelining the channel section under the existing State Route 98 necessitating a temporary roadway detour. The traffic detour would result in potential adverse impacts to historic properties and/or cultural resources due to requiring additional area to accommodate a temporary detour during construction. Direct and indirect biological impacts would likely be greater under the considered intake channel alternatives considering that the traffic detour route would directly impact undisturbed lands. As such, these alternative intake channel routes would result in greater environmental effects. Therefore, the alternative intake channel routes considered have been eliminated from further analysis.

2.5 Comparison of Alternatives

The suitability of the No Action Alternative and Proposed Action (the preferred alternative as described in Sections 2.2 and 2.3) were compared based on potential environmental effects (detailed in Chapter 3) and the objectives identified for the Project. The objectives are shown in Table 2-2. The No Action Alternative only met one of the Project's objectives, while the Proposed Action meets all eight objectives.

Table 2-2
Alternatives Comparison Summary

Project Objective	Does the No Action Alternative Meet the Objective?	Does the Proposed Action Meet the Objective?
Provide a system improvement project to increase operational flexibility and more closely match water deliveries with downstream water user demands	No	Yes
Conserve water by capturing what would normally be operational discharge from water order returns	No	Yes
Support on-farm efficiency conservation measures by supporting 12-Hour deliveries	No	Yes
Increase operational storage to more effectively manage IID's daily water diversions at the Colorado River	No	Yes
Utilize a route with the most beneficial hydrologic conditions that is able to convey intake and discharge waters to and from the proposed reservoir by gravity flow (i.e. avoiding/minimizing pumping)	No	Yes
Minimize the length of the intake channel to the basin and the outflow channel to the East Highline Canal limiting impacts to farmland/environmental resources	Yes	Yes
Locate the intake channel in a manner that minimizes impacts to existing infrastructure including farm irrigation infrastructure	Yes	Yes

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Figure 2-1 Alternative Sites Eliminated

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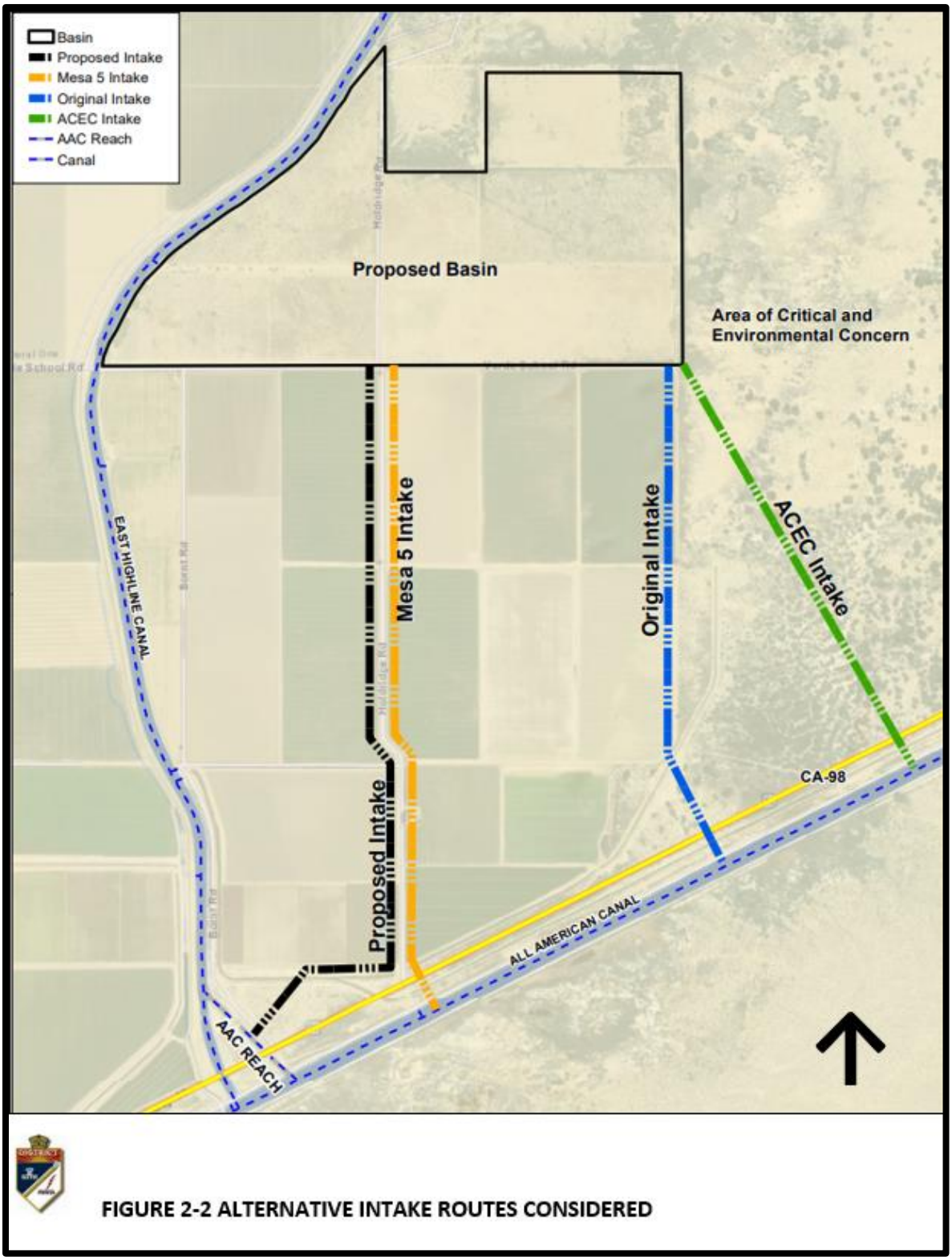
Figure 2-2 Alternative Intake Routes



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Chapter 3. Affected Environment and Environmental Consequences

3.1 Introduction

This section describes the existing environmental resources in the Proposed Action area that may be affected by the Proposed Action and the No Action alternative, if implemented. It also serves as the baseline for the comparisons of alternatives.

3.2 Resources Considered and Eliminated from Further Analysis

Some resources were considered but eliminated from further analysis because they did not occur in the Proposed Action area or because the potential effect to the resource is so minor (negligible) that it was discounted. The resources were either not present or found to not be affected by the Proposed Action because they would be completely mitigated with the implementation of standard stipulations. Resources eliminated from further analysis include Areas of Critical Environmental Concern, Access and Transportation, Agricultural Resources, Conservation Lands, Floodplains, Forestry, Fuels and Fire Management, Livestock Grazing, Public Health and Safety, Recreation/Travel/Wild and Scenic Rivers, Transmission Corridors, Urban Quality and Design of the Built Environment, Wildlife Corridor, Wild Horse and Burros and Wilderness and Wild and Scenic Rivers (See **Appendix B, Table B-1**).

3.3 Air Quality/Greenhouse Gas Emissions

The following sections describe the existing environmental resources in the Proposed Action area that may be affected by each alternative, if implemented.

3.3.1 Affected Environment

The Clean Air Act (CAA), as amended in 1990, requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for wide-spread pollutants harmful to public health and the environment. The EPA has set time-averaged standards for six air pollutants considered to be key indicators of air quality: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), lead, and two categories of particulate matter (particulate matter with an aerodynamic diameter of 10 microns or less [PM_{10}] and particulate matter with an aerodynamic diameter of 2.5 microns or less [$PM_{2.5}$]). If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/attainment" means that the area meets the standard or is expected

to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards.

The Proposed Action is located in the southern portion of the Salton Sea Air Basin (SSAB), which encompasses the central portion of Riverside County and all of Imperial County.

Table 3-1 shows the attainment status in Imperial County for each criteria air pollutant under the NAAQS. Imperial County is designated as Moderate Nonattainment for 8-hour O_3 and $PM_{2.5}$, and as a Serious Maintenance Area for PM_{10} (USEPA 2022a, 2022b, 2022c).

Table 3-1 Imperial County Attainment Status by Air Criteria Pollutant

Pollutant	NAAQS Attainment Status	De Minimis Thresholds (tpy)
Ozone (O_3) – 8-hour	Nonattainment (moderate)	100 [b]
Ozone (O_3) – 1 hour	Attainment [a]	N/A
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment (moderate)	100
Coarse Particulate Matter (PM_{10})	Maintenance (serious)	100
Sulfur Dioxide (SO_2)	Unclassified	N/A
Lead (Pb)	Unclassified	N/A
Carbon Monoxide (CO)	Unclassified	N/A
Nitrogen Dioxide (NO_2)	Unclassified	N/A

Source: USEPA 2022a, 2022b, 2022c, 2022d, 2022e, 2022f, 2022g, 2022h.

Notes: Attainment = meets the standards; Attainment/Maintenance = achieve the standards after a nonattainment designation; N/A = not applicable; Nonattainment = does not meet the standards; tpy = tons per year; Unclassified or Unclassifiable = insufficient data to classify; Unclassifiable/Attainment = meets the standard or is expected to meet the standard despite a lack of monitoring data.

[a] The federal 1-hour standard of 0.12 ppm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans (SIPs).

[b] The applicable de minimis threshold applies equally to each ozone precursor (VOC and NO_x)

3.3.2 Environmental Consequences

No Action

The No Action Alternative would have no effect to air quality because there would be no increase of criteria air pollutant emissions generated as a result of the Proposed Action.

Proposed Action

An Air Quality and Greenhouse Gas Emissions Assessment Memorandum (Appendix C) was prepared by Dudek in April 2019. Since the air quality modeling was prepared in April 2019, the estimated construction start date has been pushed back. Implementation of increasingly stringent federal, state, and local regulations, as well as increased market penetration of cleaner construction equipment, are expected to continue reducing construction-generated air criteria pollutant emissions as the construction fleets continue to modernize. Also noted is that the 2019 modeling was for a much larger basin (2,500 to 3,400 AF capacity). As such, the previously conducted modeling is considered to be a relevant, if conservative, estimate of the Proposed Action's criteria air pollutant emissions. A summary of the findings are presented below.

Construction

Construction would result in temporary addition of pollutants to the local airshed. As provided in Table 3-2, the Proposed Action would not exceed any of the applicable federal de minimis thresholds during construction activities (modelled years 2018 or 2019). Therefore, additional conformity analysis is not required; the Proposed Action would conform to the applicable implementation plan for the Project area.

Table 3-2 Estimated Annual Construction Criteria Air Pollutant Emissions

Modelled 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**
De Minimis Threshold	*100*	*100*	*70*
Threshold Exceeded?	No	No	No

Notes: ROG = reactive organic gasses; NO_x = oxides of nitrogen; PM_{10} = fine particulate matter; * Modelled year. Source: Appendix C.

Operation

Operations of the Proposed Action consist of temporarily diverting water from an AAC Reach and into an intake channel up to a large 2,100 acre-operational reservoir, subsequently managing and delivering water through an automated gate outlet and structure with a gravity flow capacity of approximately 1,500 cfs for delivery into the East Highline Canal and the eastern Imperial Valley. The intake channel would use gravity flow only (i.e., no pumping would occur). Maintenance would be undertaken by IID in accordance with existing practices for inspections and repair. No on-site operation and maintenance facilities would be provided. Inspections would be made via crew trucks using the existing road infrastructure, the proposed perimeter road around the reservoir

and along the inlet channel. Thus, effects to air quality as a result of Proposed Action operation would be negligible.

3.3.3 Minimization and Mitigation Measures

Prior to issuance of a grading or building permit, the project proponent shall submit an enhanced dust control plan to the Imperial County Air Pollution Control District (ICAPCD) for review and approval, and shall provide the plan to Imperial County Public Works Department (ICPWD), to demonstrate not only compliance with ICAPCD Regulation VIII (Fugitive Dust Rules), Rules 800 through 806 but that reduce the potential for increased air quality violations either in frequency or concentration. The enhanced dust control plan shall address construction-related dust as required by ICAPCD.

3.4 Biological Resources

3.4.1 Affected Environment

The Proposed Action site (Figure 1-3) 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's study area consists of primarily flat, fallow agricultural land, disturbed areas (roads), irrigation canals, and small amounts of scrub habitat. **Please refer to photos 1 through 4 and Figure 3-1**. The study area consists of six vegetation communities: arrow weed (*Pluchea sericea*) thickets, bush seepweed (*Suaeda moquinii*) scrub, cattail (*Typha domingensis*) marshes, creosote bush (*Larrea tridentate*) scrub, mesquite bosque/mesquite (*Prosopis glandulosa*) thicket, and tamarisk thickets; and two land covers (disturbed habitat and open water). Of these vegetation communities, the arrow weed thickets, bush seepweed scrub, and mesquite bosque are considered sensitive biological resources. Special-status plant species have potential to occur within the portions of the Action Area that are not characterized as agriculture, developed, isolated or disturbed. Therefore, the rare plant survey area was limited to portions of the Study Area that were identified as potentially suitable for the target species which included areas characterized as desert scrub and riparian in the northeast and southeast corners of the Study Area. Only the northeast portion of the Study Area overlaps with the Action Area (25 acres).

The Biological Resources Report (Dudek 2019) identified four special-status plant species with moderate potential to occur within the Study Area: gravel milk vetch (*Astragalus sabulomum)*, Abram's spurge (*Euphorbia abramsiana*), California satintail (*Imperata brevifolia*) and Sand food (*Pholisma sonorae*).

Photo 1- East view of the proposed Reservoir site.
Area previously impacted by past agricultural activity.

Photo 2- West view of the proposed Reservoir site.

Photo 3- Southeasterly view of the intake channel alignment, area near the AAC. Note Highway 98 in background.

Photo 4- Southeasterly view of the intake channel alignment, area near the AAC. A portion of this area was previously impacted.

Focused rare plant surveys were conducted in April 2020 and September 2022 to adequately capture the blooming period for all four target species (spring and fall blooming) by qualified biologists according to the protocols acceptable by the CDFW, California Native Plant Society (CNPS) and U.S. Fish and Wildlife guidelines (See Appendix D). None of the four target species or other special-status plant species were observed during the focused rare plant surveys in April of 2020 and September of 2022. Dominant plant species within the survey area included creosote bush (*Larrea tridentata*), Arabian schismus (*Schismus arabicus*), tamarisk (*Tamarix chinensis*), annual burweed (*Ambrosia acanthicarpa*), alkali goldenbush (*Isocoma acradenia*), arrow weed (*Pluchea sericea*), Russian thistle (*Salsola tragus*) and Bermuda grass (*Cynodon dactylon*). Additionally, the level of disturbance within the survey area was high due to unimproved but heavily-traveled dirt roads, off-highway vehicle use, previous agricultural use and invasion of non-native, exotic plant species (Rincon 2022).

Federally listed species (threatened, endangered, or candidate species) which may occur in the vicinity of the project area are:

Yuma Ridgway's rail *(Rallus obsoletus yumaensis* or YRR [formerly known as Yuma clapper rail (*Rallus longirostris yumanensis]*) is listed as endangered under the federal Endangered Species Act and California Endangered Species Act. The YRR is associated primarily with freshwater marshes, with the highest densities of this subspecies occurring in mature stands of dense to moderately dense cattails and bulrushes. There is no wetland habitat suitable for rail within the project area. The nearest wetland habitat is located approximately four miles east of the project area, near the AAC.

Flat Tail Horned Lizard (FTHL) was also identified by the 2019 Biological Resources Report (Dudek 2019) as having a high potential to occur within the non-agriculture portions of the Study Area. A focused FTHL survey was conducted by Rincon. The FTHL survey area was limited to all non-agricultural areas within a 100-meter buffer of the Study Area which included the northeast and southeast corners of the Study Area, a fallow agricultural field which had developed potentially suitable sand mounds since it was last utilized for agriculture, and desert scrub adjacent to the north and east of the Study Area. The FTHL was considered absent from the survey area given that no scat or horned lizards were found and although FTHL's have been found within two miles of the project site, the habitat is not continuous or suitable between the locality and project site.

The monarch butterfly (*Danaus plexippus*) is a candidate species under the federally listed species. Habitat requirements for the monarch butterfly include a variety of flowers used as nectar sources, milkweed host plants and sheltered tree groves for roosting. There is low potential for occurrence

in the Action area as there is no suitable roost tree habitat and milkweed was not detected during surveys.

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative, no reservoir or intake channel would be constructed. Biological resources would remain as is and there would be no new adverse effects to biological resources.

Proposed Action

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 largely agricultural, but is adjacent to undeveloped BLM land (Lake Cahuilla ACEC) to the east where wildlife can move freely throughout the area with little impediment. The majority of the proposed reservoir and associated infrastructure would be constructed primarily within the open agriculture area, see photos 1 through 4. The project would not result in long-term effects to wildlife movement through the area. No riparian or wetland habitat will be disturbed.

Approximately two acres of creosote and some Arrow Weed Scrub and Cattail Marsh will be impacted near the All-American Drain 2/2A where the intake channel will traverse the drain. The majority of land has been bisected by access roads and has been impacted by construction of drains, off road vehicle use, Bornt Road, a cell tower and cable lines, see **Figure 3-2**.

Once constructed, maintenance of the reservoir facilities may also cause short term, localized disturbances from vehicles and other equipment used to remove material behind structures or to repair or maintain structures damaged by storm events. While in operation, it is anticipated that the Proposed Action will result in beneficial impacts to migratory birds. The reservoir could serve as a stopover area during spring and fall for a multitude of waterfowl (i.e., ducks, geese) (Ma et al. 2004, 2010, Bellio et al. 2009).

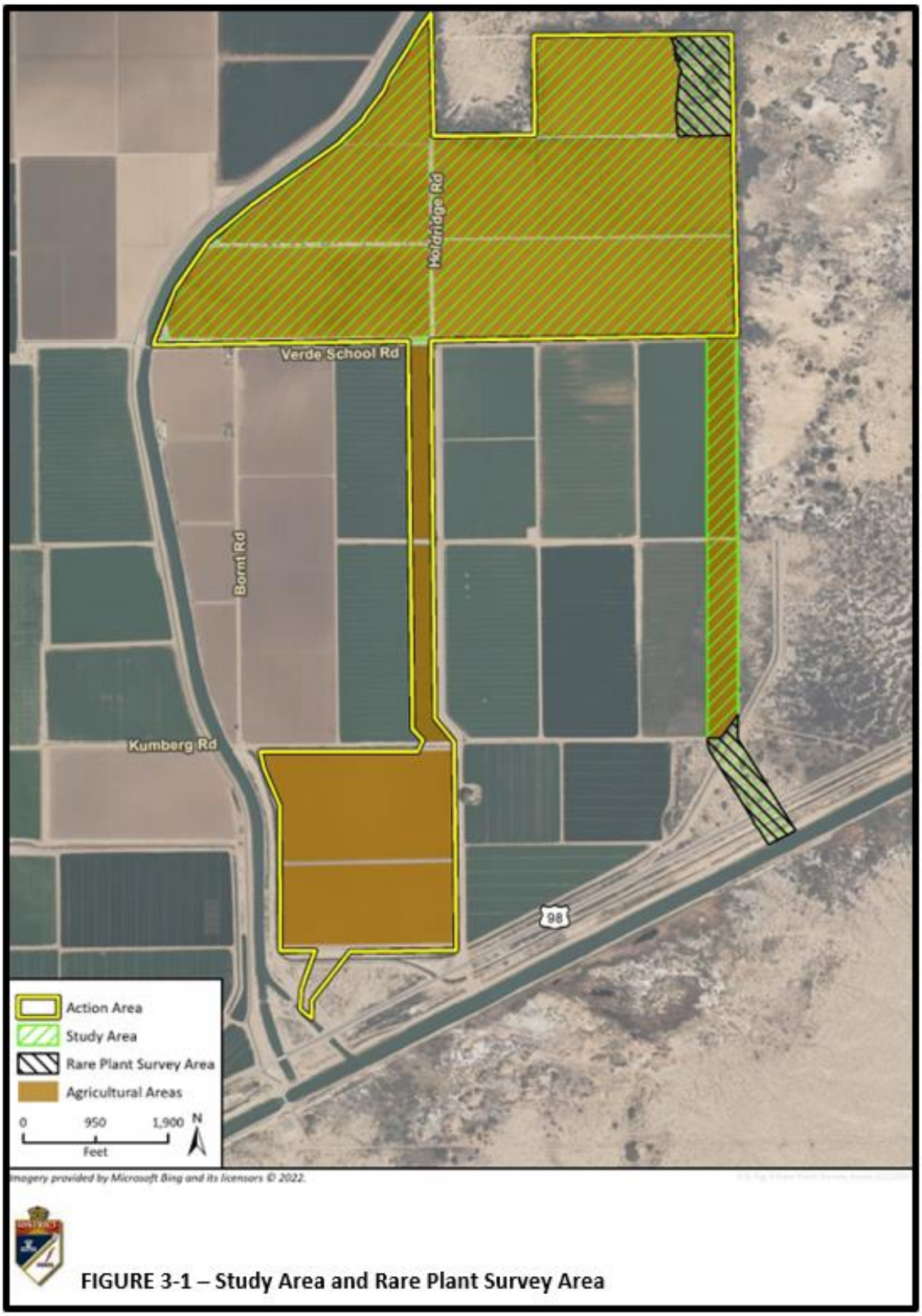

FIGURE 3-1 – Study Area and Rare Plant Survey Area

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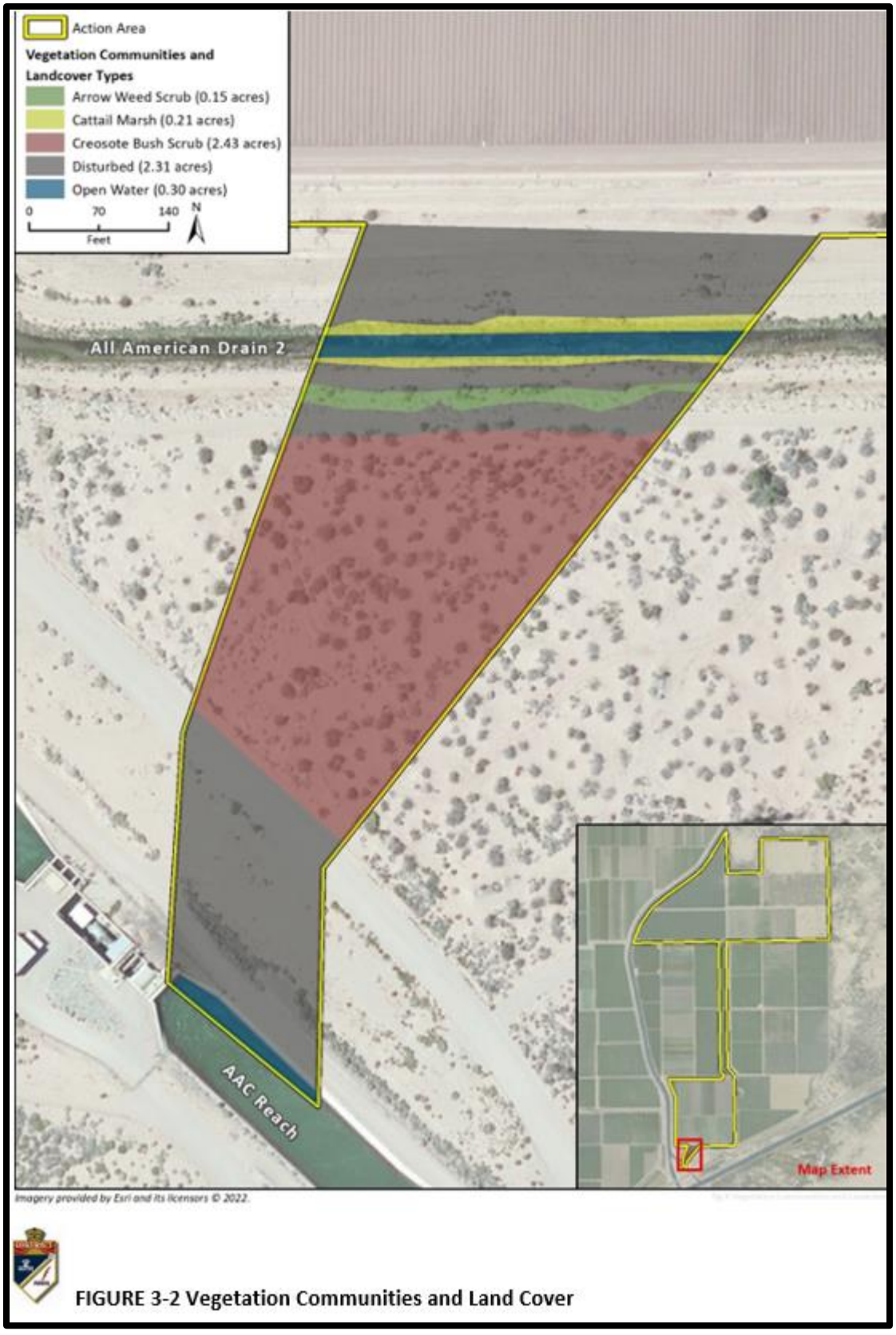

FIGURE 3-2 Vegetation Communities and Land Cover

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3.4.3 Minimization and Mitigation Measures

The following avoidance and minimization measures shall be implemented during Proposed Action construction, operation and maintenance activities.

- Project construction limits and activities will be restricted to highly disturbed areas in order to avoid and minimize impacts to native vegetation and wildlife to the extent practical.
- Staging areas and improvements to access roads would be limited to previously disturbed areas and located away from the BLM's ACEC.
- All construction equipment will be cleaned and free of plant parts before moving into construction sites.
- There will be no impacts to waters of the U.S., the United States Army Corps of Engineers (USACE) issued a determination on November 2019 that the Proposed Action would not require a CWA permit from USACE.
- Trash and food materials will be properly contained within vehicles or closed refuse bins while on site and will be regularly removed from the construction site for proper disposal.
- Worker Environmental Awareness Program training will be provided to construction personnel prior to commencing activities on resource protection measures.
- Additionally, while it is not expected that a federally or state-listed plant would be observed during these surveys, the biologist/botanist shall consult with the applicable agency (i.e., CDFW and/or USFWS) and obtain written concurrence for measures required for federally or state-listed plant species, if observed.
- Night-time activities should be minimized to the extent possible. If night-time activity (e.g., equipment maintenance) is necessary, then the speed limit shall be 10 mph
- Project proponent will comply with State of California permitting requirements (Section 1602 Streambed Alteration Agreement).
- No less than 14 days prior to ground-disturbing activities (vegetation clearance and/or 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; CDFW 2012). 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 Biological Resources Report (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 CDFW Staff Report on Burrowing Owl Mitigation (CDFW 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.

By avoiding direct impacts to wetland, riparian, and riverine habitats, and limiting construction impacts to previously disturbed areas, there will be no effects to federally listed species.

3.5 Archaeological, Cultural, and Tribal Cultural Resources

3.5.1 Affected Environment

Among the responsibilities of the Federal Government established by NEPA is preservation of ". . . important historic, cultural and natural aspects of our national heritage." (Section 101(b)(4), 42 U.S.C. § 4331). Reclamation's responsibility for protecting cultural resources is primarily based on the National Historic Preservation Act (NHPA); P.L. 89-665, as amended; its implementing regulations (36 CFR Part 800); and Reclamation Policy (LND P01) and Directives and Standards (LND 02-01). Section 106 of NHPA requires Federal agencies to consider the effects of their undertakings on historic properties. These properties are defined as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (National Register).

The steps for complying with Section 106 are defined in 36 CFR Part 800 and are commonly referred to as the Section 106 process. Briefly, steps include identifying the area of potential effect (APE) of an undertaking; identifying historic properties through inventories, as needed; evaluating the significance of cultural resources within the APE; assessing the effect of the proposed undertaking on historic properties; and, if there is an effect, determining whether it is adverse. If adverse effects are identified, Federal agencies must evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate the adverse effects. A finding of adverse effect on a historic property does not necessarily require the preparation of an EIS under NEPA.

IID initially retained Dudek for cultural resource services. Dudek conducted a 2020 cultural resource investigation and inventory, which included a 2017 intensive cultural resource survey of approximately 560 acres, including the reservoir basin location and AAC Intake Channel Alternative (original Study Area/original APE). In 2021, Rincon Consultants, Inc. was contracted to complete revisions to the Supplemental Cultural Resources Assessment and additional cultural resources site visits to the original Intake Channel Route Alternative and to complete pedestrian surveys and assessments for the proposed AAC Reach Intake Channel Route Alternative (East Highline Canal Intake Channel Alternative) and expanded Study Area/proposed Project APE. The total Study Area reviewed by Dudek and Rincon includes approximately 780 acres while the proposed Project APE is limited to the direct proposed Project footprint and APE of approximately 711 acres. See Appendix E Supplemental Cultural Resources Assessment for the East Highline Reservoir and Intake Channel Project.

An examination of existing maps, records, and reports was conducted to determine if the project area contains previously recorded cultural resources. This inventory includes records searches of data obtained from the South Coastal Information Center (SCIC) at San Diego State University. The search encompassed the APE for the undertaking and a one -mile buffer around the APE. Records searches conducted by Dudek (2017) and Rincon (2021) identified 38 previously identified cultural resources within a 0.5-mile to 1-mile radius of the APE.

In addition to a review of previously prepared site records and reports, the records search also reviewed 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. A search of the Native American Heritage Commission (NAHC) Sacred Lands File was also conducted.

Of the 38 previously identified sites, one cultural resource is a multi-component archaeological site (P-13-008653/ CA-IMP-8050) located within of the proposed EHL Reservoir Project APE. Two previously identified built environment resources were identified within the proposed APE during the records search: the All-American Drain 2/2A (P-13-008668) was previously found eligible for listing in the NRHP as a contributor to the AAC historic district and the East Highline Canal (P-13-008333/ CA-IMP-7835H) was recorded but not formally evaluated for historic significance. A Native American Heritage Commission's (NAHC) Sacred Lands File was requested by Dudek encompassing the original APE and a buffer, which resulted in negative findings.

The results of the supplemental field surveys completed of the original project area and the proposed Project APE identified 21 additional cultural resources. This includes 18 new built environment resources: 11 unnamed historic-period irrigation ditches, three roads, and four drains

(Mesa 5 Delivery Ditch, Mesa 6 Drain, and Delivery Ditch 1). None of the newly recorded built environment resources were recommended as eligible for listing in the NRHP.

Two isolated finds, ISO-EHL-1 and ISO-EHL-2 were identified in the proposed EHL Reservoir Project APE. The field survey also concluded that a previously recorded archaeological site (P-13-000316/ CA-IMP-316) is not in the proposed Project APE and is no longer extant.

An evaluation for listing in the NRHP for the East Highline Canal was completed as part of the Supplemental study. A review of the previous documentation and additional archival research concluded that the East Highline Canal is eligible for listing in the NRHP under Criteria A and C for its association with the AAC historic district.

3.5.2 Environmental Consequences

No Action

Under the No Action Alternative, no reservoir would be constructed. No ground-breaking or excavation activities would occur. As such, no effect would occur related to archaeological and cultural resources and the Proposed Action area would not be altered and would remain in its current condition.

Proposed Action

The EHL Reservoir Project proposes minor modifications to the East Highline Canal and the AAC Drain 2/2A that will not affect the historic integrity or significance of the resources and will avoid an adverse effect to these historic properties. Archaeological site P-13-018800 (SITE-EHL-1) is outside the EHL Project APE and will be avoided through Project design.

Multi-component archaeological site P-13-008653/CA-IMP-8050 is within the proposed EHL Reservoir Project APE and is recommended eligible for inclusion on the NRHP; it will be affected by project activities, but the effect will not be adverse. The proposed Project will have no adverse effect on any historic properties under Section 106 of the NHPA.

Reclamation has concluded that the proposed EHL Reservoir Project will have no adverse effect on any historic properties under Section 106 of the NHPA. Consultation with Native American tribes and the California State Historic Preservation Officer (SHPO) was initiated by Reclamation and was finalized in May of 2023. The SHPO has concurred with Reclamation's findings that the proposed EHL Reservoir Project would result in "no adverse effect to historic properties."

3.5.3 Minimization and Mitigation Measures

In accordance with 36 CFR Part 800.5 Reclamation has applied the criteria of adverse effect to historic properties to determine if the Proposed Action would directly or indirectly affect any of the characteristics of historic properties that make them eligible for inclusion in the NRHP. Impacts on cultural resources are considered significant if a resource is physically damaged, altered, or isolated from the context considered significant. To avoid potential impacts to cultural resources:

- Construction activities will be designed to avoid and minimize impacts to cultural resources by limiting project activities to previously disturbed areas.
- Opportunity for monitoring by Native American Tribes will be extended during all ground disturbing activities.
- Preconstruction fencing and a minimum buffer between Action Area and newly identified archaeological site P-13-018800 (SITE-EHL-1) will be implemented.

If during the course of any activities associated with the implementation of the Proposed Action any sites, buildings, structures, or objects not addressed in this assessment are discovered, activities will cease in the vicinity of the resource. Reclamation's Environmental Group Manager and project archaeologist will be notified immediately and appropriate coordination with Tribes will be conducted. Reclamation shall ensure that the stipulations of 36 CFR Part 800.11 are satisfied before activities in the vicinity of the previously unidentified property resume.

3.6 Hazards and Hazardous Materials or Solid Waste

3.6.1 Affected Environment

The Proposed Action site is not included on a list of hazardous materials sites based on the California Department of Toxic Substances Control's (DTSC) data management system, EnviroStor (DTSC 2021). The site has historically and is currently being used for agricultural cultivation, since at least 1996. Besides the historical use of pesticides on the site, no other hazardous materials were observed within the Project site. DTSC's Envirostor website identified no hazardous sites and facilities within a seven-mile radius of the site. The closest school to the Proposed Action site is Emmett S. Finley Middle School, located approximately 7.5 miles to the northwest, and the nearest residence located 150 feet south of the Proposed Action location, to be separated by the existing Verde School Road and an irrigation drain (Mesa Drain No. 7). A second unit would also be located at an approximate 150 feet east of Holdridge Road.

3.6.2 Environmental Consequences

No Action

The No Action Alternative would have no effects related to hazards and hazardous materials or solid waste. The site would continue to be used as agricultural and undeveloped federal land and the potential of hazardous materials would remain the same as the existing conditions.

Proposed Action

During construction, there is the potential for short-term use of hazardous materials and fuels including 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 effects from accidental spills of small amounts of hazardous materials from construction equipment could potentially occur. However, the Proposed Action 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's Occupational Safety and Health Administration (Cal/OSHA) requirements, the Hazardous Waste Control Act, California's Accidental Release Prevention Program (CalARP), and the California Health and Safety Code. Additionally, standard best management practices regarding hazardous materials handling protocols would be prepared and implemented to ensure the safe storage, handling, transport, use, and disposal of all hazardous materials during the construction phase of the Proposed Action. Due to past uses for agriculture, there is also the potential to expose previously used pesticides and herbicides. Therefore, with implementation of minimization and mitigation of hazards, proper use and disposal of these materials would not pose a significant risk to the public and the environment, and impacts resulting from discovery of previously unknown hazards would remain less than significant.

Construction of the Proposed Action would occur in an area favorable to the growth of Valley Fever, a fungus (*Coccidioides immitis*) 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. However, Imperial County is not considered to have a high incidence of Valley Fever (BLM 2011). While the potential exposure of workers to Valley Fever spores could occur during construction, implementation of an enhanced Dust Control Plan and the provisions of ICAPCD Regulation VIII identified to reduce PM_{10} in Section 3.3, would be effective in reducing airborne dust. No impacts associated with exposure to Valley Fever are anticipated during operation and maintenance activities.

Operations would not include the treatment of the water contained in the proposed reservoir. Day to day operations would be unmanned. These activities would not include the routine transport, use, or disposal of hazardous materials. Occasional maintenance activities for inspections and repair would be made via crew trucks using existing roads 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 Proposed Action would be less than significant.

3.6.3 Minimization and Mitigation Measures

Mitigation actions designed to limit the potential impact of hazardous materials or solid waste would be implemented according to State and Federal regulations.

Soil Sampling and Disposal

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 Proposed Action site. Any soils qualifying as hazardous waste shall be 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, IID will retain a qualified Hazardous Materials Specialist for the Project to ensure appropriate remediation is conducted and completed on all affected areas.

Hazardous Materials Contingency Plan

A hazardous materials contingency plan shall be followed during demolition, excavation, and construction activities for the Proposed Action. 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 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

Site workers shall be familiar with the hazardous materials contingency plan and should be fully trained on how to identify suspected contaminated soil.

Spill Prevention Control and Countermeasures Plan

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 U.S. 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.

3.7 Noise

3.7.1 Affected Environment

Noise that currently exists in the area generally comes from vehicle travel along SR-98, an existing Hydroplant at the AAC Reach and current ongoing agricultural operations. The Proposed Action site is located on agricultural land with two occupied residences, one located 150 feet south of the proposed reservoir basin and a second located 150 feet each of Proposed Action boundary, to be separated by the existing Verde School Road and the Mesa Drain No. 7 irrigation drain. The Proposed Action is also adjacent to open desert areas to the east managed by the federal government, which is not populated.

3.7.2 Environmental Consequences

No Action

In the No Action Alternative, current noise levels from the existing agricultural land would continue at the present levels. External noise from SR-98 and East Highline Canal and AAC Reach operations would remain at current levels.

Proposed Action

During construction, the Proposed Action would have the potential to increase noise in the area due to construction equipment and workers in the area. The magnitude of the increases would

depend on the type of construction activity, the noise level generated by various pieces of construction equipment, site geometry (i.e., shielding from intervening terrain or other structures), and the distance between the noise source and the nearest receptor. The maximum noise levels at 150 feet for typical equipment would be up to 74 dBA for the type of equipment normally used for this type of project (Appendix F, Field Noise Measurement Data). 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 allowed. 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 Proposed Action construction would comply with County construction noise ordinance standards (i.e., construction activities would take place only between the hours of 7 a.m. and 7 p.m.). Restricting construction activities to the daytime period will avoid disruption of evening relaxation and overnight sleep periods. Construction of the Proposed Action would not result in adverse noise effects.

Reservoir 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 road infrastructure and the constructed perimeter road around the reservoir. Thus, once operational, the Proposed Action would not generate noise levels in excess of established standards. Furthermore, the Proposed Action would not have any operational staff which would be traveling to and from the Proposed Action site. As such, the Proposed Action would not result in substantial adverse operational noise effects.

3.7.3 Minimization and Mitigation Measures

No mitigation measures are required for noise.

3.8 Indian Trust Assets

3.8.1 Affected Environment

Indian Trust Assets (ITAs) are legal interests in property held in trust by the US for Indian tribes or individuals, or property in which the US is charged by law to protect for Indian tribes or individuals. In accordance with the Indian Trusts Fund Management Reform Act of 1994, as amended, all the Department of the Interior agencies, including Reclamation, are responsible for protecting ITAs from adverse impacts resulting from their programs and activities. In cooperation with tribes, Federal agencies must inventory and evaluate assets, and mitigate or compensate for adverse impacts to the asset. While most ITAs are located on reservation lands, they may also be

located off-reservation. Examples of ITAs include, but are not limited to, land, minerals, rights to hunt, fish, and gather, and water rights.

The water authority for the project area is IID. Water from the Lower Colorado River is the sole source of water supply for the Imperial Valley and has been a major source of supply for the Coachella Valley since 1949 with the completion of the Coachella Canal. Water is currently delivered by IID through the AAC from the Colorado River, and is primarily used for non-potable uses, such as agriculture and non-urban purposes, as well as groundwater recharge. The Colorado River is managed and operated in accordance with the Law of the River, the collection of interstate compacts, federal and state legislation, various agreements and contracts, an international treaty, a U.S. Supreme Court decree, and federal administrative actions that govern the rights to use of Colorado River water within the seven Colorado River Basin states.

The potential for the Proposed Action to affect tribal cultural resources within the Action area is addressed in Section 3.5, Archaeological and Cultural Resources.

3.8.2 Environmental Consequences

No Action

Under the No Action Alternative, construction of the reservoir would not take place. Therefore, no change to Federal actions will occur that could result in an adverse effect to ITAs.

Proposed Action

Reclamation departmental policy requires the agency to address potential impacts to ITAs even if impacts are found to be non-significant. Potential impacts to ITAs as a result of the Proposed Action are analyzed in the following subsections.

Trust Lands

The Proposed Action is not located on ITA lands. There are no tribal residences and/or facilities within the Proposed Action area or within close proximity of the Proposed Action. The Proposed Action would not interfere with any Trust Lands and would not prevent the use or management of any tribal or Trust Lands.

Water Rights

The nearest tribal land, Fort Yuma Indian Reservation, is served by Bard Water District. Bard Water District is located within the Reservation Division of the Yuma Project, a Federal Reclamation Project, located in California on the lower Colorado River. The Proposed Action

would not result in a change to any tribal water right, or to the diversion or delivery of tribal water entitlements.

Hunting, Fishing, and Gathering Rights

Water is currently delivered by IID through the AAC from the Colorado River Basin, and is primarily used for non-potable uses, such as agriculture. Hunting, fishing, and gathering generally do not occur in the eastern section of the AAC that is within the Fort Yuma Indian Reservation right-of-way boundary. The Proposed Action would not interfere with any hunting, fishing, or gathering rights that could be exercised by any tribe.

Overall, no effect would occur as a result of the Proposed Action.

3.8.3 Minimization and Mitigation Measures

No minimization or mitigation measures are proposed.

3.9 Hydrology and Water Quality

3.9.1 Affected Environment

The Proposed Action is located in a desert climate with no present or seasonal streams or rivers on or near the Proposed Action site. Imperial County only receives approximately 3 inches of rainfall annually (U.S. Climate Data 2018). As such, any surface runoff on the Proposed Action site would drain to shallow depths and evaporate.

According to the Imperial County'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 highly saline. The few wells in the Imperial County (East and West Mesa) are for domestic use only (County of Imperial 1993a). Groundwater in the Imperial Valley is of poor quality and is generally unsuitable for domestic or irrigation purposes (IID 2019).

The Proposed Action 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 these areas are more than 45 miles away from the Proposed Action site (County of Imperial 1993b; DWR 2016). The Proposed Action site is approximately 108 miles inland from the Pacific Ocean, 35 miles from the Salton Sea and would not be subject to inundation by tsunami.

3.9.2 Environmental Consequences

The Proposed Action would redirect a portion of Colorado River water supplies through the proposed AAC Reach intake channel and temporarily store it in the proposed reservoir prior to channeling it into the East Highline Canal for distribution downstream. However, the existing AAC Reach infrastructure is man-made and would not be considered a natural drainage of the area. The proposed reservoir and intake route would be lined, therefore water flowing through the intake channel and reservoir would not seep into the underlying soils. Any precipitation to occur on the site would be managed onsite. As such, the Proposed Action would not create or contribute runoff water which may result in flooding, erosion, or inundation on or off site.

Operations of the proposed reservoir and intake channel would be unmanned, and would not require direct drawing of groundwater from the underlying aquifer. Therefore, the Proposed Action would not interfere with groundwater resources or local groundwater recharge.

Impervious surfaces over which runoff may occur would be minimal, consisting of access roads and accessory facilities. The Proposed Action is required to comply with the National Pollutant Discharge Elimination System (NPDES) SWRCB Construction General Permit Order No. 2009-0009-DWQ for storm water discharges and general construction activities, including preparation of a Storm Water Pollution Prevention Plan (SWPPP) that specifies BMPs that would be implemented during construction to minimize impacts to water quality. Any amount of water used for construction would be surface water delivered through IID's conveyance system. The Proposed Action would convey and manage surface water only. A Spill Prevention Control and Countermeasure Plan (SPCCP) shall be prepared during construction, if applicable, for the unlikely event of spills from construction activities.

Although existing water flows would be altered, they would be altered using a proposed channel that would not result in substantial erosion or siltation on or off site. No wells or direct connections to the underlying aquifers are proposed for Proposed Action construction or operations, and any dust control actions would utilize water imported via water trucks. The intake connection to the AAC Reach would be achieved in the same manner as the outflow connection to the East Highline Canal. The Proposed Action will allow IID to access the same amount of water as it is entitled to and would not affect the availability of water long-term in the AAC or the quality of water in the AAC during construction. The proposed reservoir will maximize the management of fluctuating downstream water demands from agricultural water users. Therefore, hydrology and water quality would not be adversely affected or altered as a result of the Proposed Action.

3.9.3 Minimization and Mitigation Measures

No mitigation measures are required for the Proposed Action. However, appropriate Best Management Practices (BMPs) shall be implemented during construction in order to protect water resources in the Proposed Action area. No refueling equipment shall be permitted within the canal and drain areas, and staging areas will be located outside the canal and drain areas. Should an accident or spills occur, project proponent will implement an SPCCP to contain and/or remove contamination to groundwater.

3.10 Lands and Realty Use

3.10.1 Affected Environment

The Proposed Action site is largely located on land under the jurisdiction of Imperial County (as the land use authority) as well as within IID's and Reclamation's ROW and/or jurisdiction. The County of Imperial's General Plan, adopted in 1993 and revised and updated in 2015, designate the land use for the Proposed Action location as Agriculture. Imperial County's Zoning Map has designated the Proposed Action 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. 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 1,668 miles of canals, and contains similar accessory reservoir structures throughout which are designed to enable increased operational flexibility. IID delivers 97 percent of its water to agricultural operations.

3.10.2 Environmental Consequences

The Proposed Action would not conflict with the A-2 and A-3 zoning, established in the Imperial County Zoning Ordinance, considering the Proposed Action would include similar uses to those allowed, such as aquaculture fish farms, flood control facilities, water storage, water systems, and sewage treatment facilities. Specifically, the Proposed Action includes water storage and water systems to manage the water for agricultural use. The Proposed Action is also 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 . . ." Furthermore, the Proposed Action would not conflict with the goals and policies of BLM's Desert Renewable Energy Conservation Plan. No substantial adverse effects would occur related to land use.

3.10.3 Minimization and Mitigation Measures

No mitigation measures are required for land use.

3.11 Geology and Soils

3.11.1 Affected Environment

The Alquist-Priolo Earthquake Fault Zoning Act requires the California Geological Survey to establish earthquake fault zones around the surface traces of active faults and to issue appropriate maps. There are no active faults within the Bonds Corner Quadrangle within Imperial County which encompasses the Proposed Action area. Consequently, the risk of surface rupture is low. 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. According to United States Department of Agriculture's (USDA) Web Soil Survey, the Proposed Action 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. These soils are predominantly considered moderately well drained.

3.11.2 Environmental Consequences

Because the Proposed Action is anticipated to result in a disturbance of more than one acre of land, compliance with the NPDES General Construction Permit would be necessary, as well as preparation of a water management plan that would minimize or eliminate the potential soil erosion that could result from construction. Construction activities for the Proposed Action would not be at risk of causing landslides or seismic hazards.

Prior to construction, a geotechnical report will be prepared to assess the Proposed Action's susceptibility to landslides, lateral spreading, subsidence, liquefaction, or collapse. Geotechnical recommendations would be implemented as a part of the Proposed Action design and construction plans to protect the Proposed Action from landslides, lateral spreading, subsidence, liquefaction, and collapse. Therefore, by preparing a geotechnical report and complying with the Uniform Building Code and other applicable geologic regulations, no substantial adverse effects would occur related to geology and soils.

No groundbreaking activities would occur during operations of the Proposed Action. Operations of the Proposed Action would include an un-manned operational reservoir and intake channel. The project site is not in an area with mapped active earthquake faults. Therefore, no impact would occur to geology and soils during operation.

3.11.3 Minimization and Mitigation Measures

No mitigation measures are required for geology and soils.

3.12 Visual Resources

3.12.1 Affected Environment

The surrounding areas of the Proposed Action consist of generally flat agricultural land, in a rural, sparsely populated area of Imperial County. The Proposed Action site is bound to the west by the EHL Canal, further west are agricultural fields. East of the site is open, desert landscape owned by BLM, characterized by desert shrubbery and patches of ground cover. To the north and south, the Proposed Action site is bound by scattered agricultural fields and open desert landscape, and a few scattered single-family dwellings to the south. The Proposed Action site has no visual resources such as trees, rock outcroppings, or historic buildings. The Proposed Action site is not within a designated scenic vista, and there are no officially designated state scenic highways that exist within the Proposed Action vicinity. The nearest residential structure is located approximately 150 feet south of the proposed reservoir, to be separated by the existing Verde School Road and an irrigation drain. A second unit would also be located at an approximate 150 feet east of Holdridge Road.

The County of Imperial General Plan Conservation and Open Space Element identifies the visual quality of the BLM land adjacent to the east of the Proposed Action to be "Moderate" or "High Value" (County of Imperial 2016). As discussed in the Imperial County General Plan, many of the natural scenic resources are located on land under BLM jurisdiction. The Proposed Action will not impede or hinder access to the BLM lands located to the east.

3.12.2 Environmental Consequences

The proposed reservoir and intake channel Project is not anticipated to damage or compromise any outstanding aesthetic features. With the EHL Canal directly to the west, the AAC south of the Proposed Action site, and numerous open irrigation ditches and drains, the proposed reservoir and intake channel would not be unordinary in the Proposed Action vicinity. Because of the flat and rural character of the area, which includes existing water infrastructure features, the Proposed Action would not obstruct scenic vistas or degrade the existing visual quality or visual character of the site and surroundings. In addition, the Proposed Action would not damage or degrade any scenic resources designated by the local jurisdiction.

With the nearest residential structure located 150 feet south of the proposed reservoir, the views from this residence would experience minor changes in views north of Verde School Road and beyond the existing drain where the 6-10 foot high embankment would be erected. A second unit would also be

located at an approximate 150 feet east of Holdridge Road and be subject to the same height embankments for the intake channel.

The proposed embankments of the reservoir and intake channel would shield any glare from the Proposed Action. Operational and construction lighting would be used for safety and security purposes. All lighting would be directed downward or at a narrow beam angle, in order to focus all light only on the desired area. Although the Proposed Action may create a new source of glare from the large body of water, it would not affect day or nighttime views, because of the absence of elevated vantage points. As such, impacts would be less than significant.

3.12.3 Minimization and Mitigation Measures

No minimization or mitigation measures are required for visual resources.

3.13 Environmental Justice and Socioeconomic Considerations

3.13.1 Affected Environment

Executive Order 12898, established in 1994, directed federal agencies to (1) identify and address disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations, (2) develop a strategy for implementing environmental justice, and (3) promote nondiscrimination in federal programs that affect human health and the environment, as well as provide minority and low-income communities access to public information and public participation (Clinton 1994). Minority populations are further defined by the guidance document prepared by the CEQ titled *Environmental Justice: Guidance Under the National Environmental Policy Act* (CEQ 1997). In that document, the CEQ defined "minority persons" as "individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black (not of Hispanic origin); or Hispanic" (CEQ 1997). Hispanic or Latino refers to an ethnicity whereas American Indian, Alaskan Native, Asian, Pacific Islander, and Black/African American (as well as White or European American) refers to racial categories. For purposes of the United States Census Bureau (Census), individuals classify themselves into racial categories as well as ethnic categories, where ethnic categories include Hispanic/Latino and non-Hispanic/Latino. "Low-**income**" populations are defined by the *U.S. Federal Poverty Guidelines Used to Determine Financial Eligibility for Certain Federal Programs* (Poverty Guidelines), issued each year by the Department of Health and Human Services (Office of the Assistant Secretary for Planning and Evaluation [ASPE] 2022).

Consistent with guidance from CEQ, "minority" refers to people who are Hispanic/Latino of any race,[1] as well as those who are non-Hispanic/Latino of a race other than White or European American. Data on race/ethnicity and income is derived from the American Community Survey (ACS) Five-Year estimates at the Census Tract level for 2020 (Census 2022a, 2022b). Using the ACS Five-Year estimate allows for an increased statistical reliability of the data for less populated areas and small population subgroups, which is applicable to the Action Area (Census 2022c). To measure poverty levels, household income derived from the Census was cross referenced to the 2021 Poverty Guidelines. The 2021 Poverty Guidelines only reflect price changes through calendar year 2020; accordingly, they are approximately equal to the Census poverty thresholds for calendar year 2020 (ASPE 2021). The 2021 Poverty Guidelines separates thresholds by persons in family/household (ASPE 2021). According to the California Department of Finance (DOF) E-5 Population and Housing Estimates for Cities, Counties and the State tables, the average persons-per-household in 2020 for Imperial County was 3.30 (DOF 2022). As such, the poverty threshold chosen for this analysis in Imperial County is $26,500, consistent with a four-person household (ASPE 2021). Although a larger value than 3.30, a four-person household was selected for analysis as it conservatively includes households that are larger than three people. Table 3-3 shows the race and ethnic composition of the State of California, Imperial County, and Census Tract 124 which encompasses the Action Area and had a total population of 468 people.

Table 3-3 Racial and Ethnic Composition of the Action Area

Location	White	Black	American Indian and Alaskan Native	Asian	Native Hawaiian and Other Pacific Islander	Two or More Races	Other	Hispanic or Latino
California	36.5%	5.4%	0.3%	14.6%	0.3%	3.4%	0.3%	39.1%
Imperial County	10.2%	2.4%	0.6%	1.3%	0.1%	0.7%	0.1%	84.7%
Census Tract 124	88.5%	0.0%	0.0%	2.8%	0.0%	0.0%	0.0%	8.8%

Note: "Hispanic or Latino" is defined as an ethnicity while other categories are defined as races.
Table Source: Census 2022a

Table 3-4 shows income and poverty levels of the State of California, Imperial County, and Census Tract 124.

[1] "Race" used within this EA refers to the layperson's understanding of the word, rather than the scientific definition.

Table 3-4 Income and Poverty Rate of the Action Area

Location	Household Income Less than $10,000	Household Income Between $10,000 to $14,999	Household Income Between $15,000 to $24,999	Household Income Making $25,000 or More	Households Below Poverty Threshold
California	4.7%	3.9%	6.9%	84.5%	15.5%
Imperial County	7.5%	8.6%	14.0%	69.9%	30.1%
Census Tract 124	11.4%	9.8%	26.0%	52.8%	47.2%

Table Source: ASPE 2021, Census 2022b, DOF 2022

According to the ACS Five-Year estimates, approximately 5.2 percent of Imperial County population identifies as a racial minority and an additional 84.7 percent of Imperial County identifies as an ethnic minority, for a total approximate 89.9 percent of persons living in Imperial County identifying as minority (Census 2022a). Approximately 30.1 percent of the residents of Imperial County have incomes below poverty levels (ASPE 2021, Census 2022b, DOF 2022).

The Action Area is vacant and contains no residences or inhabitants. Census Tract 124 is rural and does not contain any cities. The nearest city, Calexico (approximately 17.5 miles west and outside of Census Tract 124), has a greater percentage minority population (99 percent minority) and lesser percentage low-income population (32.0 percent) than Census Tract 124 (Census 2022d, Census 2022e).

3.13.2 Environmental Consequences

For the purposes of this analysis, an effect related to environmental justice would be significant if the Proposed Action would cause effects to minority or low-income populations that are disproportionately high and adverse, either directly or indirectly. Further, a socioeconomic effect would be significant if the Proposed Action would substantially degrade the socioeconomic character of the Action Area.

Based on the analysis for air quality, noise, water resources, hazardous materials, and visual resources in this EA, changes resulting from implementing the Proposed Action would not result in proportionately high and adverse effects to the environment or to the health of low-income and minority populations. As stated in Section 1.3, Project Purpose and Need, the Proposed Action would assist the state in achieving water efficiency, reliability and conservation goals. The Proposed Action would not disproportionately affect a group of people or socio-economic class.

3.13.3 Minimization and Mitigation Measures

No minimization or mitigation measures are required under environmental justice and socioeconomic considerations.

3.14 Cumulative Effects of the Proposed Action

NEPA requires federal agencies to consider the cumulative effects of proposals under their review. Cumulative effects are defined in the CEQ regulations 40 CFR §1508.7 as "…the impact on the environment that results from the incremental impacts of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency…or person undertakes such other actions." The CEQ states that the "cumulative effects analysis should be conducted on the scale of human communities, landscapes, watersheds, or airsheds" using the concept of "project impact zone" or more simply put, the area that might be affected by the Proposed Action. Several current and planned projects, either located within or in the vicinity of the planning area, that may have the potential to generate a cumulative effect when analyzed in conjunction with the Proposed Action are noted as follows:

- Multiple Solar Project Development in Imperial County [2]
- Ongoing Metropolitan Water District / Coachella Valley Water District State Water Project Water Transfer and Exchange expected to peak to 487,200 AFY by 2026
- Potential voluntary transfer of an additional 250,000 AFY of water over four years for the benefit of Lake Mead, which would reduce IID apportionment by that same amount

The following analysis of the effects from these Projects concluded that effects to resources would not be substantial. Similar to the Proposed Action, the cumulative projects would comply with all relevant federal, state, and local regulations.

3.14.1 Effect by Resource

Air Quality

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 particulates less than 10 microns in diameter (PM_{10}). 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

[2] As of March 2022 (the most recently updated maps), approximately 28 solar projects in Imperial County were either approved or pending entitlement but not yet constructed (Imperial County 2022a, 2022b). Of these, the closest to the Action Area are approximately 15 miles to the east and west.

(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 ICAPCD develops and implements plans for future attainment of ambient air quality standards. 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.

Construction 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. Due to the short duration of most emission sources, Proposed Action emissions would not have a cumulative contribution to an exceedance of an ambient air quality standard.

As discussed in Section 3.3, Air Quality, minimal operational activities would occur after completion of the construction activities. The Proposed Action would not exceed any of the de minimis significance thresholds during operations and therefore would have no substantial adverse effects in that regard.

Biological Resources

Although the Proposed Action has the potential for adverse biological effects due to habitat loss for sensitive and common wildlife species, no special status species or federally protected resources were detected. The Proposed Action, in conjunction with the other actions, is not anticipated to have substantial adverse cumulative effects to biological resources.

In general terms, in instances where a potential impact could occur, CDFW and USFWS have promulgated a regulatory scheme that limits impacts on these species. The effects of the projects would be rendered less than significant through mitigation requiring compliance with all applicable regulations that protect plant, fish, and animal species, as well as waters of the U.S. and state. Other cumulative projects would also be required to avoid impacts on special-status species and/or mitigate to the satisfaction of the CDFW and USFWS for the potential loss of habitat. Therefore, the Proposed Action, in conjunction with other projects listed above, would not result in substantial adverse cumulative effects on fish and wildlife.

As discussed in section 3.4, the Proposed Action would permanently impact approximately 0.21 acres of an aquatic community or wetland. Long-term direct impacts to loss of vegetation communities would be mitigated with restoration and enhancement within nearby disturbed areas. Permanent impacts to jurisdictional waters/wetlands would be minimized as they require a site-specific wetlands

mitigation plan. The cumulative projects listed and considered above, may have temporary and permanent impacts to wetlands and riparian area, however those projects would also require mitigation at the required ratios and would be subject to federal, state, and local regulations.

No cumulative effects are anticipated to wetlands and riparian areas from the Proposed Action because the potential effects identified would be mitigated at regulated ratios subject to agency permitting and all other cumulative projects effects would be subject to similar mitigation requirements. The Proposed Action, in conjunction with other proposed or ongoing projects described above, would not result in cumulatively substantial adverse effects to wetlands and riparian areas.

Archaeological, Cultural, Tribal Cultural Resources

During the implementation phase of the Proposed Action, there is the possibility for post-review discoveries or unanticipated effect to buried archaeological deposits during construction, which could have potentially adverse effects. Reclamation has established "stop work" procedures that shall be implemented should an unanticipated discovery situation arise. Federal and/or State laws developed to preserve and manage cultural resources would apply to activities undertaken at the Proposed Action area. Therefore, the Proposed Action, in conjunction with other projects listed above, would not result in substantial adverse cumulative effects on cultural resources.

Hazardous Materials or Solid Waste

No cumulative effects are anticipated to hazards/hazardous materials/human health and solid waste because the Proposed Action would not cause direct or indirect effects to this environmental category. During construction, there is the potential for short-term use of hazardous materials and fuels including diesel fuel, gasoline, and other oils and lubricants. These hazardous materials would be transported and disposed of in compliance with all current local, state, and federal regulations. Other projects described in this section may have hazards/hazardous materials related effects due to construction activities. However, with compliance to existing regulations through minimization measures, these risks would be cumulatively less than significant as these effects are localized and temporary.

Noise

The Proposed Action would have the potential to increase noise in the area due to construction equipment and workers in the area. Construction noise from the Proposed Action and concurrent projects are expected to remain well below noise levels established in the County General Plan. Noise levels dissipate over distance, therefore, considering the nearest concurrent project is located over 3.5 miles away, adverse cumulative noise effects are not anticipated.

Indian Trust Assets

There are no ITAs or other resources of tribal concern in the Project area. As such, the Proposed Action would not interfere with any Trust Lands and would not prevent the use or management of any tribal or Trust Lands, would not result in a change to any tribal water right, and would not interfere with any hunting, fishing, or gathering rights that could be exercised by any tribe. Therefore, the Proposed Action, in combination with other proposed or on-going projects, would not cause adverse cumulative effects on ITAs.

Hydrology and Water Quality

The Proposed Action would have beneficial effects related to ensuring water efficiency from available supplies to the Imperial Valley population in a manner that augments consumptive use within the available volume by at least 15,000 acre-feet annually. The Proposed Action would manage approximately 365,000 acre-feet of water for delivery to IID water customers and support additional on-farm water efficiency conservation programs. As such, the subsequent end drainage of water to the Salton Sea could be modestly reduced from the 15,000 acre-feet of anticipated conservation as a result of the Project.

Another cumulative impact is attributed to the ongoing QSA water transfers and the anticipated short-term transfers in support of Lake Mead which would also result in substantial reduction of drainage flow to the Salton Sea of approximately 250,000 acre-feet annually through 2026. Both of these water transfer projects, however, have mitigation measures being coordinated through California's Natural Resources Agency to reduce any potential impacts to a level less than significant. Any other concurrent projects that could result in cumulative changes to the water volume in the system and/or final drainage amounts into the Salton Sea are also required by the permitting agency to incorporate mitigation measures. The Proposed Action, in conjunction with other proposed or ongoing projects described above, would not result in cumulatively adverse effects to water resources that would otherwise not be mitigated.

Projects over 1 acre in size, would be required to obtain coverage under the NPDES Construction General Permit, which requires project proponents to identify and implement stormwater BMPs that effectively control erosion and sedimentation and other construction-related pollutants. IID's stormwater standards manual also requires smaller projects (less than 1 acre) to implement a minimum set of water quality BMPs. The various NPDES permits required are aimed at maintaining the beneficial uses of the water bodies in the RWQCB Basin Plan and meeting water quality objectives associated with specific pollutants of concern. Because adverse water quality and major hydrologic alterations are linked to the large-scale, cumulative effects of development projects, as well as industrial and/or agricultural land uses, the provisions within the various NPDES permits, by their nature, seek to address cumulative conditions.

Land Use

Applicable regional land use plans identified cumulatively significant and unavoidable land use impacts related to incremental adverse physical changes to the environment. While such effects have been attributed to renewable energy (solar) projects, the Proposed Action would not involve a use or physical change inconsistent with the rural and farming uses of the area. The Proposed Action would not conflict with the A-2 and A-3 zoning, established in the Imperial County Zoning Ordinance, considering the Proposed Action would include similar uses to those allowed. As such the Proposed Action would not contribute to cumulative impacts related to the compatibility of the Proposed Action with applicable land use plans.

Geology and Soils

Potential cumulative impacts on geology and soils would result from projects that combine to create geologic hazards, including unstable geologic conditions, or substantially contribute to erosion. The majority of impacts from geologic hazards, such as rupture of a fault line, liquefaction, landslides, expansive soils, and unstable soils, are site-specific and must be mitigated on a project-by-project basis. The Proposed Action and all future projects in the region would be required to adhere to proper building engineering design per most recent Uniform Building Code to ensure the safety of building occupants and avoid a cumulative geologic hazard. Additionally, projects would incorporate individual mitigation for site-specific geologic hazards present on each individual cumulative project site. Therefore, cumulative impacts related to site-specific geologic hazards would not occur.

Visual Resources

As discussed in Section 3.12, Visual Resources, the Proposed Action would not result in a substantial change to natural topography, the blockage of public views, or degrade the existing visual character or quality of the site and its surroundings. The Proposed Action would not damage or degrade any scenic resources designated by the local jurisdiction. Other cumulative projects are subject to design review prior to discretionary approvals or permit issuance, which reduces the opportunity for significant cumulative visual effects and visual character impacts. However, impacts may result from renewable energy projects. The Proposed Action would not contribute to cumulative visual effects at any significant level.

Environmental Justice and Socioeconomics

As discussed in Section 3.13, Environmental Justice and Socioeconomics, implementation of the Proposed Action would not disproportionately affect a minority or impoverished population in the Action Area. The Proposed Action would not result in proportionately high and adverse effects to the environment or to the health of low-income and minority populations. As such, no

disproportionate environmental effects would result from the Proposed Action and contribution to environmental justice or socioeconomic effects would not be cumulatively considerable.

Chapter 4. Consultation, Coordination, and List of Preparers

4.1 Agencies Consulted

4.1.1 Scoping

The NEPA scoping process is an opportunity to introduce and explain a project's interdisciplinary approach, and to solicit information as to additional stakeholders that should be included in the process (43 CFR § 46.235). Scoping also provides an opportunity to address time limits, request expedited reviews where possible, integrate other environmental reviews, and identify major obstacles that could delay the environmental process. Scoping is not required for an EA but is encouraged to assist in the preparation of the environmental document.

Reclamation sent a letter to the entities listed below to solicit scoping comments, interest, and issues of concern on December 3rd, 2019. The Fort Yuma Quechan Indian Tribe's Cultural Committee (Committee) responded in an email requesting a meeting regarding the scoping request on December 13th. Reclamation met with the Committee by conference call and discussed the project on January 10th, 2020. The Committee requested a field trip at the proposed project location to further discuss the proposed project, which took place on February 28th, 2020 and subsequently participated during survey activities associated with the relocation to the proposed intake channel route. Reclamation continued to consult with the Committee regarding the proposed EHL Reservoir Project. No other scoping comments or letters were received that are applicable to the proposed EHL Reservoir Project. Although Caltrans submitted scoping comments they were only applicable under the alternative intake channel option which was eliminated. A copy of the scoping letter sent by Reclamation soliciting comments is available upon request.

- USFWS, Palm Springs office
- BLM, El Centro Field Office
- CDFW
- California Department of Transportation, District 11
- IID
- California Regional Water Quality Control Board
- Fort Yuma Quechan Indian Tribe
- Imperial County Planning and Development Services Department
- USACE, Carlsbad office

4.1.2 Draft Environmental Assessment

An electronic copy of this EA has been posted for public viewing on Reclamation's Yuma Area Office web site at http://www.usbr.gov/lc/yuma/. Electronic copies of the Notice of Availability memorandum and EA also were distributed to the following entities:

- USFWS, Palm Springs office
- BLM, El Centro Field Office
- CDFW
- California Department of Transportation, District 11
- IID
- California Regional Water Quality Control Board
- Fort Yuma Quechan Indian Tribe
- Imperial County Planning and Development Services Department
- USACE, Carlsbad office

Consultations with the California State Historic Preservation Officer and tribal representatives under Section 106 of the NHPA (36 Part 800) for undertakings involving Federal facilities have concluded as presented under section 3.5.

4.1.3 Final Environmental Assessment

Reclamation will consider and incorporate relevant comments from the Draft EA and publish a Final EA and FONSI if a determination is made that an EIS is not required and a FONSI is appropriate. Reclamation will make the final documents available on the Yuma Area Office's Environmental Documents web site.

4.2 List of Preparers

Reclamation

Julian DeSantiago, Environmental Planning & Compliance Group Manager
Nicholas Heatwole, Environmental Protection Specialist
Andrea Kayser, Archaeologist

IID

Justina Gamboa-Arce, Senior Water Resources Planner
Jessica Humes, Senior Environmental Project Manager
Brooke Goodsell, Environmental Specialist I

Victoria Quinn, Environmental Specialist I
Vince Brooke, Superintendent of Efficiency Conservation Program

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