DRAFT
INITIAL STUDY
FOR HABITAT ENHANCEMENT AND CREATION:
GEOTUBE TECHNOLOGY AND SOLAR PV ON THE SALTON SEA PLAYA AT TORRES MARTINEZ WETLANDS

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EXECUTIVE SUMMARY

The Salton Sea Authority (SSA) has partnered with the Torres Martinez Tribe of Desert Cahuilla Indians (Tribe) to propose the implementation of the Habitat Enhancement and Creation: Geotube Technology and Solar Photovoltaic (PV) on Salton Sea Playa, Torres Martinez Wetlands Project (project). The proposed project is located on the Torres Martinez Desert Cahuilla Indians Reservation (Reservation) east of State Route 86 (SR-86) adjacent to the southern terminus of Lincoln Street in the unincorporated community of Mecca in Riverside County (County), California.

Currently, the shoreline of the Salton Sea is receding at an accelerated rate. The receding sea level reduces the amount of wetlands available for shorebirds and creates more playa soils that are susceptible to wind erosion and aerial deposition. The proposed project would create new, sustainable wetland habitat at the Salton Sea shoreline using new berm technology (geotube) and implement renewable energy pilot projects that will provide sustainable power for the Tribe and dust control for exposed Salton Sea playa.

The proposed project is funded through grant money awarded to the SSA from the California Department of Water Resources (DWR), and by grant money awarded to the Tribe by the Bureau of Indian Affairs (BIA), and US Environmental Protection Agency (USEPA), and through in-kind contributions in the form of infrastructure construction and operations (i.e., labor and materials). The project involves new construction at the Torres Martinez Wetlands site and on the Salton Sea playa.

Construction of the proposed project involves:

- Existing habitat restoration and enhancement via salt cedar (*Tamarix* spp.) removal at the created ponds within the Torres Martinez Wetlands site;
- Development of 10 acres of solar PV and associated access road to provide reliable and sustainable power for water delivery; and
- Creation of 5 acres of open water habitat using geotube technology and above-ground water delivery pipe.

Construction is expected to take approximately three months. The technologies employed by this project will be evaluated for performance and for suitability for future use in the Salton Sea playa environment (e.g. geotube ponds and the feasibility of constructing solar PV). For example, if the geotube performs well and is suitable for use on playa soils, the Tribe may authorize expansion of the geotube pond concept on the Reservation. The potential expansion area would connect to existing infrastructure and may include up to 100 acres of created open water habitat directly adjacent to the geotube pond in the proposed project.

Purpose of the Initial Study

The SSA is serving as the Lead Agency for the proposed project. Section 21067 of the California Environmental Quality Act (CEQA) defines a Lead Agency as the "public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect on the environment." Pursuant to Section 15074 of the CEQA Guidelines, prior to taking any official action to approve this project, the SSA is obligated to consider the Initial Study findings and to either adopt a Negative Declaration (ND), a Mitigated Negative Declaration (MND), or to initiate preparation of an Environmental Impact Report (EIR).

Summary of Findings

The project has the potential to change the existing environmental conditions within the project area. Based on the findings in Section 5 of the Initial Study, the implementation of the proposed project has the potential to significantly impact biological resources. Mitigation measures are recommended in this Initial Study to reduce potentially significant environmental impacts that allows for the preparation and adoption of an MND. Impacts on all other resource areas addressed in the Initial Study were not found to be significant.

The impacts and avoidance, minimization, and mitigation measures outlined in the Mitigated Negative Declaration and Initial Study for this proposed pilot project would be applicable to the potential expansion project. However, project-specific analysis would be conducted for the expansion project in the future to quantify impacts. It is not anticipated that impacts from the potential expansion project would extend beyond the resources identified in this CEQA document.

Summary of Mitigation Measures

The following mitigation measures are incorporated into the Initial Study to reduce potential impacts associated with project implementation to less than significant:

Biological Resources

BIO-1 A qualified biologist will provide project contractors and construction crews with a worker-awareness program before any work within the project area. This program will be used to describe the species, its habits and habitats, its legal status and required protection, and all applicable mitigation measures.

BIO-2 Dredging and construction activities in the Salton Sea will be conducted outside of the spawning season of the desert pupfish (April through October) to reduce effects on desert pupfish spawning.

BIO-3 A pupfish barrier will be installed prior to dredging activities, and will encompass the dredging and geotube areas to exclude pupfish from water intake activities.

BIO-4 The pupfish barrier will be composed of appropriate materials (e.g. fine mesh block net or silt curtain) to confine the flow of any sediment stirred up during dredging.

BIO-5 Once a pupfish barrier is established, a pupfish removal live-trapping program will be instituted to remove any pupfish trapped within the dredging and geotube areas. Trapping will continue until five continuous days of trapping result in no pupfish captures. All captured pupfish will be transferred and released immediately within the adjacent shallow waters of the Salton Sea. Trapping protocols will follow U. S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) requirements.

BIO-6 If the pupfish barrier is dislodged, damaged, or ripped such that desert pupfish passage is possible, then dredging and project construction will cease. The desert pupfish trapping protocol will be reinitiated, and trapping will be conducted every day until no pupfish are captured for five consecutive days.

BIO-7 BMPs will be employed during dredging operations to assure that the vehicles and equipment are fueled at least 100 feet from the Salton Sea shoreline or other occupied water bodies such as the 76th Avenue Channel.

BIO-8 Barriers composed of appropriate materials will be placed around dredging equipment to prevent any accidental spill of materials into the sea.

BIO-9 In the event of an accidental spill, dredging operations will cease until the reason for the spill is determined and the spill is cleaned.

BIO-10 Installation of the temporary 12-inch water pipeline will not involve excavation at its crossing of the 76th Avenue Channel. The pipeline will lie from bank to bank over the current channel and avoid any potential impacts to pupfish.

BIO-11 BMPs will be employed while working near the 76th Avenue Channel to prevent spills, runoff, or sediment from entering the channel.

BIO-12 All construction activities proposed within 500 feet of suitable Yuma Clapper rail habitat will be conducted outside of the breeding season (March 15 through September 1). This includes vegetation clearing and grading for construction of the solar PV access road, pipeline installation, and wetland enhancement activities.

BIO-13 Removal of trees or shrubs will occur outside of the nesting season (January 15 to September 1). If ground-disturbing activities, removal of trees or shrubs, or other construction-related activities begin between February 1 and August 31 (nesting season for passerine or non-passerine land birds) or January 15 and August 31 (nesting season for raptors), a nesting bird survey will be performed by a qualified biologist within 14 days before the removal or disturbance of potential nesting structure, trees, or shrubs. For ground-nesting birds, surveys will be conducted by walking narrow transects through playa.

BIO-14 For those potential nesting trees or shrubs within the project site and within 500 feet of the project boundaries that will not be removed, a nesting bird survey will be performed by a qualified biologist within 14 days before initiation of construction activities that will occur in the vicinity.

BIO-15 All vegetation with active nests will be flagged and an appropriate non-disturbance buffer zone will be established around the nest site. The size of the buffer zone will be determined by the project biologist in consultation with CDFW and will depend on the species involved, site conditions, and type of work to be conducted in the area.

BIO-16 A qualified biologist will monitor active nests to determine when the young have fledged and are feeding on their own. The project biologist and CDFW will be consulted for clearance before construction activities resume in the vicinity.

BIO-17 A qualified biologist will conduct pre-construction surveys for American badger in all construction areas identified as potential dispersal habitat located within the project area two weeks prior to initiation of construction activities. If an American badger or active burrow, indicated by the presence of badger sign (i.e. suitable shape and burrow-size, scat) is found within the construction area during pre-construction surveys, the CDFW will be consulted to obtain permission for animal relocation.

BIO-18 If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent badgers from re-using them during construction.

BIO-19 If the qualified biologist determines that potential dens may be active, the entrances of the dens shall be blocked with soil, sticks, and debris for three to five days to discourage use of these dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over the three to five day period. After the qualified biologist determines that badgers have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

BIO-20 A qualified biologist will conduct preconstruction surveys for active bat roosts within 30 days and within 200 feet of grading or earthmoving activities. If no active roosts are found, then no further action would be warranted.

BIO-21 If active maternity roosts or hibernacula are found in trees that will be removed as part of project construction, the project will avoid the tree occupied by the roost to the extent feasible as determined by the CDFW. If an active maternity roost is located and the project cannot avoid removal of the occupied tree, demolition will commence before maternity colonies form (i.e., before March 1) or after young are flying. Disturbance-free buffer zones as determined by a qualified biologist in coordination with the CDFW will be observed during the maternity roost season (March 1 through August 31).

BIO-22 If a non-breeding bat hibernacula is found in a tree scheduled for removal, the individuals will be safely evicted, under the direction of a qualified biologist (as determined by a Memorandum of Understanding with the CDFW), by opening the roosting area to allow airflow through the cavity. Demolition will then follow at least one night after initial disturbance for airflow. This action should allow bats to leave during darkness, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight. Trees with roosts that need to be removed will first be disturbed at dusk, just before removal that same evening, to allow bats to escape during the darker hours.

BIO-23 Enhancement activities within the created wetlands will occur when the soil is dry, and the topography will be re-established.

BIO-24 There is a potential for selenium sequestered in sea sediments to be released into the water column temporarily in the vicinity of the geotube pond as a result of dredging. A silt curtain will be installed to completely surround the geotube pond dredge area to restrict the dispersal of any sediment released into the water column during the dredging of the channel and deposition of dredged materials on the adjacent shoreline.

BIO-25 Dredging activities and construction that impact water bodies with the potential to support desert pupfish will be conducted outside of the spawning season of the desert pupfish (April through October) to reduce effects on desert pupfish spawning.

BIO-26 Installation of the 12-inch above-ground water pipe to the geotube will not involve excavation, but will be laid on the surface of the ground. Pipe construction may require removal of a small amount of surface vegetation in vegetated areas including the wetland north of the 74th Avenue Channel. Temporary access by pipeline construction equipment (likely one backhoe and an all terrain vehicle) would be “drive and crush” only.

BIO-27 Temporary construction mats would be used in wetland and playa areas with unstable ground surfaces. Equipment used in playa areas may include an excavator or backhoe and/or small bulldozer.

BIO-28 The pipeline crossing the 76th Avenue Channel will lie from bank to bank over the current outlet to the Salton Sea. This method would not require excavation in the channel as the pipeline would be placed above the water level.

In addition to the above mitigation measures, design considerations will be implemented as part of the proposed project to comply with specific environmental laws and regulations. While the following are not technically mitigation measures, their implementation must be assured to avoid potentially significant environmental effects:

Air Quality

AQ-1 To minimize emissions during construction, the contractor will be required to maintain construction equipment in proper operating condition and minimize idling time.

AQ-2 A Dust Control Plan will be prepared by the contractor and implemented during construction activities in accordance to South Coast Air Quality Management District (SCAQMD) Rule 403 Fugitive Dust Control Requirement.

AQ-3 Although all emission generated during construction is expected to be temporary, the following Best Management Practices (BMPs) for dust control will be implemented during construction to minimize the amount of fugitive dust generated from the project, to the extent feasible:

- Multiple applications of water during grading between dozer/scraper passes.
- Use of sweepers or water trucks to remove “track-out” at any point of public street access.
- Termination of grading if winds exceed 25 miles per hour (mph).
- Stabilization of dirt piles by chemical binders, tarps, fencing or other erosion control.
- Hydroseeding or the application of bonded fiber matrix on graded areas if needed prior to construction.
- Cover trucks hauling soil, sand and other loose materials or require trucks to maintain at least two feet of freeboard.
- Construction vehicles shall be inspected and washed as necessary to be cleaned free of dirt prior to entering public roadways.
- A public readable sign should be placed in a conspicuous location with the telephone number of the Resident Engineer to contact regarding dust complaints.

Cultural Resources

CR-1 A cultural monitor will be required to monitor all grading activities in previously undisturbed soils. In the event that previously unidentified potentially significant cultural resources are discovered, the monitor has the authority to halt the ground disturbance operations in the area of discovery until a qualified archaeologist can investigate the discovery and, if necessary, work with the Tribe to prepare a mitigation plan.

CR-2 In the event that human remains are encountered, the monitor has the authority to halt the ground disturbance operations in the area of discovery and shall contact a qualified archaeologist. The archaeologist shall contact the County Coroner at the time of discovery. No further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Public Resources Code Section 5097.98

The SSA has determined that the project would not have significant adverse impacts on the environment after implementation of the recommended design considerations and mitigation measures above, and no additional environmental analysis is warranted. The SSA will consider adoption of a MND for the proposed project, with incorporation of the recommended mitigation measures.

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ACRONYMS AND ABBREVIATIONS

AG	agriculture
BIA	Bureau of Indian Affairs
BMP	Best Management Practice
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CHRIS	California Historical Resources Information System
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CVSC	Coachella Valley Stormwater Channel
DWR	California Department of Water Resources
EIR	Environmental Impact Report
ESA	Endangered Species Act
FAP	Financial Assistance Program
GHG	greenhouse gas
IND	Tribal Lands
lbs/day	pounds per day
LOS	Level of Service
MND	Mitigated Negative Declaration
mph	miles per hour
msl	mean sea level
NAHC	Native American Heritage Commission
NWP	Nationwide Permit
O3	Ozone
OS-W	Open Space – Water
PIA	project impact area
PM10	Course Particulate Matter

ACRONYMS AND ABBREVIATIONS (Cont.)

ppt	part per thousand
PV	photovoltaic
Reservation	Torres Martinez Desert Cahuilla Indians Reservation
Sa	Salton fine sandy loam
Sb	Salton silty clay loam
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCH	Species Conservation Habitat
SSA	Salton Sea Authority
SSAB	Salton Sea Air Basin
TAR	Tribal Authority Rule
TIP	Tribal Implementation Plan
Tribe	Torres Martinez Tribe of Desert Cahuilla Indians
USBOR	United States Bureau of Reclamation
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
W-1	Watercourse, Watershed & Conservation Area
WUS	water of the United States

1.0 INTRODUCTION AND SUMMARY

1.1 Purpose and Scope

This Initial Study has been prepared for the Salton Sea Authority (SSA) and Torres Martinez Tribe of Desert Cahuilla Indians (Tribe) to evaluate the environmental effects associated with the implementation of the Habitat Enhancement and Creation: Geotube Technology and Solar Photovoltaic (PV) on Salton Sea Playa, Torres Martinez Wetlands Project (project). The SSA has partnered with the Tribe to implement a pilot study that involves habitat creation and solar installations on exposed playa on the north shore of the Salton Sea. The proposed project will be implemented through grant funding from the Salton Sea Financial Assistance Program (FAP) administered by the California Department of Water Resources (DWR), as well as funding from the Bureau of Indian Affairs (BIA), and U.S Environmental Protection Agency (USEPA), and in-kind contributions in the form of infrastructure construction and operations.

This Initial Study has been prepared in accordance with the provisions of Appendix G of the California Environmental Quality Act (CEQA) Guidelines, as amended. The purpose of this analysis is to provide the SSA, acting as the Lead Agency, with information to use as the basis for making an environmental determination regarding the appropriate CEQA documentation for the proposed project. On the basis of the Initial Study evaluation, an Environmental Impact Report (EIR) must be prepared when the Lead Agency determines that it can be fairly argued, based on substantial evidence, in light of the whole record, that a project may have a significant effect on the environment (CEQA Guidelines §21080(d)). Otherwise, a Mitigated Negative Declaration (MND) may be prepared if the Initial Study identifies a potentially significant effect for which the project's proponent, before public release of a proposed Negative Declaration, has made or agrees to make project revisions that clearly mitigate the effects (CEQA Guidelines §21080(c)). For such an MND, specific mitigation measures should be developed and agreed to before project approval.

Data for this Initial Study was obtained from on-site field observations, discussions with the Tribe, SSA, and federal and state regulatory agencies; analyses of adopted plans and policies; review of existing studies; and specialized environmental studies (air quality, biological resources, and cultural resources).

1.2 Environmental Procedures

This Initial Study has been prepared in order to comply with the provisions of Appendix G of the CEQA Guidelines. This document will determine whether there is a need to prepare an EIR for the proposed project.

1.2.1 CEQA Documentation

The purpose of this Initial Study is to analyze the proposed project to determine whether the project may have a significant effect on the environment.

Section 15070(b) of the State CEQA Guidelines authorizes a lead agency to prepare an MND when the Initial Study identifies potentially significant effects on the environment, but:

1. Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and
2. There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

Pursuant to the above State CEQA Guidelines, the environmental impacts associated with the proposed project were evaluated in this Initial Study. Based on the findings in Section 5 of this Initial Study, the implementation of the proposed project has the potential to significantly impact biological resources. Mitigation measures are recommended in this Initial Study to reduce potentially significant environmental impacts that allows for the preparation and adoption of an MND. The SSA will consider adoption of an MND for the proposed project, with incorporation of the recommended mitigation measures.

Impacts on all other resource areas addressed in the Initial Study were not found to be significant. No additional environmental analysis is warranted.

2.0 PROJECT DESCRIPTION

2.1 Location of Project

The proposed project is located on the Torres Martinez Desert Cahuilla Indians Reservation (Reservation) east of State Route 86 (SR-86) adjacent to the southern terminus of Lincoln Street in the unincorporated community of Mecca in Riverside County (County), California (Figure 1). A portion of the project site is located on the Salton Sea playa at the terminus of the 76th Avenue Channel within Township 7 and 8 South, Range 9 East, San Bernardino Base and Meridian, as depicted on the Mecca and Oasis 7.5-minute United States Geological Survey (USGS) topographic quadrangles (Figure 2).

A portion of the proposed project is located at the Torres Martinez Wetlands site, which is an 85-acre water quality wetland pilot project funded by the DWR, U.S Bureau of Reclamation (USBOR), and USEPA and developed by the Tribe in 2005 to improve water quality from the nearby Coachella Valley Stormwater Channel (CVSC) and enhance local wildlife. The site includes seven water treatment cells and four habitat cells for wading shorebirds. Water for the Torres Martinez Wetlands is pumped from the CVSC and is distributed throughout the project with pipes and valves. Construction of the Torres Martinez Wetlands occurred on shoreline and playa sediments, in conditions that ranged from dry to saturated.

Regional access to the proposed project is provided by SR-86 that runs in a north-south direction, west of the project site, and SR-111 that runs in an east-west direction to the north of the project site. Local access to the project site will be provided partly by Lincoln Street, which is an existing two-lane public road that extends along the line between Sections 31 and 32 of Township 7 South, Range 9E to the intersection with 73rd Avenue. Other roadways in the immediate vicinity of the project include 74th and 76th Avenues, which are two lane roads to the west of the project site. Local access will also be provided by 76th Avenue, which is a dirt access road along the south side of the Coachella Valley Water District 76th Avenue Channel. Access to the proposed project site will be provided partially by the existing access roads throughout the Torres Martinez Wetlands.

2.2 Statement of Objectives

Currently, the shoreline of the Salton Sea is receding at an accelerated rate. The receding sea level reduces the amount of wetlands available for shorebirds and creates more playa soils that are susceptible to wind erosion and aerial deposition. The purpose of the project is to test new wetland creation technology and renewable energy projects on exposed soils. The goals of the project are to establish saline shallow-water shorebird habitat and to decrease airborne particulate matter while covering exposed playa soils with renewable energy infrastructure.

The project will create sustainable wetland habitat similar in quality to the Salton Sea by blending water from the Salton Sea and the CVSC. The objectives of the project are to:

1. Create new, sustainable wetland habitat at the Salton Sea shoreline using new technology.
2. Implement renewable energy pilot projects that will provide sustainable power for the Tribe and dust control for Salton Sea playa soils.
3. Expand knowledge about the sustainability of wetland creation sites and renewable energy technology on Salton Sea playa soils.

2.3 Project Characteristics

The proposed project is funded through grant money awarded to the SSA from the DWR, and by grant money awarded to the Tribe by the BIA, and USEPA, as well as in-kind contributions in the form of infrastructure construction and operations (i.e., labor and materials). The proposed project includes the following components, which are depicted in Figure 3:

- Existing habitat restoration and enhancement via salt cedar (*Tamarix* spp.) removal at the created ponds within the Torres Martinez Wetlands site;
- Development of 10 acres of solar PV and associated access road to provide reliable and sustainable power for water delivery; and
- Creation of 5 acres of open water habitat using geotube technology above-ground water delivery pipe.

The project includes maintenance of existing ponds at the Torres Martinez Wetlands site including removal of invasive salt cedar within the beds and banks of the wetland cells and water supply ditches. This wetland enhancement will include salt cedar removal via foliar treatment, cut stump/herbicide treatment using aquatic-approved glyphosate, and targeted clearing and grubbing using a backhoe. Application of herbicide will be conducted per the manufacturer's specifications and selective clearing will avoid all native species to the maximum extent practicable. Ponds will be dry during these treatments and topography will be re-established.

The 10-acre solar PV array will be installed as a pilot project to test the feasibility of renewable energy construction and operation on playa soils. The solar PV installation will also be tested for its ability to reduce fugitive dust. The PV panels will collect solar energy during daylight hours, which can be stored in a battery or used directly. The solar PV array will be connected to a solar meter, to measure and evaluate the energy production of such a development on playa soils in the Salton Sea environment. A dirt access road will be extended from the entrance of the Torres Martinez Wetlands site south along the Torres Martinez property line to provide construction and operational access to the solar PV site. The dirt access road will be constructed by brushing a 12 to 15 foot path to the solar PV site.

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Source: ESRI - 2010

Regional Location
Habitat Enhancement and Creation:
Geotube Technology and Solar PV on the Salton Sea Playa
Torres Martinez Wetlands, Salton Sea Authority

FIGURE

1

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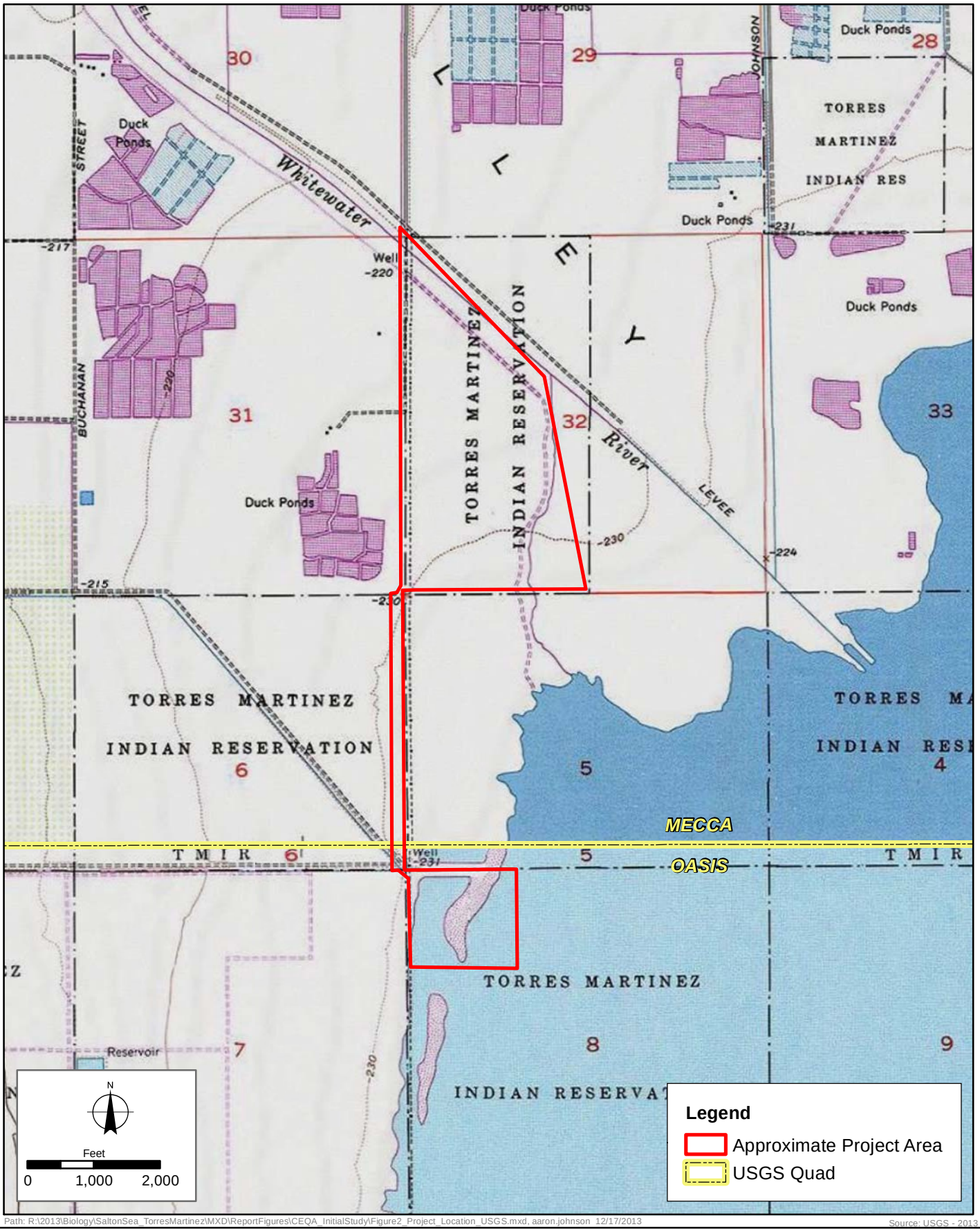

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Source: USGS - 2013

Topographic Map
Habitat Enhancement and Creation:
Geotube Technology and Solar PV on the Salton Sea Playa
Torres Martinez Wetlands, Salton Sea Authority

FIGURE

2

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Project Features
Habitat Enhancement and Creation:
Geotube Technology and Solar PV on the Salton Sea Playa
Torres Martinez Wetlands, Salton Sea Authority

FIGURE
3

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The project involves creation of approximately 5 acres of open water habitat at the current level of the Salton Sea using geotube technology. Geotubes will be installed along the shoreline of the Salton Sea near the outlet of the 76th Avenue Channel to create a ponded area (Figure 3). The geotubes consist of high strength permeable geotextiles that will be filled with sediment dredged from the Salton Sea primarily within the interior of the geotube pond. The dredger and dredging footprint will be contained within the geotube enclosure. Sediment will be dredged by a DINO Six Sediment Removal System that will access the geotube location via Varner Harbor. Playa material adjacent to the Salton Sea will be pushed from the borrow area into a berm at the top edge of the geotube pond to confine water at the upslope end (Figure 3).

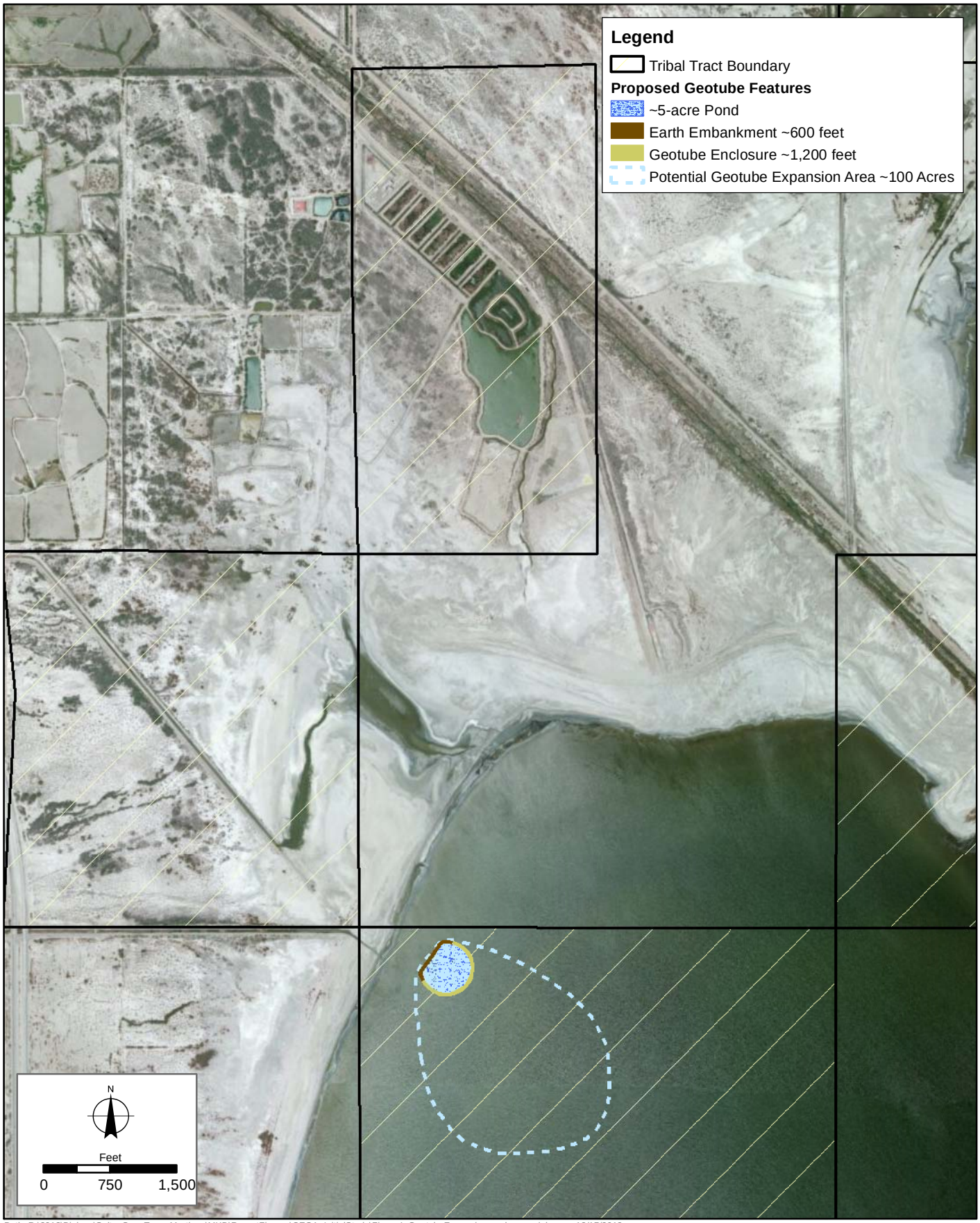
Approximately 9,900 feet of 12-inch water pipeline will be extended from the existing Torres Martinez Wetlands piping structure to deliver freshwater from the CVSC to the geotube location. The 12-inch pipe will be laid on the ground surface to provide a source of water for the life of the project. The proposed access road for the solar PV will be used for pipeline construction access. South of the solar PV footprint pipeline construction will require driving within a 12 foot wide path over vegetation and playa. The freshwater obtained from the CVSC will be blended in the geotube pond with Salton Sea water, entering through a one way valve system in the geotube structure, to create a habitat that has a salinity of approximately 20 parts per thousand (ppt) to meet the following objectives:

- improve open water habitat for fish and wildlife species
- prevent salt cedar from colonizing the wetland habitat
- discourage mosquito populations

As the Salton Sea recedes over time, the ponded area behind the geotube will retain water and persist as open water habitat with potential for expansion.

While piping infrastructure is currently in place to supply water from the CVSC to the created wetlands, a new water pump will be connected to continue pumping water. The new, mobile trailer-mounted pump will be installed at the same location as a previous pump and will be a 2,800 gallon per minute pump with a three-phase electric power unit. Electricity will be provided through a conduit trenched at a depth of 3 feet through the existing berm, transitioning to an above-ground utility box at the inside tow of the berm. The trench will be excavated within the boundary of an existing Coachella Valley Water District encroachment permit.

The technologies employed by this project will be evaluated for performance and for suitability for future use in the Salton Sea playa environment (e.g. geotube ponds and the feasibility of constructing solar PV). For example, if the geotube performs well and is suitable for use on playa soils, the Tribe may authorize expansion of the geotube pond concept on the Reservation. The potential expansion area would connect to existing infrastructure and may include up to 100 acres of created open water habitat directly adjacent to the geotube pond in the proposed project (Figure 4).



Path: R:\2013\Biology\SaltonSea_TorresMartinez\MXD\ReportFigures\CEQA_InitialStudy\Figure4_GeotubeExpansion.mxd, aaron.johnson 12/17/2013

Source: ESRI - 2010

Potential Expansion Area
Habitat Enhancement and Creation:
Geotube Technology and Solar PV on the Salton Sea Playa
Torres Martinez Wetlands, Salton Sea Authority

FIGURE

4

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3.0 ENVIRONMENTAL SETTING

3.1 Existing Conditions

The project area is located within the Coachella Valley on the northwest shore of the Salton Sea. The Salton Sea occupies the lowest portion of a structural basin called the Salton Trough. This enclosed basin is surrounded by the Santa Rosa Mountain range to the northwest, the Orocopia Mountain range to the northeast, the Chocolate Mountain range to the east, and the Peninsular Mountain ranges of Southern and Baja California to the southwest. Due to its location, the Salton Sea is a terminal lake (i.e., body of water that has no outlets to the sea).

According to the SSA, the present water level of the Salton Sea is sustained by agricultural runoff and, to a lesser extent, by municipal effluent and storm water that flows into the sea through rivers and creeks in the Imperial, Coachella, and Mexicali Valleys. Annual sea inflow is approximately 1.03 million acre-feet per year (DWR and CDFW 2011). The only outflow from the Salton Sea is through evaporation since there are no out flowing rivers or streams. The Sea has a high level of salinity of approximately 52 ppt (DWR and CDFW 2011).

The project area is part of the Colorado Desert ecosystem, where annual precipitation rarely exceeds three inches and summer temperatures often exceeding 100 °F (38 °C) (Tompson et al. 2008). Vegetation communities within the vicinity of the proposed project include alkali playa, iodine bush scrub, tamarisk/arrow weed riparian, and created wetlands. Land uses surrounding the project include agricultural uses and vacant and undeveloped lands (i.e., open space). A constructed downstream extension of the Whitewater River, known as the CVSC, flows from the northwest to the southeast into the Salton Sea northeast of the project site. The elevation of the project site ranges between 200 and 232 feet below sea level. The topography of the area is flat consisting of small, scattered sand mounds; ephemeral drainage; wetlands; irrigation channels; man-made ponds; and paved and dirt roads. The Salton Sea and the wetlands along its shoreline are a critical part of the Pacific Flyway (a major migratory avian corridor) providing permanent habitat and seasonal refuge to migratory birds. Soils within the project site consist Salton fine sandy loam (Sa) and Salton silty clay loam (Sb).

3.2 Land Use and Zoning

The project site is located on the Torres Martinez Desert Cahuilla Indians Reservation, outside of the jurisdiction of the County. Most of the surrounding properties to the north, west, and east are currently designated by the County as Tribal Lands (IND), Open Space-Water (OS-W) or Agriculture (AG).

The area surrounding the project is zoned Watercourse, Watershed & Conservation Area (W-1) within the Lower Coachella Valley District zoning area of the County. The project area is not currently located within the County General Plan Policy Overlay Area.

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4.0 ENVIRONMENTAL CHECKLIST

The Salton Sea Authority Initial Study Environmental Checklist Form has been completed and included on the following pages.

Appendix G
Environmental Checklist Form

1. Project Title: Habitat Enhancement & Creation: Geotube Technology and Solar PV on the Salton Sea Play, Torres Martinez Wetlands

2. Lead Agency Name and Address: Salton Sea Authority, 44-199 Monroe Street, Suite C, Indio, CA 92201

3. Contact Person and Phone Number: Roger Shintaku, Executive Director, (760) 863-2695

4. Project Location: The proposed project is located on the Torres Martinez Desert Cahuilla Indians Reservation (Reservation) east of State Route 86 (SR-86) adjacent to the southern terminus of Lincoln Street in the unincorporated community of Mecca in Riverside County (County), California (Figure 1). A portion of the project site is located on the Salton Sea playa at the terminus of the 76th Avenue Channel within Township 7 and 8 South, Range 9 East, San Bernardino Base and Meridian, as depicted on the Mecca and Oasis 7.5-minute United States Geological Survey (USGS) topographic quadrangles.

5. Project Sponsor's Name and Address: Salton Sea Authority, 44-199 Monroe Street, Suite C, Indio, CA 92201

6. General Plan Designation: N/A

7. Zoning: N/A

8. Description of Project:

The SSA has partnered with the Torres Martinez Desert Cahuilla Indians (Tribe) to propose implementation of a habitat enhancement and creation and renewable energy pilot project on Reservation land. The proposed project is partially funded through grant money awarded to the SSA from the DWR, and by grant money awarded to the Tribe by the BIA, USEPA, and through in-kind contributions in the form of infrastructure construction and operations (i.e., labor and materials). The project involves new construction at the Torres Martinez Wetlands site and on the Salton Sea playa.

The proposed project includes the following components:

- Existing habitat restoration and enhancement via salt cedar (*Tamarix* spp.) removal at the created ponds within the Torres Martinez Wetlands site;
- Development of 10 acres of solar PV and associated access road to provide reliable and sustainable power for water delivery; and
- Creation of 5 acres of open water habitat using geotube technology and above-ground water delivery pipe.

The project includes maintenance of existing ponds at the Torres Martinez Wetlands site including removal of invasive salt cedar within the beds and banks of the wetland cells and water supply ditches. This wetland enhancement will include salt cedar removal via foliar treatment, cut stump/herbicide treatment using aquatic-approved glyphosate, and targeted clearing and grubbing using a backhoe. Application of herbicide will be conducted per the manufacturer's specifications and selective clearing will avoid all native species to the maximum extent practicable. Ponds will be dry during these treatments and topography will be re-established.

The 10-acre solar PV array will be installed as a pilot project to test the feasibility of renewable energy construction and operation on playa soils. The solar PV installation will also be tested for its ability to reduce fugitive dust. The PV panels will collect solar energy during daylight hours, which can be stored in a battery or used directly. The solar PV array will be connected to a solar meter, to measure and evaluate the energy production of such a development on playa soils in the Salton Sea environment. A dirt access road will be extended from the entrance of the Torres Martinez Wetlands site south along the Torres Martinez property line to provide construction and operational access to the solar PV site. The dirt access road will be constructed by brushing a 12 to 15 foot path to the solar PV site.

The project involves creation of approximately 5 acres of open water habitat at the current level of the Salton Sea using geotube technology. Geotubes will be installed along the shoreline of the Salton Sea near the outlet of the 76th Avenue Channel to create a ponded area (Figure 3). The geotubes consist of high strength permeable geotextiles that will be filled with sediment dredged from the Salton Sea primarily within the interior of the geotube pond. The dredger and dredging footprint will be contained within the geotube enclosure. Sediment will be dredged by a DINO Six Sediment Removal System that will access the geotube location via Varner Harbor. Playa material adjacent to the Salton Sea will be pushed from the borrow area into a berm at the top edge of the geotube pond to confine water at the upslope end.

Approximately 9,900 feet of 12-inch water pipeline will be extended from the existing Torres Martinez Wetlands piping structure to deliver freshwater from the CVSC to the geotube location. The 12-inch pipe will be laid on the ground surface to provide a source of water for the life of the project. The proposed access road for the solar PV will be used for pipeline construction access. South of the solar PV footprint pipeline construction will require driving within a 12 foot wide path over vegetation and playa. The freshwater obtained from the CVSC will be blended in the geotube pond with Salton Sea water, entering through a one way valve system in the geotube structure, to create a habitat that has a salinity of approximately 20 parts per thousand to meet the following objectives:

- improve open water habitat for fish and wildlife species
- prevent salt cedar from colonizing the wetland habitat
- discourage mosquito populations

As the Salton Sea recedes over time, the ponded area behind the geotube will retain water and persist as open water habitat with potential for expansion.

While piping structure is currently in place to supply water from the CVSC to the created wetlands, a new water pump will be connected to continue pumping water. The new, mobile trailer-mounted pump will be installed at the same location as a previous pump and will be a 2,800 gallon per minute pump with a three-phase electric power unit. Electricity will be provided through a conduit trenched at a depth of 3 feet through the existing berm, transitioning to an above-ground utility box at the inside tow of the berm. The trench will be excavated within the boundary of an existing Coachella Valley Water District encroachment permit.

Construction of the proposed project is expected to take approximately three months. The technologies employed by this project will be evaluated for performance and for suitability for future use in the Salton Sea playa environment (e.g. geotube ponds and the feasibility of constructing solar PV). For example, if the geotube performs well and is suitable for use on playa soils, the Tribe may authorize expansion of the geotube pond concept on the Reservation. The potential expansion area would connect to existing infrastructure and may include up to 100 acres of created open water habitat directly adjacent to the geotube pond in the proposed project.

9. Surrounding Land Uses and Setting:

The project area is part of the Colorado Desert ecosystem, where annual precipitation rarely exceeds three inches and summer temperatures often exceeding 100 °F (38 °C) (Tompson et al. 2008). Vegetation communities within the vicinity of the proposed project include alkali playa, iodine bush scrub, tamarisk/arrow weed riparian, and created wetlands. Land uses surrounding the project include agricultural uses and vacant and undeveloped lands (i.e., open space). A constructed downstream extension of the Whitewater River, known as the CVSC, flows from the northwest to the southeast into the Salton Sea northeast of the project site. The elevation of the project site ranges between 200 and 232 feet below sea level. The topography of the area is flat consisting of small, scattered sand mounds; ephemeral drainage; wetlands; irrigation channels; man-made ponds; and paved and dirt roads. The Salton Sea and the wetlands along its shoreline are a critical part of the Pacific Flyway (a major migratory avian corridor) providing permanent habitat and seasonal refuge to migratory birds. Soils within the project site consist Salton fine sandy loam (Sa) and Salton silty clay loam (Sb).

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

Implementation of the project will involve a variety of federal and state authorizations and approvals, including consultation with federal and state agencies and authorities. Table 4-1 identifies each responsible agency and the potential permit or approval required.

Table 4-1
Potential Permits and Approvals Required

Agency	Permit or Approval
USEPA	Clean Water Act Section 401 Certification will be required for resultant discharge into the Salton Sea
California Department of Fish and Wildlife (CDFW)	Fish and Game Code Section 1602 Notification for dredging impacts on the Salton Sea playa
United States Army Corps of Engineers (USACE)	Clean Water Act Section 404 Permit will be required before discharging dredged or fill material into Waters of the United State
United States Fish and Wildlife Service (USFWS)	Biological Opinion and consultation under Section 7 of the Endangered Species Act for potentially affected or endangered or threatened species

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: The environmental factors checked below would be potentially affected by this project and involve at least one impact that is a "Potentially Significant Impact" or a "Less Than Significant With Mitigation Incorporated," as indicated by the checklist on the following pages.

- ☐ Aesthetics
- ☐ Agriculture & Forestry Resources
- ☐ Air Quality
- ☑ Biological Resources
- ☐ Cultural Resources
- ☐ Geology & Soils
- ☐ Greenhouse Gas Emissions
- ☐ Hazards & Hazardous Materials
- ☐ Hydrology & Water Quality
- ☐ Land Use & Planning
- ☐ Mineral Resources
- ☐ Noise
- ☐ Population & Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation/Traffic
- ☐ Utilities & Service Systems
- ☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)
On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☑ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b0 have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	December 20, 2013 Date
Roger Shintaku Printed Name	Executive Director, SSA Title

INSTRUCTIONS ON EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, Less Than Significant With Mitigation Incorporated, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
   a. Earlier Analysis Used. Identify and state where they are available for review.
   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c. Mitigation Measures. For effects that are "Less Than Significant With Mitigation Incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the question from this checklist that are relevant to a project's environmental effects in whatever format slected.
9. The explanation of each issue should identify:
    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any, to reduce the impact to less than significance.

Issues:

		Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
I.	AESTHETICS. Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☑	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☑
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☑	☐
II.	AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				

		Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), or timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☑
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☑	☐
III.	AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☑	☐

	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☑
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☑
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service?	☐	☑	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☑	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☑	☐	☐

		Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☑	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, other approved local, regional or state habitat conservation plan?	☐	☐	☐	☑
V.	CULTURAL RESOURCES. Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☐	☑	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☑	☐
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☑	☐
d)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☑	☐
VI.	GEOLOGY AND SOILS. Would the project:				
a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				

		Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
i)	Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☑
ii)	Strong seismic ground shaking?	☐	☐	☐	☑
iii)	Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
iv)	Landslides?	☐	☐	☐	☑
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☑
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☑
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑	☐
VII.	GREENHOUSE GAS EMISSIONS. Would the project:				
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐
b)	Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☑	☐
VIII.	HAZARDS AND HAZARDOUS MATERIALS. Would the project:				

		Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☑
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☑
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑

		Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
IX.	HYDROLOGY AND WATER QUALITY. Would the project:				
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☑
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☑
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
f)	Otherwise substantially degrade water quality?	☐	☐	☑	☐

		Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☑
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑
X.	LAND USE AND PLANNING. Would the project:				
a)	Physically divide an established community?	☐	☐	☐	☑
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑
XI.	MINERAL RESOURCES. Would the project:				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑

	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☑
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☑
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
XIII. POPULATION AND HOUSING. Would the project:				

	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
XIV. PUBLIC SERVICES.				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☑
Fire protection?				
Police protection?				
Schools?				
Parks?				
Other public facilities?				
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑

	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☑
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing a measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☑	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☑	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☑

	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
e) Conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities?	☐	☐	☐	☑
XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☑	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☑
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☑	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☑	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☑

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5.0 DISCUSSION OF CHECKLIST AND MITIGATION MEASURES

5.1 Aesthetics

Would the project:

a) Have a substantial adverse effect on a scenic vista?

Less than Significant Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project is located on tribal land containing alkali desert vegetation and will not impact any scenic vistas. The project is consistent with the visual environment in terms of visual quality and character for the following reasons: (1) existing positive visual characteristics of the site will be preserved and enhanced, (2) the project would be visually similar to the man-made ponds and created wetlands immediately adjacent to the project site, and (3) no structures or development are proposed that would degrade the visual quality of the area. Therefore, the project would not have a substantial adverse effect on the scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact: The State Scenic Highway Program has not designated any scenic routes within or adjacent to the project area. Further, no historic buildings or visually significant trees or rock outcroppings are located on site or in the immediate vicinity. Therefore, the proposed project would not have any substantial impact on a scenic resource within a state scenic highway.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact: The quality and character of the visual environment may vary according to the composition of landforms, vegetation, and cultural or human-made features present. In general, visual environments with greater diversity of features are considered to be of higher scenic quality.

The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project is located on tribal land containing alkali desert vegetation. The project is consistent with the visual environment in terms of visual quality and character for the following reasons: (1) existing positive visual characteristics of the site will be preserved and enhanced, (2) the project would be visually similar to the man-made ponds and created wetlands immediately adjacent to the project site and (3) no structures or development are proposed that would degrade the visual quality of the area. Therefore, the project would not substantially degrade the existing visual character or quality of the site and its surroundings.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Less than Significant Impact: The project is a pilot study that involves habitat enhancement and creation, and solar PV installations on the Salton Sea playa. Proposed solar installations include flat-plate solar PV panels, which has the potential to create glare. However, flat-plate solar PV panels are designed to absorb, not reflect, sunlight; and the application of anti-reflective coatings and surface texturing of the solar cells would minimize the amount of reflected light. Therefore, light or glare from the proposed project would be less than significant.

MITIGATION MEASURES

No mitigation required.

5.2 Agriculture and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact: The project site does not contain any agricultural resources, lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. A portion of the project site is located on lands designated as a Farmland of Local Importance; however, the project would not result in a conversion of Farmland to non-agricultural use since no historic agricultural operation is known to occur on the project site and the project would not introduce a change in the existing land use in the area. Therefore, no agricultural resources including Prime Farmland, Unique Farmland, or Farmland of Statewide Importance will be converted to a non-agricultural use.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact: The project site is not under a Williamson Act contract. The project site and surrounding area consist of undisturbed, undeveloped land zoned W-1, which is not considered an agricultural zone. Therefore, the project will not conflict with existing zoning for agricultural use, or a Williamson Act contract.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), or timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact: The project site does not contain forest lands or timberlands as defined by Government Code Section 51104(g). The project is consistent with the existing zoning and rezoning is not proposed. Therefore, the project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland or timberland production zones.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact: The project does not contain forest land; therefore, project implementation would not result in the loss or conversion of forest land to non-forest use.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Less than Significant Impact: The project area is partially located on land designated as Farmland of Local Importance; however, the project would not result in significant adverse changes related to the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use since no historic agricultural operation is known to occur on the project site and the project would not introduce a change in the existing land use in the area. Therefore, no potentially significant changes in the existing environment that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use would occur as a result of this project.

MITIGATION MEASURES

No mitigation required.

5.3 Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact: The Federal Clean Air Act (CAA) authorized the United States Environmental Protection Agency (USEPA) to "treat tribes as states" for purposes of developing, administering, and enforcing air quality regulations within reservation boundaries. The Tribal Authority Rule (TAR) [40 CFR Parts 9, 35, 49, 50, and 81] set provisions for tribal implementation of the CAA. Under the TAR, tribes may develop a comprehensive Tribal Implementation Plan (TIP) and seek full authority to monitor and enforce the National Ambient Air Quality Standards (NAAQS) within their reservations, although not required to do so. Currently, the Tribe does not have a TIP in place.

However, the project is located in the Coachella Valley portion of the Salton Sea Air Basin (SSAB) under the jurisdiction of South Coast Air Quality Management District (SCAQMD). The SSAB is designated as a federal and State nonattainment area for ozone (O_3) and coarse particulate matter (PM_{10}). The project would not generate any substantial amount of pollutants that would obstruct or conflict with the South Coast Air Quality Management Plan (February 2013) prepared by the SCAQMD in conjunction with the California Air Resources Board (CARB) and the Southern California Association of Governments (SCAG) as part of the State Implementation Plan. Therefore, no significant impact would occur.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than Significant Impact: Air quality impacts from land use projects are generally the result of emissions from motor vehicles and from short-term construction activities associated with such projects. The SCAQMD has established air quality significance thresholds for construction and operation air pollution emissions within the Salton Sea and Mojave Desert Air Basins (March 2011). These significance thresholds provide a numeric method to evaluate air quality impacts based on project emissions.

The project is a pilot study that involves habitat enhancement and creation, and solar installations on the Salton Sea playa. Operational impacts are not anticipated with implementation of the proposed project since no additional traffic capacity would be added to the existing roadways and no point-source emissions are proposed as it is a renewable energy project. Emissions of pollutants such as fugitive dust and equipment exhaust are expected to be temporary, and concentrated within the immediate vicinity of the project site during the 3-month timeframe for construction of the proposed project. Summarized in Table 5-1 are the project criteria pollutant emissions. For the purposes of evaluating potential impacts from construction, the maximum daily construction requirements were used for the model calculations, resulting in a worst-case evaluation for the potential maximum daily emissions. Appendix A includes the full results of the emissions modeling for the proposed project.

Table 5-1
Maximum Daily Estimated Construction Emissions (lbs/day)

Emission Source	CO	VOCs	NO_x	PM10	$PM_{2.5}$
Fugitive Dust – Construction	-	-	-	141.6	19.0
Heavy Equipment Exhaust, Worker Commuting Exhaust and Vendor Exhaust	93.3	12.52	147.1	6.91	6.36
Total	**93.3**	**12.52**	**147.1**	**148.5**	**25.4**
Thresholds of Significance	550	75	100	150	55
Above Thresholds?	No	No	Yes	No	No

Notes:
Source: Appendix A
lb/day - pounds per day

Project criteria pollutant emissions are all below the SCAQMD daily threshold of significance, except for NOx. While the construction phase will result in NOx emissions above the daily threshold of significance, the proposed project impact would be less than significant because:

- The modeled emissions are generated using a worst-case scenario and actual emissions would likely be less. For example, the model assumes salt cedar removal would only occur using a backhoe, and that the backhoe would be operating 8 hours per day, 5 days per week. In actuality, portions of the salt cedar removal will utilize cut/stump and herbicide methodologies that would not require use of the backhoe and would not emit NOx. Further, when the backhoe is being used idling time would be minimized.
- Emissions generated from the proposed project would be from construction only and are expected to be short-term and temporary in nature. No emissions are anticipated from project operations.
- Construction activities with the largest NOx emissions would emanate from the proposed dredging activity and the habitat enhancement activities (removing salt cedar with a backhoe). These activities are on opposite ends of the approximately 84 acre project site and are over 1.5 miles apart. Therefore, proposed emissions are dispersed over a large area.
- Typical emissions reduction design considerations will be implemented to reduce emissions during construction, including maintaining construction equipment in proper operating condition and minimizing idling time.

Therefore, criteria pollutant emissions from the proposed project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

In addition, although all fugitive dust construction emission generated during construction is expected to be temporary, the following Best Management Practices (BMPs) for dust control will be implemented during construction to minimize the amount of fugitive dust generated from the project, to the extent feasible:

- Multiple applications of water during grading between dozer/scraper passes.
- Use of sweepers or water trucks to remove “track-out” at any point of public street access.
- Termination of grading if winds exceed 25 miles per hour (mph).
- Stabilization of dirt piles by chemical binders, tarps, fencing or other erosion control.
- Hydroseeding or the application of bonded fiber matrix on graded areas if needed prior to construction.
- Cover trucks hauling soil, sand and other loose materials or require trucks to maintain at least two feet of freeboard.
- Construction vehicles shall be inspected and washed as necessary to be cleaned free of dirt prior to entering public roadways.
- A public readable sign should be placed in a conspicuous location with the telephone number of the Resident Engineer to contact regarding dust complaints.

A Dust Control Plan will be prepared by the contractor and implemented during construction activities in accordance to SCAQMD Rule 403 Fugitive Dust Control Requirement. Therefore, the project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

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

Less than Significant Impact: The project would result in emissions related to construction activities. All emission generated during construction is expected to be temporary and short-term in nature. Typical emissions reduction design considerations will be implemented to reduce emissions during construction, including maintaining construction equipment in proper operating condition and minimizing idling time. Appendix A includes the full results of the emissions modeling for the proposed project. A Dust Control Plan will be prepared by the contractor and implemented during construction activities in accordance to SCAQMD Rule 403 Fugitive Dust Control Requirement. The project will implement the following Best Management Practices (BMPs) for dust control during construction to minimize the amount of fugitive dust generated from the project, to the extent feasible:

- Multiple applications of water during grading between dozer/scraper passes.

- Use of sweepers or water trucks to remove “track-out” at any point of public street access.
- Termination of grading if winds exceed 25 mph.
- Stabilization of dirt piles by chemical binders, tarps, fencing or other erosion control.
- Hydroseeding or the application of bonded fiber matrix on graded areas if needed prior to construction.
- Cover trucks hauling soil, sand and other loose materials or require trucks to maintain at least two feet of freeboard.
- Construction vehicles shall be inspected and washed as necessary to be cleaned free of dirt prior to entering public roadways.
- A public readable sign should be placed in a conspicuous location with the telephone number of the Resident Engineer to contact regarding dust complaints.

Since there are no known projects within a one-mile radius scheduled for construction during the same time as the proposed project that could generate emissions, no cumulatively considerable net increase of any criteria pollutants would occur.

d) Expose sensitive receptors to substantial pollutant concentrations?

No Impact: Sensitive receptors refer to locations such as residences, schools, hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. There are no sensitive receptors within a one-mile radius of the project site. Therefore, the project will not expose sensitive receptors to substantial pollution concentrations.

e) Create objectionable odors affecting a substantial number of people?

No Impact: Operational impacts are not anticipated since no point-source emissions are proposed as part of the project. However, construction of the project could result in temporary, localized minor amounts of odor compounds associated with diesel equipment exhaust. Appendix A includes the full results of the emissions modeling for the proposed project. These impacts are not expected to affect a substantial number of people since the project site and the surrounding areas consist of open space and agricultural areas. Therefore, no impact will occur as a result of project implementation.

DESIGN CONSIDERATIONS

With implementation of the following design considerations, there will be no significant impacts on air quality associated with the proposed project.

AQ-1 To minimize emissions during construction, the contractor will be required to maintain construction equipment in proper operating condition and minimize idling time.

AQ-2 A Dust Control Plan will be prepared by the contractor and implemented during construction activities in accordance to SCAQMD Rule 403 Fugitive Dust Control Requirement.

AQ-3 Although all emission generated during construction is expected to be temporary, the following Best Management Practices (BMPs) for dust control will be implemented during construction to minimize the amount of fugitive dust generated from the project, to the extent feasible:

- Multiple applications of water during grading between dozer/scraper passes.
- Use of sweepers or water trucks to remove “track-out” at any point of public street access.
- Termination of grading if winds exceed 25 mph.
- Stabilization of dirt piles by chemical binders, tarps, fencing or other erosion control.
- Hydroseeding or the application of bonded fiber matrix on graded areas if needed prior to construction.
- Cover trucks hauling soil, sand and other loose materials or require trucks to maintain at least two feet of freeboard.
- Construction vehicles shall be inspected and washed as necessary to be cleaned free of dirt prior to entering public roadways.
- A public readable sign should be placed in a conspicuous location with the telephone number of the Resident Engineer to contact regarding dust complaints.

5.4 Biological Resources

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service?

Less than Significant Impact with Mitigation Incorporated: Based on the Biological Resources Technical Report and Jurisdictional Delineation for the proposed project (AMEC 2013), the state and federally listed **desert pupfish (*Cyprinodon macularius*)** may be affected by project activities. The project also has a potential to affect sensitive plants, birds, and mammals, but impacts to these species will be less than significant with avoidance and minimization measures implemented during project activities. No critical habitat for Endangered Species Act (ESA) listed species occur within the project area.

Dredging and temporary intake of water from the Salton Sea at the geotube site has the potential to directly impact the desert pupfish. Potential impacts may be in the form of direct loss of individuals during the dredging process, or harassment due to restriction of movement of pupfish through the enclosure area and temporary loss of habitat in the enclosure. Installation of the proposed 12-inch water pipe will not involve excavation at any point in the project, even at its crossing of the 76th Avenue Channel at the Salton Sea shoreline. The pipe will lie from bank to bank over the current outlet, and will avoid any potential impacts to pupfish habitat with the exception of shading. The channel is currently non-vegetated yet still occupied, thus shading is not expected to affect pupfish habitat quality. The pipeline will also cross suitable pupfish habitat in the Cattail Marsh on the north end of the project. There is an existing access road over the channel at this location that will be used to support the pipe; therefore, there will be no effects to pupfish habitat associated with this crossing.

Approximately 5 acres of suitable pupfish habitat will be temporarily unavailable to pupfish during the construction the geotube pond, but it is not expected to have a long-term affect upon the pupfish population.

The geotube pond will be designed to incorporate a valve that will allow natural Salton Sea pupfish populations to enter the open water habitat. The waters of the pond will be maintained at a salinity of approximately 20 parts per thousand, which provides a more favorable environment for pupfish than the currently high salinity of the Salton Sea. It is expected that the dredging project will actually enhance pupfish habitat, which will eventually be lost if the Salton Sea level recedes as currently projected. The project will not have a permanent impact to pupfish habitat and is expected to have a long-term beneficial effect to pupfish and their habitat.

Implementation of the proposed project will have a less than significant impact on the federally endangered, state threatened, and California Fully Protected **Yuma clapper rail (*Rallus longirostris yumanensis*)** as no construction activities will be conducted in suitable clapper rail habitat. The emergent marsh habitat in the CVSC and ditches associated with the created wetlands will be avoided. The created wetlands may provide suitable habitat after enhancement activities, but are not expected to support the species in their current state. Ground disturbance during removal of salt cedar in the created wetlands will occur under dry conditions and will avoid native plant species. Furthermore, all construction activities within 500 feet of potential clapper rail habitat will be conducted outside of the breeding season (March 15 – September 1). It is expected that Yuma clapper rail habitat will be enhanced within the created wetlands as a result of the proposed project.

The **great egret (*Ardea alba*)** and **great blue heron (*Ardea herodias*)**, which are considered sensitive by the California Department of Forestory, and the **snowy egret (*Egretta thula*)** and **black crowned night heron (*Nycticorax nycticorax*)**, which are tracked by the California Natural Diversity Database, likely nest within dead cottonwood trees on-site. However, the project will avoid the iodine bush scrub vegetation community where these nesting colonies were identified and all construction activities within 500 feet of this habitat will be conducted

outside of the active nesting season. Pre-construction surveys will be conducted to confirm no active nests are located within 500 feet of construction activities.

With the exception of salt cedar in the created wetlands, minor vegetation removal is anticipated for project implementation as the solar PV has been designed to avoid vegetated habitats. Removal of shrubs and trees (including salt cedar) will result in a loss of potential nesting habitat for several bird species that are protected under the Migratory Bird Treaty Act, California Fish and Game Code, or are considered California Species of Special Concern. Temporary disturbance to foraging habitats for many bird species will occur during construction activities. Habitat loss and temporary disturbance is not considered a significant impact as foraging and nesting opportunities for birds are not unique on-site and are available throughout the Coachella Valley. The quality of nesting and foraging habitat will not be reduced and the project will have an overall net benefit on habitat quality for wildlife in the region. Direct impacts to individuals will be avoided through minimization measures including pre-construction surveys and buffers.

American badgers (*Taxidea taxus*) are California Species of Special Concern and have the potential occur within various habitats on-site. Direct loss of denning mammals during construction can be avoided through pre-construction clearance surveys and other minimization measures. Habitat loss is not considered a significant impact given the amount of available habitat in the region for this relatively widespread species.

Removal of trees and shrubs with implementation of the project will result in a loss of potential roosting habitat for several sensitive bat species. Habitat loss is not considered a significant impact as roosting opportunities for bats are not unique on-site and are available throughout the Coachella Valley. Direct impacts to individuals will be avoided through minimization measures including pre-construction surveys and buffers.

Impacts to special-status plant species with implementation of the proposed project are considered to be less than significant. Only two special-status plants have potential to occur on-site: the California Native Plant Society (CNPS) List 2B.2 **jackass clover *(Wislizenia refracta* ssp. *refracta*)** and the CNPS List 4.3 **ashen forget-me-not (*Crytpthantha costata*)**. Suitable habitat for ashen forget-me-not is restricted to the CVSC, which will be avoided by the project. The alkali playa, which will be permanently and temporarily disturbed by the project, provides potential habitat for jackass clover. The closest documented occurrence of the jackass closer is over 10 miles away, so the impacts to this sensitive species will be avoided during implementation of the proposed project.

Implementation of avoidance and minimization measures during project activities will reduce the impact to biological resources to less than significant.

The impacts and avoidance, minimization, and mitigation measures outlined in the Mitigated Negative Declaration and Initial Study for this proposed pilot project would be applicable to the potential expansion project. It is not anticipated that impacts from the potential expansion project would extend beyond the resources identified in this CEQA document.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

Less than Significant Impact with Mitigation Incorporated: Sensitive natural communities are those that are considered rare in the region, support special-status plant or wildlife species, or receive regulatory protection. In addition, the California Natural Diversity Database (CNDDB) has designated a number of communities as rare; these communities are given the highest inventory priority. The nearest sensitive natural community mapped by CNDDB is the desert fan palm oasis woodland, which does not exist in the project area. Therefore, the project will not impact a CNDDB rare community.

However, the project will result in minimal impacts to waters of the United States (WUS), including wetlands from dredging activities and installation of the 12-inch above-ground water pipe.. All wetland areas, wetland buffers, and WUS are considered sensitive. Based on the Biological Resources Technical Report and Jurisdictional Delineation for the proposed project (AMEC 2013), the proposed project will permanently impact 11.79 acres of non-wetland WUS under jurisdiction of the California Department of Fish and Wildlife (CDFW) and United States Army Corps of Engineers (USACE). In addition, the proposed project will temporarily impact 0.21 acre of wetland WUS under jurisdiction of CDFW and USACE.

Construction activities may have a temporary impact to the desert pupfish and Yuma clapper rail habitat, which are federally endangered species under protection of the United States Fish and Wildlife Service (USFWS). However, creation of 5 acres of new open water habitat and the enhancement of over 58 acres of created wetlands are expected to provide a net gain to the species by increasing the total amount of suitable habitat for both the desert pupfish and the Yuma clapper rail. Therefore, the project is self-mitigating for impacts to sensitive natural communities.

Finally, an application for Department of the Army permit for nationwide permit (NWP) 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities will be submitted to the USACE to authorize impacts to WUS, including wetlands. NWP 27 will also authorize the habitat enhancement activities in the existing created wetlands at the Torres Martinez Wetlands site and the creation of aquatic habitat through installation of geotube features in Salton Sea waters. A Notification for Streambed Alteration Agreement will be sent to the CDFW for the project to comply with Section 1602 of the California Fish and Game Code. The Streambed Alteration Agreement will authorize impacts to CDFW jurisdictional areas.

The impacts and avoidance, minimization, and mitigation measures outlined in the Mitigated Negative Declaration and Initial Study for this proposed pilot project would be applicable to the potential expansion project. It is not anticipated that impacts from the potential expansion project would extend beyond the resources identified in this CEQA document.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant Impact with Mitigation Incorporated: Based on the Biological Resources Technical Report and Jurisdictional Delineation for the proposed project (AMEC 2013), the proposed project will temporarily impact 0.21 acre of wetlands under jurisdiction of the USACE and CDFW.

Temporary impacts to wetlands may occur from installation of the 12-inch above-ground water pipe through a wetland are mapped north of 74th Avenue Channel. This wetland area is comprised of salt cedar, iodine bush, and saltgrass, and received hydrology from discharge at the end of the 74th Avenue Channel. That discharge was removed in 2013 by connecting the 74th Avenue Channel with the 76th Avenue Channel. However, wetland soils and hydrology continue to exist in this vegetated area, at least temporarily.

Installation of the 12-inch above-ground water pipe will not involve excavation, and will be laid on the surface of the ground. Although pipe installation may require removal of a small amount of surface vegetation in the wetland area, access by pipeline construction equipment (likely one backhoe and an all terrain vehicle) would be “drive and crush” only.

In addition, the project is a wetland enhancement project, will result in over 58 acres of wetland enhancement. Therefore, the project is self-mitigating.

Finally, an application for Department of the Army permit for NWP 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities will be submitted to the USACE for the proposed project to comply with Clean Water Act Section 404 requirements. A Notification for Streambed Alteration Agreement will be sent to the CDFW for the project to comply with Section 1602 of the California Fish and Game Code. The Streambed Alteration Agreement will authorize impacts to CDFW jurisdictional areas.

The impacts and avoidance, minimization, and mitigation measures outlined in the Mitigated Negative Declaration and Initial Study for this proposed pilot project would be applicable to the potential expansion project. It is not anticipated that impacts from the potential expansion project would extend beyond the resources identified in this CEQA document.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant Impact: The proposed project is a habitat enhancement and creation project and does not involve construction of permanent linear structures that would potentially fragment existing habitat or impede the movement of wildlife species. Construction noise and lighting has potential to disrupt and discourage wildlife on the lands in the immediate vicinity of the project site. This may interfere with feeding, resting or reproductive activities. However,

these impacts will be temporary and are offset by the net benefit of the project to wildlife in the region. Thus temporary impacts from construction noise and lighting are considered less than significant.

Furthermore, the proposed project design does not alter topography in such a way that would create significant new constraints to movement. Finally, the proposed project involves the creation of 5 acres of new open water habitat and enhancement of over 58 acres of existing habitat.

While the project may temporarily restrict the movement of desert pupfish along the Salton Sea shoreline, the project will provide a net gain to the species by increasing the total amount of suitable habitat for the species. For example, the only remaining natural populations of desert pupfish in the United States are restricted to the Salton Sea and neighboring shoreline pools, freshwater ponds, and drainages that are tributaries to the Salton Sea. As the shoreline recedes, the movement of desert pupfish is restricted even further. Therefore, the proposed project will provide the habitat that would otherwise be lost without implementation of the geotube. Furthermore, habitat for bird species would also be lost as the Salton Sea recedes, so implementation of the proposed project would preserve wildlife movement and habitat linkages.

Therefore, the proposed project will not result in a significant impact to wildlife movement or nursery sites.

The impacts and avoidance, minimization, and mitigation measures outlined in the Mitigated Negative Declaration and Initial Study for this proposed pilot project would be applicable to the potential expansion project. It is not anticipated that impacts from the potential expansion project would extend beyond the resources identified in this CEQA document.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact: The project is located on Tribal land owned and managed by the Torres Martinez Desert Cahuilla Indians, thus it is not subject to County of Riverside policies or ordinances. There are no other local policies or ordinances to which the project is subject. However, the proposed project will comply with state and federal regulations and obtain necessary permit prior to project construction.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, other approved local, regional or state habitat conservation plan?

No Impact: The project will comply with the Natural Community Conservation Planning Act, as amended (California Fish and Game Code §§ 2800-2835), which seeks to conserve natural communities at the ecosystem level while accommodating compatible land use. The goal of the proposed project is directly in line with the goals of the Natural Community Conservation Planning Act, as it is a habitat enhancement and creation project that will provide long-term

suitable habitat for wildlife and plant communities while accommodating renewable energy infrastructure.

The impacts and avoidance, minimization, and mitigation measures outlined in the Mitigated Negative Declaration and Initial Study for this proposed pilot project would be applicable to the potential expansion project. It is not anticipated that impacts from the potential expansion project would extend beyond the resources identified in this CEQA document.

MITIGATION MEASURES

BIO-1 A qualified biologist will provide project contractors and construction crews with a worker-awareness program before any work within the project area. This program will be used to describe the species, its habits and habitats, its legal status and required protection, and all applicable mitigation measures.

BIO-2 Dredging and construction activities in the Salton Sea will be conducted outside of the spawning season of the desert pupfish (April through October) to reduce effects on desert pupfish spawning.

BIO-3 A pupfish barrier will be installed prior to dredging activities, and will encompass the dredging and geotube areas to exclude pupfish from water intake activities.

BIO-4 The pupfish barrier will be composed of appropriate materials (e.g. fine mesh block net or silt curtain) to confine the flow of any sediment stirred up during dredging.

BIO-5 Once a pupfish barrier is established, a pupfish removal live-trapping program will be instituted to remove any pupfish trapped within the dredging and geotube areas. Trapping will continue until five continuous days of trapping result in no pupfish captures. All captured pupfish will be transferred and released immediately within the adjacent shallow waters of the Salton Sea. Trapping protocols will follow USFWS and CDFW requirements.

BIO-6 If the pupfish barrier is dislodged, damaged, or ripped such that desert pupfish passage is possible, then dredging and project construction will cease. The desert pupfish trapping protocol will be reinitiated, and trapping will be conducted every day until no pupfish are captured for five consecutive days.

BIO-7 BMPs will be employed during dredging operations to assure that the vehicles and equipment are fueled at least 100 feet from the Salton Sea shoreline or other occupied water bodies such as the 76th Avenue Channel.

BIO-8 Barriers composed of appropriate materials will be placed around dredging equipment to prevent any accidental spill of materials into the sea.

BIO-9 In the event of an accidental spill, dredging operations will cease until the reason for the spill is determined and the spill is cleaned.

BIO-10 Installation of the temporary 12-inch water pipeline will not involve excavation at its crossing of the 76th Avenue Channel. The pipeline will lie from bank to bank over the current channel and avoid any potential impacts to pupfish.

BIO-11 BMPs will be employed while working near the 76th Avenue Channel to prevent spills, runoff, or sediment from entering the channel.

BIO-12 All construction activities proposed within 500 feet of suitable Yuma Clapper rail habitat will be conducted outside of the breeding season (March 15 through September 1). This includes vegetation clearing and grading for construction of the solar PV access road, pipeline installation, and wetland enhancement activities.

BIO-13 Removal of trees or shrubs will occur outside of the nesting season (January 15 to September 1). If ground-disturbing activities, removal of trees or shrubs, or other construction-related activities begin between February 1 and August 31 (nesting season for passerine or non-passerine land birds) or January 15 and August 31 (nesting season for raptors), a nesting bird survey will be performed by a qualified biologist within 14 days before the removal or disturbance of potential nesting structure, trees, or shrubs. For ground-nesting birds, surveys will be conducted by walking narrow transects through playa.

BIO-14 For those potential nesting trees or shrubs within the project site and within 500 feet of the project boundaries that will not be removed, a nesting bird survey will be performed by a qualified biologist within 14 days before initiation of construction activities that will occur in the vicinity.

BIO-15 All vegetation with active nests will be flagged and an appropriate non-disturbance buffer zone will be established around the nest site. The size of the buffer zone will be determined by the project biologist in consultation with CDFW and will depend on the species involved, site conditions, and type of work to be conducted in the area.

BIO-16 A qualified biologist will monitor active nests to determine when the young have fledged and are feeding on their own. The project biologist and CDFW will be consulted for clearance before construction activities resume in the vicinity.

BIO-17 A qualified biologist will conduct pre-construction surveys for American badger in all construction areas identified as potential dispersal habitat located within the project area two weeks prior to initiation of construction activities. If an American badger or active burrow, indicated by the presence of badger sign (i.e. suitable shape and burrow-size, scat) is found within the construction area during pre-construction surveys, the CDFW will be consulted to obtain permission for animal relocation.

BIO-18 If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent badgers from re-using them during construction.

BIO-19 If the qualified biologist determines that potential dens may be active, the entrances of the dens shall be blocked with soil, sticks, and debris for three to five days to discourage use of these dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over the three to five day period. After the qualified biologist determines that badgers have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

BIO-20 A qualified biologist will conduct preconstruction surveys for active bat roosts within 30 days and within 200 feet of grading or earthmoving activities. If no active roosts are found, then no further action would be warranted.

BIO-21 If active maternity roosts or hibernacula are found in trees that will be removed as part of project construction, the project will avoid the tree occupied by the roost to the extent feasible as determined by the CDFW. If an active maternity roost is located and the project cannot avoid removal of the occupied tree, demolition will commence before maternity colonies form (i.e., before March 1) or after young are flying. Disturbance-free buffer zones as determined by a qualified biologist in coordination with the CDFW will be observed during the maternity roost season (March 1 through August 31).

BIO-22 If a non-breeding bat hibernacula is found in a tree scheduled for removal, the individuals will be safely evicted, under the direction of a qualified biologist (as determined by a Memorandum of Understanding with the CDFW), by opening the roosting area to allow airflow through the cavity. Demolition will then follow at least one night after initial disturbance for airflow. This action should allow bats to leave during darkness, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight. Trees with roosts that need to be removed will first be disturbed at dusk, just before removal that same evening, to allow bats to escape during the darker hours.

BIO-23 Enhancement activities within the created wetlands will occur when the soil is dry, and the topography will be re-established.

BIO-24 There is a potential for selenium sequestered in sea sediments to be released into the water column temporarily in the vicinity of the geotube pond as a result of dredging. A silt curtain will be installed to completely surround the geotube pond dredge area to restrict the dispersal of any sediment released into the water column during the dredging of the channel and deposition of dredged materials on the adjacent shoreline.

BIO-25 Dredging activities and construction that impact water bodies with the potential to support desert pupfish will be conducted outside of the spawning season of the desert pupfish (April through October) to reduce effects on desert pupfish spawning.

BIO-26 Installation of the 12-inch above-ground water pipe to the geotube will not involve excavation, but will be laid on the surface of the ground. Pipe construction may require removal of a small amount of surface vegetation in vegetated areas including the wetland north of the 74th Avenue Channel. Temporary access by pipeline construction equipment (likely one backhoe and an all terrain vehicle) would be "drive and crush" only.

BIO-27 Temporary construction mats would be used in wetland and playa areas with unstable ground surfaces. Equipment used in playa areas may include an excavator or backhoe and/or small bulldozer.

BIO-28 The pipeline crossing the 76th Avenue Channel will lie from bank to bank over the current outlet to the Salton Sea. This method would not require excavation in the channel as the pipeline would be placed above the water level.

5.5 Cultural Resources

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

Less than Significant Impact: A portion of the proposed project is located at the Torres Martinez Wetlands site, which is an 85-acre water quality wetland pilot project funded by the DWR, USBOR, and USEPA and developed by the Tribe in 2005 to improve water quality from the nearby CVSC and enhance local wildlife. A Phase I Cultural Resources Assessment (December 2004) had been previously prepared for the Torres Martinez Wetland site by Archaeological Advisory Group determined that no prehistoric or historical sites, structures, buildings, cultural landscapes, or features (historical properties) exists within a 1-mile radius of the survey area (Appendix C). However, there remains the potential for previously undiscovered buried historic properties to be present within the project area. Specifically, south of the Torres Martinez Wetlands site survey area, the proposed geotube pond will be constructed on the north shore of the Salton Sea within previously undisturbed wet and saturated soils.

The Resources Manager for the Tribe provided recommendations for design considerations to be implemented as part of the proposed project to avoid potential impacts to cultural resources (Appendix D). As a project design feature, a cultural monitor will be required to monitor all grading activities in previously undisturbed soils. In the event that previously unidentified potentially significant cultural resources are discovered, the monitor has the authority to halt the ground disturbance operations in the area of discovery until a qualified archaeologist can investigate the discovery and, if necessary, work with the Tribe to prepare a mitigation plan. Therefore, with this design feature incorporated, the project would have a less than significant impact and would not cause a substantial adverse change in the significance of a historical resource.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Less than Significant Impact: A Phase I Cultural Resources Assessment (December 2004) had been previously prepared for the Torres Martinez Wetland site by Archaeological Advisory Group that analyzed the results of a historical records search and a pedestrian survey that included ground surface inspections (Appendix C). The survey area for that report included the proposed project areas for the solar PV and habitat restoration and enhancement. No archaeological resources were identified within the survey area. However, there remains a potential for previously undiscovered buried cultural resources to be present within the project area. Specifically, south of the Torres Martinez Wetlands site survey area, the proposed geotube pond will be constructed on the north shore of the Salton Sea within previously undisturbed wet and saturated soils. Historically, the project area would have been occasionally inundated by the Ancient Lake Cahuilla that existed during the periods of inundation of the area by the Colorado River. There is a possibility of ancient archaeological sites to be buried deeply beneath silt deposits from the Ancient Lake Cahuilla.

The Resources Manager for the Tribe provided recommendations for design considerations to be implemented as part of the proposed project to avoid potential impacts to cultural resources (Appendix D). As a project design feature, a cultural monitor will be required to monitor all grading activities in previously undisturbed soils. In the event that previously unidentified potentially significant cultural resources are discovered, the monitor has the authority to halt the ground disturbance operations in the area of discovery until a qualified archaeologist can investigate the discovery and, if necessary, work with the Tribe to prepare a mitigation plan. Therefore, with this design feature incorporated, the project would have a less than significant impact and would not cause a substantial adverse change in the significance of an archaeological resource.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact: The proposed project site does not contain any unique geologic features; however, a review of the Riverside County Paleontological Resources Map indicates that the proposed project is located within an area of high paleontological sensitivity. Within the proposed project area, trace fossils such as tracks, nests, and eggs have the potential to occur on or below the surface.

The Resources Manager for the Tribe provided recommendations for design considerations to be implemented as part of the proposed project to avoid potential impacts to cultural resources (Appendix D). As a project design feature, a cultural monitor will be required to monitor all grading activities in previously undisturbed soils. In the event that previously unidentified potentially significant cultural resources are discovered, the monitor has the authority to halt the ground disturbance operations in the area of discovery until a qualified archaeologist can investigate the discovery and, if necessary, work with the Tribe to prepare a mitigation plan. Therefore, with this design feature incorporated, the project would have a less than significant

impact and would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. There is no evidence of interred human remains identified within the cultural survey area conducted by Archaeological Advisory Group (December 2004) for the Torres Martinez Wetlands site (Appendix C). However, there remains a potential for previously undiscovered human remains to be present within the project area.

As a project design feature, a cultural monitor will be required to monitor all grading activities in previously undisturbed soils. In the event that human remains are encountered, the monitor has the authority to halt the ground disturbance operations in the area of discovery and shall contact a qualified archaeologist. The archaeologist shall contact the County Coroner at the time of discovery. No further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Public Resources Code Section 5097.98. Therefore, potential impacts to human remains, including those interred outside of formal cemeteries, would be less than significant with this design feature incorporated.

DESIGN CONSIDERATIONS

With implementation of the following design considerations, the proposed project will have a less than significant effect on archaeological and cultural resources:

CR-1 A cultural monitor will be required to monitor all grading activities in previously undisturbed soils. In the event that previously unidentified potentially significant cultural resources are discovered, the monitor has the authority to halt the ground disturbance operations in the area of discovery until a qualified archaeologist can investigate the discovery and, if necessary, work with the Tribe to prepare a mitigation plan.

CR-2 In the event that human remains are encountered, the monitor has the authority to halt the ground disturbance operations in the area of discovery and shall contact a qualified archaeologist. The archaeologist shall contact the County Coroner at the time of discovery. No further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Public Resources Code Section 5097.98.

5.6 Geology and Soils

Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact: The project is not located in a fault rupture hazard zone, or located within any other area with substantial evidence of a known fault. Therefore, there will be no impact from exposure of people or structures to adverse effects from a known fault-rupture hazard zone as result of this project.

ii) Strong seismic ground shaking?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. No buildings or structures that could house people are proposed as part of this project. Therefore, the project would not result in a potentially significant impact from the exposure of people or structures to potential adverse effects from strong seismic ground shaking.

iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact: The proposed project is located within a potential liquefaction area. However, no buildings or structures that could house people are proposed as part of this project. Therefore, there would be no potentially significant impact from the exposure of people or structures to adverse effects from a known area susceptible to ground failure, including liquefaction.

iv) Landslides?

No Impact: The project site is flat (slope angle less than 15 percent) and no significant landslides have occurred in the project area. Therefore, no impact would result due to implementation of the proposed project.

b) Result in substantial soil erosion or the loss of topsoil?

No Impact: According to the United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey, the soils in the project area are identified as Salton fine sandy loam (Sa) and Salton silty clay loam (Sb) with a soil erodibility rating of “slight.” The project will does not include grading of slopes or exposing slopes to erosion. Project

construction activities will include Best Management Practices to ensure that sediment does not erode from the project site. Due to these factors, the project would not result in substantial soil erosion or the loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

No Impact: The project site is flat, underlain by dense, clay soils, and is not located on a geologic unit or soil that is unstable. Therefore, no impact would result to unstable soils from implementation of the proposed project.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less than Significant Impact: The project is a pilot study that involves habitat enhancement and creation and solar installations on the Salton Sea playa. The soils within the project area are Sa and Sb. These soils have a shrink-swell behavior of low to moderate and represent no substantial risks to life or property because no buildings or other habitable structures are proposed to be constructed as part of this project. Therefore, the project would not create a substantial risk to life or property, and potential impacts from construction on low to moderate expansive soil will be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact: The project does not propose any septic tanks or alternative wastewater disposal systems since no wastewater would be generated; therefore, no impact would result due to implementation of the proposed project.

MITIGATION MEASURES

No mitigation required.

5.7 Greenhouse Gas Emissions

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact: In 2006, the State passed the Global Warming Solutions Act of 2006 (AB32) that sets the greenhouse gas (GHG) emissions reduction goal for the State of California into law. The law set the GHG emission reduction targets for the State that included the following: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions

to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. Subsequent to the adoption of AB32, SCAQMD has developed the *Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules and Plans* (December 2008) to be used for determining significant impacts for projects where the SCAQMD is the lead agency under CEQA. The SCAQMD has not recommended specific GHG significance thresholds for residential/commercial sectors at this time. In the absence of such thresholds, a 900 metric ton threshold is selected to identify those projects that would be required to calculate emissions and implement mitigation measures to reduce potentially significant impacts. The 900 metric ton screening threshold is based on a threshold included in the California Air Pollution Control Officers Association (CAPCOA) White Paper, *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act* (January 2008), that covers methods for addressing GHG emissions under CEQA.

The project involves habitat enhancement and creation and solar installations on the Salton Sea playa and is expected to generate temporary localized emissions during the 3-month construction period from use of heavy equipment, transport of construction materials, and construction personnel commuting to and from the project site. The project would result in an estimated construction emission of 274.15 metric ton per year throughout the 3-month construction period; therefore would not have a significant cumulative contribution to global climate change that requires mitigation measures to offset the potential impacts. Further, the proposed project is a habitat creation and renewable energy project that would generate long-term operational emissions that exceeds the 900 metric ton threshold. Therefore, it is determined that the project would result in less than cumulatively considerable impacts associated with GHG emissions and no mitigation is required.

b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact: The project is a pilot study that involves habitat enhancement and creation and solar installations on the Salton Sea playa. While the project will result in minimal, localized emissions of greenhouse gases, the project will not conflict with any applicable plan, policy or regulations adopted by the SCAQMD for the purpose of reducing the emissions of greenhouse gases or impede the implementation of AB 32 reduction targets as discussed in Section 5.7 Question (a).

5.8 Hazards and Hazardous Materials

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No Impact: The project is a pilot study that involves habitat enhancement and creation and solar installations on the Salton Sea playa. The project will not create a significant hazard to the public or the environment because it does not propose the storage, transport, use, or disposal of

hazardous substances. In addition, no hazardous substances are proposed or currently in use in the immediate vicinity of the project site. Therefore, the proposed project would not create a significant hazard to the public or the environment.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

No Impact: The project is a pilot study that involves habitat enhancement and creation and solar installations on the Salton Sea playa. The project will not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials because it does not propose the storage, transport, use, or disposal of hazardous substances. In addition, no hazardous substances are proposed or currently in use in the immediate vicinity of the project site. Therefore, the proposed project would not create a significant hazard to the public or the environment.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact: The project is not within one-quarter mile of an existing or proposed school. The nearest existing schools are Oasis Elementary and Saul Martinez Elementary, located at 65705 Johnson, Mecca, CA 92254 and 88175 Avenue 74, Thermal, CA 92274, respectively. These schools are located over four miles to the north (Saul Martinez Elementary) and west (Oasis Elementary) of the project site. Therefore, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste near an existing or proposed school.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact: The project site is not listed as a hazardous materials site and contains no known hazardous materials based on a review of the Department of Toxic Substances Control's EnviroStor and State Water Resources Control Board GeoTracker databases. Therefore, no impact would result due to implementation of the proposed project.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact: The project is not located within an airport land use plan or within two miles of a public airport. The Jacqueline Cochran Regional Airport is the nearest public airport located over eight miles north of the project site in the city of Palm Springs, California. Therefore, the project would not result in a safety hazard for people residing or working in the project area.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact: The project is not within one mile of a private airstrip. The Desert Air Sky Ranch Airport is the nearest private airport located over 14 miles south and east of the project site. As a result, the project will not constitute a safety hazard for people residing or working in the project area.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project does not involve any features that would impair the implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no impact would result due to implementation of the proposed project.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact: Based upon review of the Riverside County Land Information System, the project is not within a Hazardous Fire Area as defined by Riverside County Fire Ordinance 787. Therefore, the project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires.

MITIGATION MEASURES

No mitigation required.

5.9 Hydrology and Water Quality

Would the project:

a) Violate any water quality standards or waste discharge requirements?

Less than Significant Impact: The project is a pilot study that involves habitat enhancement and creation and solar installations on the Salton Sea playa. The project will not discharge waste water for any purpose that would violate any water quality standards or waste discharge requirements. In addition, a Storm Water Pollution Prevention Plan will be prepared by the contractor and implemented during project construction activities; therefore, no impact is anticipated.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

No Impact: The project is located in the Coachella Valley Groundwater Basin on tribal land. The project proposes to install approximately 9,900 feet of 12-inch water pipeline that will be extended from the existing Torres Martinez Wetlands to deliver freshwater to the geotube pond. The 12-inch pipe will either tap into the existing water pipeline system for the Torres Martinez Wetlands or will be attached to a new groundwater well to be constructed in an existing disturbed area. The Tribe has water rights to the groundwater that is under the Reservation. Therefore, no impact would result due to implementation of the proposed project.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project will connect to the existing water lines located on the Torres Martinez Wetlands site. No existing natural drainage patterns would be altered with construction of the proposed project. A Storm Water Pollution Prevention Plan will be prepared by the contractor and implemented during project construction activities. As a result, the project would not cause substantial erosion of siltation on- or off-site.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project will connect to the existing water lines located on the Torres Martinez Wetlands site. No existing natural drainage patterns would be altered with construction of the proposed project. The project will not significantly increase the water surface elevation in a watercourse or the amount of surface runoff existing on the project site. As a result, the project would not cause a substantial increase in the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. Implementation of the proposed project would result in minimal conversion to impervious surfaces due to installation of the solar PV pole mounting (i.e., foundation). The solar panels, themselves, would not be considered impervious surface since the panels does not block the infiltration of precipitation to the underlying ground surface. The

solar PV array will be designed with gaps between each module to allow for water to drain and infiltrate the underlying ground. Therefore, no impact would result due to implementation of the proposed project.

f) Otherwise substantially degrade water quality?

Less than Significant Impact: The project is a pilot study that involves habitat enhancement and creation and solar installations on the Salton Sea playa. The project does not propose any known source of polluted runoff or new storm water drainage facilities that would transport runoff off-site. In addition, an application for Department of the Army for nationwide permit (NWP) 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities will be submitted to the United States Army Corps of Engineers (USACE) for the proposed project to comply with Clean Water Act requirements. NWP 27 will authorize the habitat enhancement activities in the existing created wetlands at the Torres Martinez Wetlands site and the creation of aquatic habitat through dredging of sediments and installation of geotube features in Salton Sea waters. Water quality will be protected to the maximum extent feasible by implementation of avoidance and minimization measures outlined in the USACE NPW 27. Therefore, impacts to water quality from construction of the proposed project will be less than significant.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact: The project site is located within a flood sensitive area. However, the project is not proposing to place housing or other structures with a potential for human occupation within this area. Therefore, no impact would result due to implementation of the proposed project.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact: The project site is located within a flood sensitive area. However, the project is not proposing to place structures which would impede or redirect flows within this area. Therefore, no impact would result due to implementation of the proposed project.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact: The project site is located within a flood sensitive area; however, it is not located within a dam failure inundation zone. No housing or other structures with a potential for human occupation are proposed within this area. Therefore, no impact would result due to implementation of the proposed project.

j) Inundation by seiche, tsunami, or mudflow?

No Impact: A tsunami typically is created during a seismic event when waves are generated on the ocean, whereas a seiche is a seismic or wind event with waves generated on an inland body of water. The project is located on the northwest shore of the Salton Sea playa. The potential exists for a seiche to occur within the project area. However, no significant seiches have occurred within the project area to date. Furthermore, the project is not proposing to place housing or other structures with potential human occupation within this area. Therefore, no impact would result due to implementation of the proposed project.

MITIGATION MEASURES

No mitigation required.

5.10 Land Use and Planning

Would the project:

a) Physically divide an established community?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project will not propose the introduction of new infrastructure that would substantially change the existing conditions in the project area in a manner that would significantly disrupt or divide the established communities within the vicinity of the project. Therefore, no impact would result due to implementation of the proposed project.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact: Development on tribal lands is regulated by tribal planning agencies and departments. The Tribe is a federally recognized Tribe based in Thermal, California. The Reservation was created through a Federal Executive Order in 1876 and is located on a checkerboard of parcels interspersed with non-tribal lands in the counties of Riverside and Imperial in southern Coachella Valley. The project will be located entirely on the Reservation within the unincorporated portions of the County and would not be subject to the County's land use plans, policies, or regulations. Although the project site is not within the jurisdiction of the County, the project would not conflict with the general plan or zoning ordinance that had been adopted for the adjacent properties under the County's jurisdiction. Further, the project is compatible with the SSA Salton Sea revitalization and restoration efforts, including the SSA Plan for Multi-Purpose Project (July 2006). The SSA Plan for Multi-Purpose Project is a conceptual land use and conservation plan for the SSA's 300,000-acre planning district around the Salton Sea. The proposed geotube pond is located within the SSA's conceptual planning area for a shallow water saline habitat complex on the north shore of the Salton Sea. The

proposed life of the geotube pond is expected to be approximately five years, after which there is potential for incorporation of this project into the larger-scale salinity habitat complex proposed by the SSA. Therefore, no impact would result due to implementation of the proposed project.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact: The project site located on the Reservation and is not subject to any habitat conservation plan or natural community conservation plan. However, the proposed project will not conflict with any applicable habitat conservation plan or natural community conservation plan that has been adopted for the area surrounding area, including the Salton Sea Species Conservation Habitat (SCH) Project as proposed by the DWR and CDFW. The goal of the SCH Project is to serve as a "proof of concept" for the restoration of shallow water habitat at the Salton Sea. The proposed project is compatible with the SCH Project for the following three reasons:

- the project will complement the objectives of the SCH Project to develop aquatic habitats that will protect the declining fish and wildlife habitat at the Salton Sea;
- the project is located in an area initially identified in the SCH Project as suitable for shallow saline habitat ponds; and
- the project will utilize a construction technique (geotube) that has been considered in the SCH Project.

Therefore, no impact would result due to implementation of the proposed project.

MITIGATION MEASURES

No mitigation required.

5.11 Mineral Resources

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact: The project is not located within land classified by the California Department of Conservation – Division of Mines and Geology as an area where known mineral resources occur. Therefore, no potentially significant loss of availability of a known mineral resource of value to the region and the residents of the state would occur as a result of the project.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact: No locally-important mineral resource recovery sites are located on or near the project site. Therefore, no potentially significant loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan would occur as a result of the project.

MITIGATION MEASURES

No mitigation required.

5.12 Noise

Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

No Impact: According to the Land Use Element of the Riverside County General Plan, the project site is within an area designated as Open Space – Water (OS-W) and Tribal Lands (IND). The Riverside County Noise Regulation states that noise level within OS-W designated areas shall not exceed 45 Db L_{max} (County of Riverside Noise Regulation Section 9.52.040). Operation of the project is not expected to generate significant noise which exceeds this local noise standard. Construction of the proposed project has the potential to temporarily increase noise levels on and adjacent to the project site. However, there are no noise sensitive receptors within a four-mile radius of the project site that would be exposed to noise levels in excess of standards established in the local general plan or noise ordinance, or other applicable standards. Therefore, no impact would result due to implementation of the proposed project.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

No Impact: The project is within an undeveloped/open space area on tribal lands. The project would not result in significant noise exposure to local residences as no residential uses occur within a four-mile radius of the project site. Additionally, operation of the project would not generate significant groundborne vibration or groundbourn noise levels that would impact sensitive receptors as there are no sensitive receptors within the vicinity of the project area. Therefore, no impact would result due to implementation of the proposed project.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact: The project is a pilot study that involves habitat enhancement and creation and solar installations on the Salton Sea playa. Noise associated with the operation of the solar components of the project is limited and would not be audible to the nearest noise sensitive receptors, which is over four miles away from the project site. Therefore, no impact would result due to implementation of the proposed project.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant Impact: Construction of the proposed project would result in temporary, localized noise from the use of heavy equipment and truck traffic. General construction noise would be required to comply with all noise standards related to construction activities, as identified in the Noise Element of the Riverside County General Plan. Therefore, potential impacts resulting from a substantial temporary or periodic increase in existing ambient noise levels during project construction would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact: The project is not located within an airport land use plan or within two miles of a public airport or public use airport. Therefore, the project would not expose people residing or working in the project area to excessive airport-related noise levels

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact: The project is not located within a one-mile vicinity of a private airstrip; therefore, the project would not expose people residing or working in the project area to excessive airport-related noise.

MITIGATION MEASURES

No mitigation required.

5.13 Population and Housing

Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project will not induce substantial population growth in the area because the project does not propose new homes, businesses, or any physical or regulatory changes that would remove a restriction to or encourage growth in the area.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project will not displace any existing housing since the project site is currently undeveloped land/open space within the Reservation. Therefore, no impact would result due to implementation of the proposed project.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. No homes would be removed by the proposed project and no residential relocations would be required. Therefore, no impact would result due to implementation of the proposed project.

MITIGATION MEASURES

No mitigation required.

5.14 Public Services

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

   Fire protection?

   Police protection?

   Schools?

Parks?

Other public facilities?

No Impact: The proposed project involves a pilot study to evaluate the potential for habitat creation and solar installation on the Salton Sea playa within the Reservation. The project would not require new or significantly altered services or facilities, including but not limited to fire and police protection, schools or parks to be constructed to meet acceptable service ratios or response times. Therefore, the proposed project would have no impact on public services.

MITIGATION MEASURES

No mitigation required.

5.15 Recreation

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project does not propose any residential use that may increase the use of existing neighborhood and regional parks or other facilities in the vicinity.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact: The proposed project involves a pilot study to evaluate the potential for habitat creation and solar installation on the Salton Sea playa within the Reservation. The project does not include recreational facilities or require the construction or expansion of recreational facilities that would have an adverse physical effect on the environment. Therefore, no impact would result due to implementation of the proposed project.

MITIGATION MEASURES

No mitigation required.

5.16 Transportation/Traffic

Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing a measure of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less than Significant Impact: There are two major roadways that surround the project vicinity: SR 86 which runs north to south, west of the project site and SR 111 which runs east to west to the north of the project site. Four additional County-maintained roads occur within the vicinity of the project site before becoming dirt roads: Lincoln Street, and 73rd, 74th and 76th Avenues. The project would have no long-term direct or cumulative impact on the existing traffic load and capacity of the street system.

The project would generate short-term traffic during construction. Short-term traffic would include transport of heavy equipment and construction materials to and from the project site, removal of spoils and/or other debris, and construction personnel commuting to and from the site. However, the project trips (approximately two daily truck trips per day) are not anticipated to result in a substantial increase in the number of vehicle trips, volume or capacity ratio on roads, or congestion in relation to existing conditions. In addition, the project would not conflict with policies related to non-motorized travel such as mass transit, pedestrian or bicycle facilities. Therefore, the project would not conflict with any policies establishing measures of the effectiveness for the performance of the circulation system.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less than Significant Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project would not result in a long-term increase in traffic volume or capacity of the street system that would conflict with the congestion management programs or other standards established by the county congestion management agency.

The project would generate short-term traffic during construction. Construction of the project is expected to last approximately three months. Short-term traffic would include transport of heavy equipment and construction materials to and from the project site, removal of spoils and/or other debris, and construction personnel commuting to and from the site. However, the project trips (approximately two daily truck trips per day) are not anticipated to result in a substantial increase in the number of vehicle trips, volume of capacity ratio on roads, or congestion in relation to existing conditions. Therefore, the project would not conflict with an applicable congestion management plan.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact: The project is located outside of an Airport Influence Area and not within an Airport Compatibility Zone; therefore, the project would not result in a change in air traffic patterns.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project will not change the type of vehicles or equipment on the existing roadways. Therefore, the proposed project would not significantly increase hazards due to design features or incompatible uses.

e) Conflict with adopted policies, plans, or programs regarding public transit, bikeways, or pedestrian facilities, or otherwise substantially decrease the performance or safety of such facilities?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project is located on tribal land with restricted public access. As such, no bus routes, bikeways, or pedestrian facilities are currently located within the project area and no future routes are planned. Therefore, no impact would result due to implementation of the proposed project.

MITIGATION MEASURES

No mitigation measures are required.

5.17 Utilities and Service Systems

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less than Significant Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project would not involve any uses that would discharge any waste water to sanitary sewers or on-site wastewater systems. Therefore, the project would not exceed any wastewater treatment requirements.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project will not involve any increases in wastewater flows or water consumption. Therefore, no impact would result due to implementation of the proposed project.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact: The project is a pilot study that involves habitat creation and solar installations on the Salton Sea playa. The project would not require the construction of any new storm water drainage facilities or expansion of existing facilities. Therefore, no impact would result due to implementation of the proposed project.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact: The project will rely on reuse water that is delivered to the Salton Sea via the Whitewater River/CVSC. The Tribe has an existing agreement with the Coachella Valley Water District to use this outfall of water as necessary. Therefore, no impact would result due to implementation of the proposed project.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact: The project is a wetland creation and solar generation pilot study on the Salton Sea playa, and will not produce any wastewater. Therefore, the project would not interfere with any wastewater treatment provider's service capacity.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

No Impact: The project is a wetland creation and solar generation pilot study on the Salton Sea playa and will not generate any solid waste or place any burden on the existing permitted capacity of any landfill within Riverside County. Therefore, the project would not interfere with any wastewater treatment provider's service capacity.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact: The project is a wetland creation and solar generation pilot study on the Salton Sea playa and would not conflict with any federal, state, and local statutes and regulations related to solid waste.

MITIGATION MEASURES

No mitigation measures are required.

5.18 Mandatory Findings of Significance

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant with Mitigation Incorporated: The potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory were considered in the response to each questions in Section IV. Biological Resources of this Initial Study form. In addition to project specific impacts, this evaluation considered the project's potential for significant cumulative effects. Resources that have been evaluated as significantly impacted by the project, include Biological Resources. However, design considerations and mitigation measures have been included that clearly reduces these effects to a level below significance.

Biological Resources

BIO-1 A qualified biologist will provide project contractors and construction crews with a worker-awareness program before any work within the project area. This program will be used to describe the species, its habits and habitats, its legal status and required protection, and all applicable mitigation measures.

BIO-2 Dredging and construction activities in the Salton Sea will be conducted outside of the spawning season of the desert pupfish (April through October) to reduce effects on desert pupfish spawning.

BIO-3 A pupfish barrier will be installed prior to dredging activities, and will encompass the dredging and geotube areas to exclude pupfish from water intake activities.

BIO-4 The pupfish barrier will be composed of appropriate materials (e.g. fine mesh block net or silt curtain) to confine the flow of any sediment stirred up during dredging.

BIO-5 Once a pupfish barrier is established, a pupfish removal live-trapping program will be instituted to remove any pupfish trapped within the dredging and geotube areas. Trapping will continue until five continuous days of trapping result in no pupfish captures. All captured pupfish will be transferred and released immediately within the adjacent shallow waters of the Salton Sea. Trapping protocols will follow USFWS and CDFW requirements.

BIO-6 If the pupfish barrier is dislodged, damaged, or ripped such that desert pupfish passage is possible, then dredging and project construction will cease. The desert pupfish trapping protocol will be reinitiated, and trapping will be conducted every day until no pupfish are captured for five consecutive days.

BIO-7 BMPs will be employed during dredging operations to assure that the vehicles and equipment are fueled at least 100 feet from the Salton Sea shoreline or other occupied water bodies such as the 76th Avenue Channel.

BIO-8 Barriers composed of appropriate materials will be placed around dredging equipment to prevent any accidental spill of materials into the sea.

BIO-9 In the event of an accidental spill, dredging operations will cease until the reason for the spill is determined and the spill is cleaned.

BIO-10 Installation of the temporary 12-inch water pipeline will not involve excavation at its crossing of the 76th Avenue Channel. The pipeline will lie from bank to bank over the current channel and avoid any potential impacts to pupfish.

BIO-11 BMPs will be employed while working near the 76th Avenue Channel to prevent spills, runoff, or sediment from entering the channel.

BIO-12 All construction activities proposed within 500 feet of suitable Yuma Clapper rail habitat will be conducted outside of the breeding season (March 15 through September 1). This includes vegetation clearing and grading for construction of the solar PV access road, pipeline installation, and wetland enhancement activities.

BIO-13 Removal of trees or shrubs will occur outside of the nesting season (January 15 to September 1). If ground-disturbing activities, removal of trees or shrubs, or other construction-related activities begin between February 1 and August 31 (nesting season for passerine or non-passerine land birds) or January 15 and August 31 (nesting season for raptors), a nesting bird survey will be performed by a qualified biologist within 14 days before the removal or disturbance of potential nesting structure, trees, or shrubs. For ground-nesting birds, surveys will be conducted by walking narrow transects through playa.

BIO-14 For those potential nesting trees or shrubs within the project site and within 500 feet of the project boundaries that will not be removed, a nesting bird survey will be performed by a qualified biologist within 14 days before initiation of construction activities that will occur in the vicinity.

BIO-15 All vegetation with active nests will be flagged and an appropriate non-disturbance buffer zone will be established around the nest site. The size of the buffer zone will be determined by the project biologist in consultation with CDFW and will depend on the species involved, site conditions, and type of work to be conducted in the area.

BIO-16 A qualified biologist will monitor active nests to determine when the young have fledged and are feeding on their own. The project biologist and CDFW will be consulted for clearance before construction activities resume in the vicinity.

BIO-17 A qualified biologist will conduct pre-construction surveys for American badger in all construction areas identified as potential dispersal habitat located within the project area two weeks prior to initiation of construction activities. If an American badger or active burrow, indicated by the presence of badger sign (i.e. suitable shape and burrow-size, scat) is found within the construction area during pre-construction surveys, the CDFW will be consulted to obtain permission for animal relocation.

BIO-18 If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent badgers from re-using them during construction.

BIO-19 If the qualified biologist determines that potential dens may be active, the entrances of the dens shall be blocked with soil, sticks, and debris for three to five days to discourage use of these dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over the three to five day period. After the qualified biologist determines that badgers have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

BIO-20 A qualified biologist will conduct preconstruction surveys for active bat roosts within 30 days and within 200 feet of grading or earthmoving activities. If no active roosts are found, then no further action would be warranted.

BIO-21 If active maternity roosts or hibernacula are found in trees that will be removed as part of project construction, the project will avoid the tree occupied by the roost to the extent feasible as determined by the CDFW. If an active maternity roost is located and the project cannot avoid removal of the occupied tree, demolition will commence before maternity colonies form (i.e., before March 1) or after young are flying. Disturbance-free buffer zones as determined by a qualified biologist in coordination with the CDFW will be observed during the maternity roost season (March 1 through August 31).

BIO-22 If a non-breeding bat hibernacula is found in a tree scheduled for removal, the individuals will be safely evicted, under the direction of a qualified biologist (as determined by a Memorandum of Understanding with the CDFW), by opening the roosting area to allow airflow through the cavity. Demolition will then follow at least one night after initial disturbance for airflow. This action should allow bats to leave during darkness, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight. Trees with roosts that need to be removed will first be disturbed at dusk, just before removal that same evening, to allow bats to escape during the darker hours.

BIO-23 Enhancement activities within the created wetlands will occur when the soil is dry, and the topography will be re-established.

BIO-24 There is a potential for selenium sequestered in sea sediments to be released into the water column temporarily in the vicinity of the geotube pond as a result of dredging. A silt curtain will be installed to completely surround the geotube pond dredge area to restrict the dispersal of any sediment released into the water column during the dredging of the channel and deposition of dredged materials on the adjacent shoreline.

BIO-25 Dredging activities and construction that impact water bodies with the potential to support desert pupfish will be conducted outside of the spawning season of the desert pupfish (April through October) to reduce effects on desert pupfish spawning.

BIO-26 Installation of the 12-inch above-ground water pipe to the geotube will not involve excavation, but will be laid on the surface of the ground. Pipe construction may require removal of a small amount of surface vegetation in vegetated areas including the wetland north of the 74th Avenue Channel. Temporary access by pipeline construction equipment (likely one backhoe and an all terrain vehicle) would be “drive and crush” only.

BIO-27 Temporary construction mats would be used in wetland and playa areas with unstable ground surfaces. Equipment used in playa areas may include an excavator or backhoe and/or small bulldozer.

BIO-28 The pipeline crossing the 76th Avenue Channel will lie from bank to bank over the current outlet to the Salton Sea. This method would not require excavation in the channel as the pipeline would be placed above the water level.

As a result of this evaluation, there is no substantial evidence that, after mitigation, significant effects associated with this project would result. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant Impact: Table 5-2 below list past, present, and future projects that were considered and evaluated as part of this Initial Study:

Table 5-2
Past, Present, and Future Projects

Project	Proponent	Project Description
Red Hill Bay Restoration Site	USFWS	Restore habitat values of the Red Hill Bay with blended water from the Salton Sea and nearby drain water from the Alamo River.
Salton Sea Species Conservation Habitat Project	DWR and CDFW	Construct up to 3,770 acres of shallow ponds and associated infrastructure at the southern end of the Salton Sea to restore shallow water habitat loss.
Salton Sea Water Habitat Pilot Project	Imperial Irrigation District/Sephton Water Technology	Develop a process for the reclamation of hyper-saline water from the Salton Sea to supply and maintain a ¼ acre shallow marine habitat pond on recently exposed playa.
Torres Martinez Wetlands	Tribe	Construct 85-acre water quality wetland to improve water quality from the Whitewater River and enhance local wildlife.

The potential for adverse cumulative effects were considered in the response to each question in Sections I through XVIII of this Initial Study. In addition, to project specific impacts, this evaluation considered the project's potential for incremental effects that are cumulatively considerable.

All four projects listed above positively contribute to the restoration of the Salton Sea by improving water quality and/or creating habitat on the exposed playa. The proposed project complements these past, current, and future projects in and around the Salton Sea. The proposed project will contribute to these restoration efforts by using new berm technology to provide for additional fish and wildlife habitat on the north shore and minimize windblown dust emissions from the exposed playa. Any cumulative impacts resulting due to the implementation of the proposed project would be beneficial to restoring the Salton Sea.

As a result of this evaluation, there is no substantial evidence that there are cumulative adverse effects associated with this project. Therefore, this project has been determined not to meet this mandatory Finding of Significance.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant Impact: In the evaluation of environmental impacts in this Initial Study, the potential for adverse direct or indirect impacts to human beings were considered. As a result of this evaluation, there is no substantial evidence that there are adverse effects on human beings associated with this project. Therefore, the project has been determined to not meet this Mandatory Finding of Significance.

6.0 ORGANIZATIONS AND PERSONS CONSULTED

California Department of Fish and Wildlife – Inland Desert Region
Michael Flores, Sr. Environmental Scientist
Sharon Keeney, Biologist

Imperial Irrigation District
Bruce Wilcox, Sr. Environmental Project Manager

Salton Sea Authority
Roger Shintaku, Executive Director
Andrew Schlange, General Manager

Tetra Tech
William Brownlie, Sr. Vice President, Chief Engineer

Torres Martinez Desert Cahuilla Wetland Temal Pa'lekish
Debi Livesay, Water Resources Manager

United States Army Corps of Engineers – Riverside Regulatory Field Office
James Mace, Project Manager

United States Fish and Wildlife Service
Felicia Sirchia, Fish and Wildlife Biologist

United States Geological Survey
Doug Barnum, Salton Sea Science Coordinator

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7.0 LIST OF PREPARERS

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APPENDIX A

CALEEMOD OUTPUT

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Torres Martinez Geotube

Salton Sea Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	25.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	20
Climate Zone	15			**Operational Year**	2014
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - -this is a habitat enhancement and creation

Construction Phase - -Based on 3 month work schedule I am estimating 1 month prep, and 2 months grading and dredging. 5 days of dredging entered under building construction which is required to prevent program from crashing.

Off-road Equipment - -no coating

Off-road Equipment - -other is DINO Six Dredge @ 60 HP, put in this phase which is required by software

Off-road Equipment - -no demo

Off-road Equipment - -off-highway tractor is a D7 bulldozer assumed 240 HP, mid sized excavator assumed 190 HP, and backhoe @ 76 HP

Off-road Equipment - -off-highway tractor is a D7 bulldozer assumed 240 HP, mid sized excavator assumed 190 HP, and backhoe @ 76 HP

Trips and VMT - - estimated trips per day

Demolition - - no demo

Grading - - 25 acres distrubed- not including 4 acre salinity gradient solar pond

Architectural Coating - -no coating

Woodstoves - -this is a habitat enhancement and creation

Consumer Products - -this is a habitat enhancement and creation

Area Coating - -this is a habitat enhancement and creation

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - -this is a habitat enhancement and creation

Mobile Commute Mitigation - -this is a habitat enhancement and creation

Area Mitigation - -this is a habitat enhancement and creation

Energy Mitigation - -this is a habitat enhancement and creation

Water Mitigation - -this is a habitat enhancement and creation

Waste Mitigation - -this is a habitat enhancement and creation

Off-road Equipment - 1 backhoe for salt cedar removal

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	370.00	25.00

tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	35.00	25.00
tblConstructionPhase	NumDays	10.00	70.00
tblConstructionPhase	PhaseEndDate	8/8/2014	8/28/2014
tblConstructionPhase	PhaseEndDate	9/12/2014	7/4/2014
tblConstructionPhase	PhaseEndDate	11/12/2014	8/8/2014
tblConstructionPhase	PhaseEndDate	4/8/2014	8/6/2014
tblConstructionPhase	PhaseStartDate	7/5/2014	7/25/2014
tblConstructionPhase	PhaseStartDate	8/9/2014	6/2/2014
tblConstructionPhase	PhaseStartDate	8/7/2014	5/5/2014
tblConstructionPhase	PhaseStartDate	1/1/2014	5/1/2014
tblLandUse	LotAcreage	0.00	25.00
tblOffRoadEquipment	HorsePower	162.00	190.00
tblOffRoadEquipment	HorsePower	97.00	125.00
tblOffRoadEquipment	HorsePower	97.00	190.00
tblOffRoadEquipment	HorsePower	400.00	76.00
tblOffRoadEquipment	HorsePower	162.00	190.00
tblOffRoadEquipment	HorsePower	122.00	240.00
tblOffRoadEquipment	HorsePower	122.00	240.00
tblOffRoadEquipment	HorsePower	171.00	60.00
tblOffRoadEquipment	LoadFactor	0.37	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.44	0.40
tblOffRoadEquipment	LoadFactor	0.44	0.40
tblOffRoadEquipment	OffRoadEquipmentType	Pavers	Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	8.00
tblTripsAndVMT	WorkerTripNumber	18.00	8.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.3374	3.6671	2.4698	2.7400e-003	3.6500	0.1929	3.8429	0.6831	0.1781	0.8612	0.0000	261.9911	261.9911	0.0755	0.0000	263.5764
Total	**0.3374**	**3.6671**	**2.4698**	**2.7400e-003**	**3.6500**	**0.1929**	**3.8429**	**0.6831**	**0.1781**	**0.8612**	**0.0000**	**261.9911**	**261.9911**	**0.0755**	**0.0000**	**263.5764**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.3374	3.6671	2.4698	2.7400e-003	3.2426	0.1929	3.4355	0.4673	0.1781	0.6453	0.0000	261.9908	261.9908	0.0755	0.0000	263.5761
Total	**0.3374**	**3.6671**	**2.4698**	**2.7400e-003**	**3.2426**	**0.1929**	**3.4355**	**0.4673**	**0.1781**	**0.6453**	**0.0000**	**261.9908**	**261.9908**	**0.0755**	**0.0000**	**263.5761**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**11.16**	**0.00**	**10.60**	**31.60**	**0.00**	**25.07**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2014	12/31/2013	5	0	
2	Architectural Coating	Architectural Coating	1/1/2014	12/31/2013	5	0	
3	Site Preparation	Site Preparation	5/1/2014	8/6/2014	5	70	
4	Salt Cedar Removal	Trenching	5/5/2014	8/8/2014	5	70	
5	Grading	Grading	6/2/2014	7/4/2014	5	25	
6	Buidling Construction	Building Construction	7/25/2014	8/28/2014	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 62.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	162	0.38
Demolition	Rubber Tired Dozers	0	8.00	255	0.40
Salt Cedar Removal	Tractors/Loaders/Backhoes	1	8.00	125	0.42
Salt Cedar Removal	Paving Equipment	0	8.00	130	0.36
Salt Cedar Removal	Rollers	0	8.00	80	0.38
Architectural Coating	Air Compressors	0	6.00	78	0.48
Site Preparation	Excavators	0	8.00	190	0.38
Site Preparation	Off-Highway Tractors	0	8.00	240	0.40
Site Preparation	Off-Highway Trucks	1	8.00	76	0.37
Grading	Excavators	1	8.00	190	0.38
Grading	Off-Highway Tractors	1	8.00	240	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	190	0.37
Building Construction	Other Construction Equipment	1	8.00	60	0.42
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	11.00	5.40	20.00	LD_Mx	HDT_Mx	HHDT
Salt Cedar Removal	1	0.00	0.00	0.00	11.00	5.40	20.00	LD_Mx	HDT_Mx	HHDT
Architectural Coating	0	0.00	0.00	0.00	11.00	5.40	20.00	LD_Mx	HDT_Mx	HHDT
Site Preparation	8	8.00	0.00	0.00	11.00	5.40	20.00	LD_Mx	HDT_Mx	HHDT
Grading	7	8.00	0.00	0.00	11.00	5.40	20.00	LD_Mx	HDT_Mx	HHDT
Building Construction	10	0.00	0.00	0.00	11.00	5.40	20.00	LD_Mx	HDT_Mx	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.4 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6323	0.0000	0.6323	0.3476	0.0000	0.3476	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1852	2.0167	1.5036	1.3700e-003		0.1098	0.1098		0.1010	0.1010	0.0000	131.9556	131.9556	0.0390	0.0000	132.7745
Total	**0.1852**	**2.0167**	**1.5036**	**1.3700e-003**	**0.6323**	**0.1098**	**0.7421**	**0.3476**	**0.1010**	**0.4486**	**0.0000**	**131.9556**	**131.9556**	**0.0390**	**0.0000**	**132.7745**

3.4 Site Preparation - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	2.0900e-003	0.0200	3.0000e-005	2.1437	2.0000e-005	2.1437	0.2141	2.0000e-005	0.2142	0.0000	2.1553	2.1553	1.5000e-004	0.0000	2.1584
Total	**1.4900e-003**	**2.0900e-003**	**0.0200**	**3.0000e-005**	**2.1437**	**2.0000e-005**	**2.1437**	**0.2141**	**2.0000e-005**	**0.2142**	**0.0000**	**2.1553**	**2.1553**	**1.5000e-004**	**0.0000**	**2.1584**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2845	0.0000	0.2845	0.1564	0.0000	0.1564	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1852	2.0167	1.5036	1.3700e-003		0.1098	0.1098		0.1010	0.1010	0.0000	131.9555	131.9555	0.0390	0.0000	132.7744
Total	**0.1852**	**2.0167**	**1.5036**	**1.3700e-003**	**0.2845**	**0.1098**	**0.3944**	**0.1564**	**0.1010**	**0.2574**	**0.0000**	**131.9555**	**131.9555**	**0.0390**	**0.0000**	**132.7744**

3.4 Site Preparation - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	2.0900e-003	0.0200	3.0000e-005	2.1437	2.0000e-005	2.1437	0.2141	2.0000e-005	0.2142	0.0000	2.1553	2.1553	1.5000e-004	0.0000	2.1584
Total	**1.4900e-003**	**2.0900e-003**	**0.0200**	**3.0000e-005**	**2.1437**	**2.0000e-005**	**2.1437**	**0.2141**	**2.0000e-005**	**0.2142**	**0.0000**	**2.1553**	**2.1553**	**1.5000e-004**	**0.0000**	**2.1584**

3.5 Salt Cedar Removal - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0137	0.1600	0.1050	1.6000e-004		8.0500e-003	8.0500e-003		7.4000e-003	7.4000e-003	0.0000	15.1084	15.1084	4.4600e-003	0.0000	15.2021
Total	**0.0137**	**0.1600**	**0.1050**	**1.6000e-004**		**8.0500e-003**	**8.0500e-003**		**7.4000e-003**	**7.4000e-003**	**0.0000**	**15.1084**	**15.1084**	**4.4600e-003**	**0.0000**	**15.2021**

3.5 Salt Cedar Removal - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0137	0.1600	0.1050	1.6000e-004		8.0500e-003	8.0500e-003		7.4000e-003	7.4000e-003	0.0000	15.1084	15.1084	4.4600e-003	0.0000	15.2021
Total	**0.0137**	**0.1600**	**0.1050**	**1.6000e-004**		**8.0500e-003**	**8.0500e-003**		**7.4000e-003**	**7.4000e-003**	**0.0000**	**15.1084**	**15.1084**	**4.4600e-003**	**0.0000**	**15.2021**

3.5 Salt Cedar Removal - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1084	0.0000	0.1084	0.0450	0.0000	0.0450	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0841	1.0600	0.5758	8.2000e-004		0.0443	0.0443		0.0408	0.0408	0.0000	78.6832	78.6832	0.0233	0.0000	79.1715
Total	**0.0841**	**1.0600**	**0.5758**	**8.2000e-004**	**0.1084**	**0.0443**	**0.1527**	**0.0450**	**0.0408**	**0.0857**	**0.0000**	**78.6832**	**78.6832**	**0.0233**	**0.0000**	**79.1715**

3.6 Grading - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	7.5000e-004	7.1300e-003	1.0000e-005	0.7656	1.0000e-005	0.7656	0.0765	1.0000e-005	0.0765	0.0000	0.7697	0.7697	5.0000e-005	0.0000	0.7709
Total	**5.3000e-004**	**7.5000e-004**	**7.1300e-003**	**1.0000e-005**	**0.7656**	**1.0000e-005**	**0.7656**	**0.0765**	**1.0000e-005**	**0.0765**	**0.0000**	**0.7697**	**0.7697**	**5.0000e-005**	**0.0000**	**0.7709**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0488	0.0000	0.0488	0.0202	0.0000	0.0202	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0841	1.0600	0.5758	8.2000e-004		0.0443	0.0443		0.0408	0.0408	0.0000	78.6831	78.6831	0.0233	0.0000	79.1714
Total	**0.0841**	**1.0600**	**0.5758**	**8.2000e-004**	**0.0488**	**0.0443**	**0.0931**	**0.0202**	**0.0408**	**0.0610**	**0.0000**	**78.6831**	**78.6831**	**0.0233**	**0.0000**	**79.1714**

3.6 Grading - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	7.5000e-004	7.1300e-003	1.0000e-005	0.7656	1.0000e-005	0.7656	0.0765	1.0000e-005	0.0765	0.0000	0.7697	0.7697	5.0000e-005	0.0000	0.7709
Total	**5.3000e-004**	**7.5000e-004**	**7.1300e-003**	**1.0000e-005**	**0.7656**	**1.0000e-005**	**0.7656**	**0.0765**	**1.0000e-005**	**0.0765**	**0.0000**	**0.7697**	**0.7697**	**5.0000e-005**	**0.0000**	**0.7709**

3.7 Buidling Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0524	0.4275	0.2583	3.6000e-004		0.0307	0.0307		0.0289	0.0289	0.0000	33.3188	33.3188	8.5800e-003	0.0000	33.4990
Total	**0.0524**	**0.4275**	**0.2583**	**3.6000e-004**		**0.0307**	**0.0307**		**0.0289**	**0.0289**	**0.0000**	**33.3188**	**33.3188**	**8.5800e-003**	**0.0000**	**33.4990**

3.7 Building Construction - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0524	0.4275	0.2583	3.6000e-004		0.0307	0.0307		0.0289	0.0289	0.0000	33.3188	33.3188	8.5800e-003	0.0000	33.4989
Total	**0.0524**	**0.4275**	**0.2583**	**3.6000e-004**		**0.0307**	**0.0307**		**0.0289**	**0.0289**	**0.0000**	**33.3188**	**33.3188**	**8.5800e-003**	**0.0000**	**33.4989**

3.7 Building Construction - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	12.50	4.20	5.40	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.471820	0.065078	0.165905	0.156714	0.039906	0.006660	0.011603	0.072822	0.001486	0.001268	0.003790	0.000578	0.002369

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mtigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mtigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Recreational	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Torres Martinez Geotube

Salton Sea Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	1.00	User Defined Unit	25.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	20
Climate Zone	15			**Operational Year**	2014
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - -this is a habitat enhancement and creation

Construction Phase - -Based on 3 month work schedule I am estimating 1 month prep, and 2 months grading and dredging. 5 days of dredging entered under building construction which is required to prevent program from crashing.

Off-road Equipment - -no coating

Off-road Equipment - -other is DINO Six Dredge @ 60 HP, put in this phase which is required by software

Off-road Equipment - -no demo

Off-road Equipment - -off-highway tractor is a D7 bulldozer assumed 240 HP, mid sized excavator assumed 190 HP, and backhoe @ 76 HP

Off-road Equipment - -off-highway tractor is a D7 bulldozer assumed 240 HP, mid sized excavator assumed 190 HP, and backhoe @ 76 HP

Trips and VMT - - estimated trips per day

Demolition - - no demo

Grading - - 25 acres distrubed- not including 4 acre salinity gradient solar pond

Architectural Coating - -no coating

Woodstoves - -this is a habitat enhancement and creation

Consumer Products - -this is a habitat enhancement and creation

Area Coating - -this is a habitat enhancement and creation

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - -this is a habitat enhancement and creation

Mobile Commute Mitigation - -this is a habitat enhancement and creation

Area Mitigation - -this is a habitat enhancement and creation

Energy Mitigation - -this is a habitat enhancement and creation

Water Mitigation - -this is a habitat enhancement and creation

Waste Mitigation - -this is a habitat enhancement and creation

Off-road Equipment - 1 backhoe for salt cedar removal

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	370.00	25.00

tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	35.00	25.00
tblConstructionPhase	NumDays	10.00	70.00
tblConstructionPhase	PhaseEndDate	8/8/2014	8/28/2014
tblConstructionPhase	PhaseEndDate	9/12/2014	7/4/2014
tblConstructionPhase	PhaseEndDate	11/12/2014	8/8/2014
tblConstructionPhase	PhaseEndDate	4/8/2014	8/6/2014
tblConstructionPhase	PhaseStartDate	7/5/2014	7/25/2014
tblConstructionPhase	PhaseStartDate	8/9/2014	6/2/2014
tblConstructionPhase	PhaseStartDate	8/7/2014	5/5/2014
tblConstructionPhase	PhaseStartDate	1/1/2014	5/1/2014
tblLandUse	LotAcreage	0.00	25.00
tblOffRoadEquipment	HorsePower	162.00	190.00
tblOffRoadEquipment	HorsePower	97.00	125.00
tblOffRoadEquipment	HorsePower	97.00	190.00
tblOffRoadEquipment	HorsePower	400.00	76.00
tblOffRoadEquipment	HorsePower	162.00	190.00
tblOffRoadEquipment	HorsePower	122.00	240.00
tblOffRoadEquipment	HorsePower	122.00	240.00
tblOffRoadEquipment	HorsePower	171.00	60.00
tblOffRoadEquipment	LoadFactor	0.37	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.44	0.40
tblOffRoadEquipment	LoadFactor	0.44	0.40
tblOffRoadEquipment	OffRoadEquipmentType	Pavers	Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	8.00
tblTripsAndVMT	WorkerTripNumber	18.00	8.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	12.5169	147.1032	93.3058	0.1106	156.3327	6.9133	163.2459	26.4716	6.3602	32.8318	0.0000	11,708.6870	11,708.6870	3.4285	0.0000	11,780.6852
Total	**12.5169**	**147.1032**	**93.3058**	**0.1106**	**156.3327**	**6.9133**	**163.2459**	**26.4716**	**6.3602**	**32.8318**	**0.0000**	**11,708.6870**	**11,708.6870**	**3.4285**	**0.0000**	**11,780.6852**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	12.5169	147.1032	93.3058	0.1106	141.6259	6.9133	148.5392	19.0317	6.3602	25.3919	0.0000	11,708.6870	11,708.6870	3.4285	0.0000	11,780.6852
Total	**12.5169**	**147.1032**	**93.3058**	**0.1106**	**141.6259**	**6.9133**	**148.5392**	**19.0317**	**6.3602**	**25.3919**	**0.0000**	**11,708.6870**	**11,708.6870**	**3.4285**	**0.0000**	**11,780.6852**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**9.41**	**0.00**	**9.01**	**28.11**	**0.00**	**22.66**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2014	12/31/2013	5	0	
2	Architectural Coating	Architectural Coating	1/1/2014	12/31/2013	5	0	
3	Site Preparation	Site Preparation	5/1/2014	8/6/2014	5	70	
4	Salt Cedar Removal	Trenching	5/5/2014	8/8/2014	5	70	
5	Grading	Grading	6/2/2014	7/4/2014	5	25	
6	Buidling Construction	Building Construction	7/25/2014	8/28/2014	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 62.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	162	0.38
Demolition	Rubber Tired Dozers	0	8.00	255	0.40
Salt Cedar Removal	Tractors/Loaders/Backhoes	1	8.00	125	0.42
Salt Cedar Removal	Paving Equipment	0	8.00	130	0.36
Salt Cedar Removal	Rollers	0	8.00	80	0.38
Architectural Coating	Air Compressors	0	6.00	78	0.48
Site Preparation	Excavators	0	8.00	190	0.38
Site Preparation	Off-Highway Tractors	0	8.00	240	0.40
Site Preparation	Off-Highway Trucks	1	8.00	76	0.37
Grading	Excavators	1	8.00	190	0.38
Grading	Off-Highway Tractors	1	8.00	240	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	190	0.37
Building Construction	Other Construction Equipment	1	8.00	60	0.42
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	11.00	5.40	20.00	LD_Mx	HDT_Mx	HHDT
Salt Cedar Removal	1	0.00	0.00	0.00	11.00	5.40	20.00	LD_Mx	HDT_Mx	HHDT
Architectural Coating	0	0.00	0.00	0.00	11.00	5.40	20.00	LD_Mx	HDT_Mx	HHDT
Site Preparation	8	8.00	0.00	0.00	11.00	5.40	20.00	LD_Mx	HDT_Mx	HHDT
Grading	7	8.00	0.00	0.00	11.00	5.40	20.00	LD_Mx	HDT_Mx	HHDT
Building Construction	10	0.00	0.00	0.00	11.00	5.40	20.00	LD_Mx	HDT_Mx	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.4 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.2910	57.6198	42.9609	0.0391		3.1377	3.1377		2.8867	2.8867		4,155.8914	4,155.8914	1.2281		4,181.6817
Total	**5.2910**	**57.6198**	**42.9609**	**0.0391**	**18.0663**	**3.1377**	**21.2040**	**9.9307**	**2.8867**	**12.8174**		**4,155.8914**	**4,155.8914**	**1.2281**		**4,181.6817**

3.4 Site Preparation - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0526	0.0556	0.6411	7.9000e-004	64.7965	4.9000e-004	64.7970	6.4722	4.5000e-004	6.4727		69.1449	69.1449	4.6500e-003		69.2426
Total	**0.0526**	**0.0556**	**0.6411**	**7.9000e-004**	**64.7965**	**4.9000e-004**	**64.7970**	**6.4722**	**4.5000e-004**	**6.4727**		**69.1449**	**69.1449**	**4.6500e-003**		**69.2426**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	5.2910	57.6198	42.9609	0.0391		3.1377	3.1377		2.8867	2.8867	0.0000	4,155.8914	4,155.8914	1.2281		4,181.6817
Total	**5.2910**	**57.6198**	**42.9609**	**0.0391**	**8.1298**	**3.1377**	**11.2675**	**4.4688**	**2.8867**	**7.3555**	**0.0000**	**4,155.8914**	**4,155.8914**	**1.2281**		**4,181.6817**

3.4 Site Preparation - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0526	0.0556	0.6411	7.9000e-004	64.7965	4.9000e-004	64.7970	6.4722	4.5000e-004	6.4727		69.1449	69.1449	4.6500e-003		69.2426
Total	**0.0526**	**0.0556**	**0.6411**	**7.9000e-004**	**64.7965**	**4.9000e-004**	**64.7970**	**6.4722**	**4.5000e-004**	**6.4727**		**69.1449**	**69.1449**	**4.6500e-003**		**69.2426**

3.5 Salt Cedar Removal - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3916	4.5722	2.9988	4.4900e-003		0.2300	0.2300		0.2116	0.2116		475.8324	475.8324	0.1406		478.7853
Total	**0.3916**	**4.5722**	**2.9988**	**4.4900e-003**		**0.2300**	**0.2300**		**0.2116**	**0.2116**		**475.8324**	**475.8324**	**0.1406**		**478.7853**

3.5 Salt Cedar Removal - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3916	4.5722	2.9988	4.4900e-003		0.2300	0.2300		0.2116	0.2116	0.0000	475.8324	475.8324	0.1406		478.7853
Total	**0.3916**	**4.5722**	**2.9988**	**4.4900e-003**		**0.2300**	**0.2300**		**0.2116**	**0.2116**	**0.0000**	**475.8324**	**475.8324**	**0.1406**		**478.7853**

3.5 Salt Cedar Removal - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.7292	84.8001	46.0640	0.0654		3.5446	3.5446		3.2610	3.2610		6,938.6735	6,938.6735	2.0505		6,981.7331
Total	**6.7292**	**84.8001**	**46.0640**	**0.0654**	**8.6733**	**3.5446**	**12.2179**	**3.5965**	**3.2610**	**6.8575**		**6,938.6735**	**6,938.6735**	**2.0505**		**6,981.7331**

3.6 Grading - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0526	0.0556	0.6411	7.9000e-004	64.7965	4.9000e-004	64.7970	6.4722	4.5000e-004	6.4727		69.1449	69.1449	4.6500e-003		69.2426
Total	**0.0526**	**0.0556**	**0.6411**	**7.9000e-004**	**64.7965**	**4.9000e-004**	**64.7970**	**6.4722**	**4.5000e-004**	**6.4727**		**69.1449**	**69.1449**	**4.6500e-003**		**69.2426**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	6.7292	84.8001	46.0640	0.0654		3.5446	3.5446		3.2610	3.2610	0.0000	6,938.6735	6,938.6735	2.0505		6,981.7331
Total	**6.7292**	**84.8001**	**46.0640**	**0.0654**	**3.9030**	**3.5446**	**7.4476**	**1.6184**	**3.2610**	**4.8795**	**0.0000**	**6,938.6735**	**6,938.6735**	**2.0505**		**6,981.7331**

3.6 Grading - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0526	0.0556	0.6411	7.9000e-004	64.7965	4.9000e-004	64.7970	6.4722	4.5000e-004	6.4727		69.1449	69.1449	4.6500e-003		69.2426
Total	**0.0526**	**0.0556**	**0.6411**	**7.9000e-004**	**64.7965**	**4.9000e-004**	**64.7970**	**6.4722**	**4.5000e-004**	**6.4727**		**69.1449**	**69.1449**	**4.6500e-003**		**69.2426**

3.7 Buidling Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1917	34.2017	20.6657	0.0290		2.4580	2.4580		2.3090	2.3090		2,938.2162	2,938.2162	0.7565		2,954.1036
Total	**4.1917**	**34.2017**	**20.6657**	**0.0290**		**2.4580**	**2.4580**		**2.3090**	**2.3090**		**2,938.2162**	**2,938.2162**	**0.7565**		**2,954.1036**

3.7 Building Construction - 2014

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1917	34.2017	20.6657	0.0290		2.4580	2.4580		2.3090	2.3090	0.0000	2,938.2162	2,938.2162	0.7565		2,954.1036
Total	**4.1917**	**34.2017**	**20.6657**	**0.0290**		**2.4580**	**2.4580**		**2.3090**	**2.3090**	**0.0000**	**2,938.2162**	**2,938.2162**	**0.7565**		**2,954.1036**

3.7 Building Construction - 2014

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Recreational	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Recreational	12.50	4.20	5.40	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.471820	0.065078	0.165905	0.156714	0.039906	0.006660	0.011603	0.072822	0.001486	0.001268	0.003790	0.000578	0.002369

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Recreational	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0000e-005**	**0.0000**	**1.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

APPENDIX B

DRAFT BIOLOGICAL TECHNICAL REPORT AND JURISDICTIONAL DELINATION

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DRAFT
BIOLOGICAL TECHNICAL REPORT AND JURISDICTIONAL DELINATION FOR HABITAT ENHANCEMENT AND CREATION: GEOTUBE TECHNOLOGY AND SOLAR PV ON THE SALTON SEA PLAYA AT TORRES MARTINEZ WETLANDS

Submitted to:

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Submitted by:
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December 2013

AMEC Project No. 1315103100.0001

EXECUTIVE SUMMARY

The Salton Sea Authority (SSA) is proposing a habitat enhancement and creation pilot project on land owned by the Torres Martinez Desert Cahuilla Indians (Tribe) on the playa and shoreline of the Salton Sea in Mecca, California. The project will provide habitat for wildlife in the area and will also serve as a pilot project for use of the Salton Sea playa soils for renewable energy infrastructure.

The proposed Habitat Enhancement and Creation: Geotube Technology and Solar PV on the Salton Sea Playa, Torres Martinez Wetlands (project) is partially funded through grant money awarded by the SSA, Bureau of Indian Affairs (BIA), U.S. Environmental Protection Agency (USEPA), and through in-kind contributions in the form of infrastructure construction and operations. The proposed project involves habitat restoration and enhancement of existing created ponds/wetlands, development of solar photovoltaic capability to power reliable and sustainable water delivery, and creation of open water habitat using geotube technology.

AMEC Environment & Infrastructure, Inc. (AMEC) was contracted by the SSA to conduct a reconnaissance-level biological survey for the proposed project, including a jurisdictional delineation. The survey was conducted on the Torres Martinez Desert Cahuilla Indians Reservation. The proposed project may result in permanent impacts to Historical Alkali Playa, Iodine Bush Scrub, Cattail Marsh, and Open Water habitats. Jurisdictional resources, including non-wetland waters of the U.S. (WUS), wetlands, and California Department of Fish and Wildlife (CDFW) streambeds, will be permanently impacted by the proposed project.

Potential impacts associated with the proposed project include:

- Temporary disturbance to habitat for species listed as endangered or threatened under the state and/or federal Endangered Species Acts
- Permanent loss of 11.79 acres of non-wetland WUS.

Implementation of the proposed project may adversely affect desert pupfish habitat as a result of dredging activities, but is expected to have a long-term net benefit to desert pupfish habitat.

The proposed project is a habitat enhancement and creation project, which is self-mitigating. Over 58 acres of created wetlands will be enhanced during implementation of the proposed project. This wetland enhancement will include salt cedar removal via foliar treatment, cut stump/herbicide treatment using aquatic-approved glyphosate, and targeted clearing and grubbing using a backhoe. Application of herbicide will be conducted per the manufacturer's specifications and selective clearing will avoid all native species to the maximum extent practicable. Ponds will be dry during these treatments and topography will be re-established.

Furthermore, the project will create over 5 acres of open water habitat via installation of a geotube.

All potential impacts will be avoided, minimized, or self-mitigated to reduce the project's effect on biological resources to a less than significant level. The project is one of three projects that were awarded grant money through the Salton Sea Financial Assistance Program administered by the California Department of Water Resources to improve habitat for fish and wildlife at the Salton Sea. Any temporary impacts associated with implementation of the proposed activity would have a cumulative beneficial effect on wildlife species and contribute to restoring the Salton Sea.

Construction of the proposed project is expected to take approximately three months. The technologies employed by this project will be evaluated for performance and for suitability for future use in the Salton Sea playa environment (e.g. geotube ponds and the feasibility of constructing solar PV). For example, if the geotube performs well and is suitable for use on playa soils, the Tribe may authorize expansion of the geotube pond concept on the Reservation. The potential expansion area would connect to existing infrastructure and may include up to 100 acres of created open water habitat directly adjacent to the geotube pond in the proposed project.

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ACRONYMS AND ABBREVIATIONS

AMEC	AMEC Environment & Infrastructure, Inc.
BCC	Bird of Conservation Concern
BIA	Bureau of Indian Affairs
BMP	Best Management Practice
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CVWD	Coachella Valley Water District
CWA	Clean Water Act
DWR	California Department of Water Resources
FP	Fully Protected
GIS	geographic information systems
MBTA	Migratory Bird Treaty Act
N/A	Not Applicable
OHWM	Ordinary High Water Mark
project	Habitat Enhancement and Creation: Geotube Technology and Solar PV on the Salton Sea Playa, Torres Martinez Wetlands
PV	Photovoltaic
Reservation	Torres Martinez Desert Cahuilla Indians Reservation
SR	State Route
SSA	Salton Sea Authority
SSC	Species of Special Concern
WL	Watch List
WUS	Waters of the U.S.
Tribe	Torres Martinez Desert Cahuilla Indians
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

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1.0 INTRODUCTION

AMEC Environment & Infrastructure, Inc. (AMEC) was contracted by the Salton Sea Authority (SSA) to conduct a reconnaissance-level biological survey for the proposed Habitat Enhancement and Creation: Geotube Technology and Solar PV on the Salton Sea Playa, Torres Martinez Wetlands (project).

1.1 Purpose of the Report

The purpose of this Biological Resources Technical Report and Jurisdictional Delineation is to document the biological resources and jurisdictional wetlands and waters within the survey area for the proposed project, identify potential impacts to special-status biological resources, and recommend avoidance, minimization, and/or mitigation measures consistent with federal, state, and local rules and regulations (e.g. California Environmental Quality Act [CEQA]). Focused wildlife or plant surveys were not conducted by AMEC as part of this reconnaissance-level survey. However, one protocol-level focused survey was conducted by resource agency staff for the proposed project (see Section 2.1).

1.2 Project Location

The proposed project is located on the Torres Martinez Desert Cahuilla Indians Reservation (Reservation) east of State Route 86 (SR-86) adjacent to the southern terminus of Lincoln Street in the unincorporated community of Mecca in Riverside County, California (Attachment A, Figure 1). A portion of the project site is located on the Salton Sea playa at the terminus of the 76th Avenue Channel within Township 7 and 8 South, Range 9 East, San Bernardino Base and Meridian, as depicted on the Mecca and Oasis 7.5-minute U.S. Geological Survey (USGS) topographic quadrangles.

Regional access to the proposed project is provided by SR-86 that runs in a north-south direction west of the project site, and SR-111 that runs in an east-west direction north of the project site. Local access to the site will be provided partly by Lincoln Street and 76th Avenue.

1.3 Project Description

The proposed project is funded through grant money awarded to the Salton Sea Authority (SSA) by the California Department of Water Resources (DWR), and by grant money awarded to the Torres Martinez Desert Cahuilla Indians (Tribe) by the Bureau of Indian Affairs (BIA) and U.S. Environmental Protection Agency (USEPA), and through in-kind contributions in the form of infrastructure construction and operations (i.e., labor and materials). The project involves maintenance activities at the Torres Martinez Wetlands site and new construction on the Salton Sea playa and within the Salton Sea.

The proposed project includes the following components and associated infrastructure:

- Existing habitat restoration and enhancement via salt cedar (*Tamarix* spp.) removal at the created ponds within the Torres Martinez Wetlands site;
- Development of 10 acres of solar photovoltaic (PV) and associated access road to provide reliable and sustainable power for water delivery; and
- Creation of 5 acres of open water habitat using geotube technology and above-ground water delivery pipe.

The project includes maintenance of existing ponds at the Torres Martinez Wetlands site including removal of invasive salt cedar within the beds and banks of the wetland cells and water supply ditches. This wetland enhancement will include salt cedar removal via foliar treatment, cut stump/herbicide treatment using aquatic-approved glyphosate, and targeted clearing and grubbing using a backhoe. Application of herbicide will be conducted per the manufacturer's specifications and selective clearing will avoid all native species to the maximum extent practicable. Ponds will be dry during these treatments and topography will be re-established.

The 10-acre solar PV array will be installed as a pilot project to test the feasibility of renewable energy construction and operation on playa soils. The solar PV installation will also be tested for its ability to reduce fugitive dust. The PV panels will collect solar energy during daylight hours, which can be stored in a battery or used directly. The solar PV array will be connected to a solar meter, to measure and evaluate the energy production of such a development on playa soils in the Salton Sea environment. A dirt access road will be extended from the entrance of the Torres Martinez Wetlands site south along the Torres Martinez property line to provide construction and operational access to the solar PV site. The dirt access road will be constructed by brushing a 12 to 15 foot path to the solar PV site.

The project involves creation of approximately 5 acres of open water habitat at the current level of the Salton Sea using geotube technology. Geotubes will be installed along the shoreline of the Salton Sea near the outlet of the 76th Avenue Channel to create a ponded area (Figure 2). The geotubes consist of high strength permeable geotextiles that will be filled with sediment dredged from the Salton Sea primarily within the interior of the geotube pond. The dredger and dredging footprint will be contained within the geotube enclosure as identified on Figure 2. Sediment will be dredged by a DINO Six Sediment Removal System that will access the geotube location via Varner Harbor. Playa material adjacent to the Salton Sea will be pushed from the borrow area (Figure 2) into a berm at the top edge of the geotube pond to confine water at the upslope end.

Approximately 9,900 feet of 12-inch water pipeline will be extended from the existing Torres Martinez Wetlands piping structure to deliver freshwater from the Coachella Valley Stormwater Channel to the geotube location. The 12-inch pipe will be laid on the ground surface to provide a source of water for the life of the project. The proposed access road for the solar PV will be used for pipeline construction access. South of the solar PV footprint pipeline construction will require driving within a 12 foot wide path over vegetation and playa. This disturbance will be temporary as vegetation and soils will be driven over and crushed but will not be removed. The freshwater obtained from the Coachella Valley Stormwater Channel will be blended in the geotube pond with Salton Sea water, entering through a one way valve system in the geotube structure, to create a habitat that has a salinity of approximately 20 parts per thousand to meet the following objectives:

- improve open water habitat for fish and wildlife species
- prevent salt cedar from colonizing the aquatic habitat
- discourage mosquito populations

As the Salton Sea continues to recede over time, the ponded area behind the geotube will retain water and persist as open water habitat with potential for expansion.

While piping structure is currently in place to supply water from the Coachella Valley Stormwater Channel to the created wetlands, a new water pump will be connected to continue pumping water. The new, mobile trailer-mounted pump will be installed at the same location as a previous pump, and will be a 2,800 gallon per minute pump with a three-phase electric power unit. Electricity will be provided through a conduit trenched at a depth of 3 feet through the existing berm, transitioning to an above-ground utility box on the inside tow of the berm. The trench will be excavated within the boundary of an existing Coachella Valley Water District encroachment permit.

Construction of the proposed project is expected to take approximately three months The technologies employed by this project will be evaluated for performance and for suitability for future use in the Salton Sea playa environment (e.g. geotube ponds and the feasibility of constructing solar PV). For example, if the geotube performs well and is suitable for use on playa soils, the Tribe may authorize expansion of the geotube pond concept on the Reservation. The potential expansion area would connect to existing infrastructure and may include up to 100 acres of created open water habitat directly adjacent to the geotube pond in the proposed project.

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2.0 SURVEY METHODS

AMEC biologists Angie Harbin-Ireland and Nick Ricono conducted a site reconnaissance on 11 September 2013. Ms. Harbin-Ireland, Mr. Ricono, AMEC biologist Ryan Quilley, and AMEC environmental planner Laurel Lees conducted a subsequent site reconnaissance on 17 October 2013 to address changes to the project footprint. The surveys were intended as an initial evaluation of on-site habitat types and an assessment of the potential for occurrence of special-status plant and wildlife species. The entire project area was surveyed on foot and all distinct plant communities were visited, mapped, and described. All plant and wildlife species observed were recorded. The biological study area extends beyond the boundaries of the project footprint to accommodate potential adjustments to project areas and evaluate potential indirect impacts to adjacent resources. The overall study area is identified on Figure 2. AMEC restoration ecologist Carla Scheidlinger and Nick Ricono conducted an additional site meeting on 29 October 2013 with various resource agency representatives to review existing conditions and the proposed project in the field.

2.1 Special-Status Species

Prior to field surveys, sensitive biological resources with potential to occur in the study area were preliminarily identified through a review of existing maps, literature, other biological studies conducted in the region, and sensitive species occurrence databases. The following resources were reviewed in preparation for field survey efforts and to complete this report:

- Recent (2012) aerial photos and topographic maps
- California Natural Diversity Database (CNDDB) RareFind5 (California Department of Fish and Wildlife [CDFW] 2013a)
- State and federally listed endangered and threatened animals of California (CDFW 2013b)
- Special Animals List (CDFW 2011)
- Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2013c)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2013)
- U.S. Fish and Wildlife Service (USFWS) geographic information systems (GIS) records (USFWS 2013)
- Salton Sea Conservation Habitat project Final Environmental Impact Statement/Environmental Impact Report (CDFW 2013d).

Based on data review, a list of all potentially occurring special-status plant and wildlife species was prepared (Attachment B and Attachment C). All special-status species recorded within the USGS Mecca quadrangle and the eight surrounding quadrangles are included in this list along with their habitat affinities. Habitat suitability for these species was evaluated within the project area during field surveys. Based on a review of known populations in the region and field surveys conducted to date, some of these species are not expected to occur on-site. Those species known from within five miles of the site and/or with some potential to occur on-site are discussed in further detail in this report.

A survey for sensitive fish species was conducted for the project on 7 November 2013 by CDFW biologist Sharon Keeney. The survey was conducted on foot along the 76th Avenue Channel. Results of the survey were provided to AMEC via email correspondence. Due to the soft substrate of the Salton Sea shoreline, Ms. Keeney was unable to survey the Salton Sea shallow water habitat on foot.

A list of all species observed within the survey area during biological survey efforts is provided in Attachment C.

2.2 Jurisdictional Delineation

Nick Ricono and Laurel Lees delineated jurisdictional waters on the subject property on 11 September 2013 and 17 October 2013 in accordance with the procedures outlined in the U.S. Army Corps of Engineers (USACE). Surveys consisted of walking the proposed project area and identifying potentially jurisdictional water features. Visual observations of vegetation types and changes in hydrology were used to locate areas for further evaluation. Weather conditions during delineation fieldwork were conducive for surveying with generally clear skies

USACE representative, Jim Mace, visited the project site on 29 October 2013, during which the jurisdictional boundaries of the Salton Sea were discussed and clarified. Due to the steadily receding water level of the Salton Sea, the USACE uses a modified method to determine the extent of federally regulated waters, including wetlands. The USACE generally takes jurisdiction to the current Ordinary High Water Mark (OHWM) of the Salton Sea, areas of “recent hydrology” of the Salton Sea based on the previous year’s water elevation, and wetlands adjacent to those waters.

The OHWM of the Salton Sea was determined during fieldwork by direct observation. The areas of “recent hydrology” were identified by digitizing the water line from an April 2012 aerial photograph (National Agriculture Imagery Program 2012). Areas within or adjacent to areas of “recent hydrology” that contained indicators of wetland hydrology, hydrophytic vegetation, and hydric soils per the *Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008b) were classified as wetlands or waters of the U.S.

Evaluation of CDFW jurisdiction followed guidance in the California Fish and Game Code and *A Field Guide to Lake and Streambed Alteration Agreements* (California Department of Fish and Game [currently called CDFW] 1994). Specifically, CDFW jurisdiction was delineated by identifying the boundaries of on-site lakes and streambeds which consisted of either the top of bank measurement (bankfull width) or the extent of associated riparian vegetation.

Delineation data was collected using a Trimble GeoXH global positioning system. Upon completion of fieldwork, all data collected in the field were incorporated into GIS along with basemap data. GIS was then used to quantify the extent of jurisdictional waters and proposed impacts from the project.

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3.0 EXISTING CONDITIONS

3.1 Environmental Setting

The study area is located within Imperial Valley in the Salton Sea trough, bordered by the steeply rising Santa Rosa and Chocolate Mountain ranges to the west and east, respectively. The study area is located at the northwest portion of the Salton Sea, which is typified by a low-lying, sub-sea-level shoreline at approximately 233 feet below mean sea level. Topographical features in the form of small sand mounds scatter the landscape in addition to man-made levees and berms that surround nearby water features and roadways. Agriculture is the dominant land use within the region and has replaced the majority of the natural landscape. The study area is bordered with water bodies including drainage channels, the Coachella Valley Stormwater Channel, man-made ponds, and the Salton Sea.

The Coachella Valley Stormwater Channel flows from the northeast portion of the study area southeast into the Salton Sea. The 76th Avenue Channel is an agricultural drain that transports water due east to the Salton Sea at the southern terminus of the study area. The 74th Avenue Channel traverses the study area from northwest to southeast and has been connected to the 76th Avenue Channel in the past year before depositing into the Salton Sea.

A portion of the study area is located at the Torres Martinez Wetlands site, which is an 85-acre water quality wetland pilot project funded by the DWR, U.S. Burreu of Reclamation, and USEPA and developed by the Tribe to improve water quality and to enhance local wildlife habitat. The Torres Martinez Wetlands site includes seven water treatment cells and four habitat cells for wading shorebirds. Construction of the Torres Martinez Wetlands occurred in 2005 on shoreline and playa sediments, in conditions that ranged from dry to saturated. Water for the Torres Martinez Wetlands was pumped from the Coachella Valley Stormwater Channel and was distributed via pipes and valves. These cells were considered high value habitat until recently when the water pump was submerged and damaged during a flood. The habitat quality of these ponds has decreased as invasive species such as salt cedar have thrived.

3.2 Vegetation Communities

Vegetation communities and wildlife habitats present within the study area are shown on Figure 2. The vegetation communities within the study area are divided into upland and riparian/wetland vegetation types for discussion in this section.

Three main upland vegetation/land cover types are mapped in the study area:

- Developed/Disturbed
- Historical Alkali Playa
- Iodine Bush Scrub

Disturbed/Developed areas consist of permanent structures, roadways, and a maintenance yard. Developed areas support no native vegetation and may be additionally characterized by the presence of man-made structures such as buildings or access roads. The level of soil disturbance is such that only the most ruderal plant species are expected, and disturbed areas are often maintained to exclude vegetation. This land cover type does not provide valuable habitat for wildlife.

Historical Alkali Playa is located along the shoreward section of the study area that was previously inundated by the Salton Sea. It has recently been converted to terrestrial habitat by recession of the Salton Sea. This community is dominated by bare, salty soils with minimal vegetative cover including sparsely scattered iodine bush (*Allenrolfia occidentalis)* and salt cedar.

The portions of the project area that are farther inland from the shoreline are characterized by **Iodine Bush Scrub**. This community is dominated by iodine bush interspersed with salt cedar and Bush seepweed (*Suaeda nigra*). A portion of the Iodine Bush Scrub community, west of the created wetlands, contains dead cottonwood trees that provide habitat for a nest colony during the breeding season. It is presumed that herons and/or egrets utilize this nest site.

In addition, eight riparian/wetland vegetation communities are mapped in the study area:

- Tamarisk/Arrow Weed Riparian
- Created Wetlands
- Cattail Marsh
- Brine Ditch
- Drainage Ditch
- Wetlands
- Ephemeral Drainage
- Open Water

Tamarisk/Arrow Weed Riparian habitat is located along the Coachella Valley Stormwater Channel, which is a maintained drainage. The riparian area is primarily within the floodplain of the channel and includes species such as willow (*Salix* sp.), cottonwood (*Populus fremontii*), salt cedar, and arrow weed (*Pluchea sericea*).

The Torres Martinez Wetlands site provides a wetland vegetation community consisting of **Created Wetlands**, which were constructed by the Tribe and include the habitat cells and four ponds. Dense thickets of cattails (*Typha* sp.), bulrushes (*Schoenoplectus* sp.) and salt cedar dominate the Coachella Valley Stormwater Channel and the irrigation ditches that border the Created Wetland cells. Currently, the dominant species within the created wetlands is salt cedar

due to the lack of regular inundation and maintenance. Scattered cottonwood and willow trees persist and are bordered by arrow weed scrub.

Cattail Marsh dominates the man-made ditches that border the created wetlands vegetation community within the Torres Martinez Wetlands site. The **Brine Ditch** was also constructed as part of the Torres Martinez Wetlands site, and divides the iodine bush scrub upland vegetation community from the iodine bush scrub community with nest colonies. This ditch was dry at the time of the site visits.

Drainage Ditches on-site include the 74th Avenue Channel and the 76th Avenue Channel, which are maintained by the Coachella Valley Water District. **Wetlands** located in the southern portion of the project area were created from the former outlet of the 74th Avenue Channel, which discharged directly into the playa before it was connected to the 76th Avenue Channel. The wetlands in that area are composed of iodine bush, salt cedar, and salt grass (*Distichlis spicata*). Due to consistent maintenance, the 76th Avenue Channel is almost completely void of vegetation and does not provide any suitable habitat for riparian or marsh-dependent avian species. The constructed channels associated with the Torres Martinez Wetlands site and the Coachella Valley Stormwater Channel provide the only substantive marsh habitat within the study area.

An **Ephemeral Drainage** is located along the eastern edge of Ponds 1 through 3 of the Torres Martinez Wetlands site. Water is supplied to this drainage from a discharge pipe originating in the Coachella Valley Stormwater Channel.

Waters of the Salton Sea are characterized as **Open Water** in the study area. As previously mentioned, the shoreline of the Salton Sea has been rapidly receding over time. The historical and existing shorelines of the Salton Sea were mapped to assist with determining the extent of jurisdictional waters, including wetlands, in the study area.

The jurisdictional status of riparian/wetland vegetation communities in the study area is discussed in Section 3.7.1.

There is no critical habitat designated by the USFWS within the project study area.

3.3 Special-Status Plants

Special-status plant species include those listed as endangered, threatened, or rare, or those proposed for listing by the USFWS, CDFW, and CNPS. The CNPS's listing is sanctioned by the CDFW and serves as their list of "candidate" plant species. CNPS List 1B and List 2 species are considered eligible for state listing as endangered or threatened under the California Fish and Game Code. CNPS List 3 and List 4 species are considered to be either plants about which more information is needed or are uncommon enough that their status should be regularly monitored.

A complete list of all special-status plant species potentially occurring in the region is included as Attachment B. This list was compiled based on the results of a CNDDB search within the USGS Mecca quadrangle and the adjacent eight quadrangles, and supplemented by CalFlora and California Consortium of Herbaria database searches. A graphical representation of special-status plant species mapped within the vicinity of the study area is shown on Figure 3.

The project area does not provide suitable habitat to support the majority of species occurring in the region. Habitat preferences for special-status plant species in the Coachella Valley are generally limited to desert dunes, desert washes, Mojavean or Sonoran desert scrubs, chenopod scrub or chaparral. Only one taxon, jackass clover *(Wislizenia refracta* ssp. *refracta*), CNPS List 2B.2, has potential to occur in the study area based upon its habitat preference for alkali playas (Table 3-1). The nearest documented population, however, is more than ten miles from the study area, and is an outlier of the major known distribution of the subspecies near Twentynine Palms. Since suitable habitat is present but the closest known populations are moderately distant, the potential for occurrence of this species on-site is considered to be low.

Six special-status plant species have been documented within a 5-mile radius of project area. These species and their sensitivity rankings are listed in Table 3-1. They are largely desert species, whose preferred habitat is desert dunes or desert scrub, typically creosote bush scrub. These habitats are not present within the project area, so it is unlikely these species will occur within the project area; nearby records for *Ambrosia monogyra* and *Astragalus crotalarieae* are greater than 60 years old, and these species have not been documented in the area since. However, ashen forget-me-not (*Crytpthantha costata*), CNPS List 4.3, was documented within sandy soils on the Coachella Valley Stormwater Channel levee immediately adjacent to the study area in 1986. Thus there is a low potential for it to occur on the banks of the channels or other pockets of sandy soil despite the lack of suitable dune or desert scrub habitat.

Table 3-1.
Special-Status Plant Species with Proximity (< 5 miles) to the Project or with Potential Habitat Onsite

Scientific Name	Common Name	Status	Potential for Occurrence
Ambrosia monogyra	singlewhorl burrobush	2B.2	Not Expected; no suitable habitat
Astragalus crotalarieae	Salton milkvetch	4.3	Not Expected; no suitable habitat
Astragalus sabulonum	gravel milk-vetch	2B.2	Not Expected; no suitable habitat
Chylismia arenaria	sand evening-primrose	2B.2	Not Expected; no suitable habitat
Crypthantha costata	ashen forget-me-not	4.3	Low; known from immediate area
Nemacaulis denudata var. *gracilis*	slender cottonheads	2B.2	Not Expected; no suitable habitat
Wislizenia refracta ssp. *refracta*	jackass clover	2B.2	Low; suitable habitat, but not known from area

Notes:
CNPS 2B.2: Rare, Threatened, or Endangered in California, but more common elsewhere; moderately threatened within California
CNPS 4.3: Plants of limited distribution in California, low threat level in California

None of the species in Table 3-1 are listed as threatened or endangered under the state or federal Endangered Species Acts; however, CNPS List 2B.2 species are eligible for listing in California. None of these species were detected within the study area during the field surveys conducted to date (see Attachment C for a list of all common plant species observed).

3.4 Special-Status Wildlife

Special-status wildlife species include those listed by USFWS under the federal Endangered Species Act and by CDFW under the state Endangered Species Act. The USFWS officially lists species as either threatened, endangered, or as candidates for listing and gives some species designation as Birds of Conservation Concern (BCC). Additional species receive federal protection under the Bald Eagle Protection Act, the Migratory Bird Treaty Act (MBTA) and state consideration under CEQA. Many other species are considered by CDFW to be California Fully Protected Species (FP) under the California Fish and Game Code, California Species of Special Concern (SSC), or species on the Watch List (WL).

In addition, the CDFW's CNDDB tracks species within California for which there is conservation concern, including many that are not formally listed, and assigns them a CNDDB Rank (CDFW 2011). Although California SSC, CDFW Watch List species, and species that are tracked by the CNDDB are not formally listed and are afforded no official protection status (with the exception of birds covered under laws listed above), they may receive special consideration during the CEQA review process.

Wildlife species considered to be special-status for purposes of this report meet at least one of the following criteria (CDFW 2011, 2013a, 2013b, 2013c, 2013d):

- covered under the Federal or California Endangered Species Acts
- CDFW SSC
- CDFW FP
- Species tracked by CDFW's CNDDB
- Avian species on CDFW's WL, the American Bird Conservancy United States WL of BCC, and/or the USFWS BCC list
- Covered as a California protected furbearing mammal (California Code of Regulations [14 CCR, Chapter 5, Section 460])

A complete list of all special-status wildlife species potentially occurring in the region is included as Attachment C. This list was compiled based on the results of a CNDDB search within the USGS Mecca quadrangle and the adjacent eight quadrangles.

Several special-status wildlife species have been documented within a 5-mile radius of project area as depicted on Figure 4. Based on the literature review and field surveys some are considered to have potential to occur within the study area. These species are summarized in Table 3-2 and discussed in the following sections.

Table 3-2.
Special-Status Wildlife Species with Proximity (< 5 miles) to the Project or with Potential Habitat Onsite

Scientific Name	Common Name	Status	Potential for Occurrence
Invertebrates			
Oliarces clara	cheeseweed owlfly	None	Not Expected; no suitable habitat
Reptiles			
Uma inornata	Coachella Valley fringe-toed lizard	FT, SE	Not Expected; no suitable habitat
Amphibians			
Scaphiopus couchii	Couch's spadefoot	SSC	Low; marginal habitat
Fish			
Cyprinodon macularius	desert pupfish	FE, SE	Present; detected in study area
Birds			
Ardea alba	great egret	S	Present
Ardea herodias	great blue heron	S	Present
Athene cunicularia	burrowing owl	BCC, SSC	Low; limited habitat
Charadrius alexandrinus nivosus	western snowy plover	FT, BCC, SSC	Very Low; suitable foraging habitat
Circus cyaneus	northern harrier	SSC	Present
Egretta thula	snowy egret	None	High; suitable habitat
Falco mexicanus	prairie falcon	BCC, WL	Moderate; suitable foraging habitat
Gelochelidon nilotica	gull-billed tern	BCC, SSC	Very Low; suitable foraging habitat
Icteria virens	yellow-breasted chat	SSC	Low; marginal habitat
Laterallus jamaicensis coturniculus	California black rail	BSS, ST, FP	Low; marginal habitat,; not known from immediate area (>5 mi)
Nycticorax nycticorax	black-crowned night heron	CNDDB tracked	High; suitable habitat
Pandion haliaetus	osprey	WL, S	Present
Pelecanus erythrorhynchos	American white pelican	SSC	Present

Table 3-2.
Special-Status Wildlife Species with Proximity (< 5 miles) to the Project or with Potential Habitat Onsite (Cont.)

Scientific Name	Common Name	Status	Potential for Occurrence
Pelecanus occidentalis californicus	California brown pelican	FP	Present
Plegadis chihi	white-faced ibis	WL	Low; marginal habitat
Polioptila melanura	black-tailed gnatcatcher	CNDDB tracked	Present; atypical habitat
Rallus longirostris yumanensis	Yuma clapper rail	FE, ST, FP	High; suitable habitat
Rynchops niger	black skimmer	BCC, SSC	Moderate; foraging habitat
Toxostoma crissale	Crissal thrasher	SSC	Low; marginal habitat
Toxostoma lecontei	Le Conte's thrasher	BCC, SSC	Low; marginal habitat
Mammal			
Taxidea taxus	American Badger	SSC	Low; known from region, marginal habitat

Notes:
Federal Endangered Species Act or USFWS designations:
FE = Federally listed, Endangered
FT = Federally listed, Threatened
BCC = Birds of Conservation Concern
California Endangered Species Act or CDFW designations:
S = Sensitive
SE = State listed, Endangered
ST = State listed, Threatened
FP = California Fully Protected Species
SSC = California Species of Special Concern
WL = Watch List

3.4.1 Invertebrates

Only the cheeseweed owlfly (*Oliarces clara*), tracked by the CNDDB, has been documented within a 5-mile radius of the study area. This species occurs in Sonoran desert scrub and creosote bush is its likely host plant. It is not expected to occur due to a lack of suitable scrub habitat within the study area.

3.4.2 Fish

The state and federally endangered desert pupfish (*Cyprinodon macularius*) is known to occur within shallow waters of the Salton Sea and its tributaries. Sharon Keeney from CDFW Region 6 performed a protocol-level focused survey for desert pupfish within the 76th Avenue Channel near its terminus at the Salton Sea. Ms. Keeney captured 17 desert pupfish within the survey area. Due to the close proximity of the terminus of the 76th Avenue Channel at the Salton Sea and the geotube location, desert pupfish are assumed to be present within portions of the study area that meet their habitat requirements.

Suitable habitat for desert pupfish on-site includes (Figure 2):

- Open Water of the Salton Sea from 0 to 3 feet in depth
- Drainage Channels that discharge to the Salton Sea
- Cattail Marsh

Within the study area, these habitats occur within the 74th and 76th Avenue Channels, the Coachella Valley Stormwater Channel, near shore waters of the Salton Sea, margins of the created wetlands, and the ditches associated with the created wetlands.

3.4.3 Amphibians

The Couch's spadefoot (*Scaphiopus couchii*), SSC, has been documented within a 5-mile radius of the proposed project site. Couch's spadefoot has a low potential to occur within the study area due to the presence of only marginally suitable habitat. While temporary ponding was evident near the pipeline adjacent to the site, upland refugia sites for this species require friable soils for burrowing. Most soils in the study area (i.e. within the alkali playa and iodine bush habitats) are not friable. The major channels within the study area may be characterized by more friable soils, providing potential upland refugia and aquatic habitat for this species.

3.4.4 Reptiles

The federally threatened and state endangered Coachella Valley fringe-toed lizard (*Uma inornata*) has been documented within a 5-mile radius of the study area. However, suitable habitat does not exist on-site, as Aeolian (windblown) sand dunes and deposits are absent. Therefore, the species is not expected to occur within the study area.

3.4.5 Birds

Several special-status birds species were observed or have potential to occur within the study area. The American white pelican (*Pelecanus erythrorhynchos*), SSC, and California brown pelican (*Pelecanus occidentalis californicus*), FP, were observed during site visits. Although the sea provides foraging habitat, no suitable nesting habitat for either the California brown or American white pelican species was identified on-site.

Two heron species were also observed on-site, the great egret (*Ardea alba*) and great blue heron (*Ardea herodias*), considered Sensitive by the California Department of Forestry. Both species are colonial nesters, and nests observed within the dead cottonwood within iodine bush scrub located west of the created wetlands on-site may be utilized by any of several possible egret or heron species.

The black-tailed gnatcatcher (*Polioptila melanura*) was also observed on-site. This was an unusual sighting as typical habitat for the species is desert scrub, particularly desert wash woodlands. This species has no official state or federal conservation status, but is tracked by the CNDDB.

Several raptor species have potential to forage and/or nest on-site. Osprey (*Pandion haliaetus*) and northern harrier (*Circus cyaneus*) were observed during the site visits. The created wetlands and iodine bush scrub habitats provide nesting opportunities to the ground nesting harrier. Several large stick nests, presumed to be osprey nests, are present on the towers remaining from an abandoned power line that parallels the proposed above-ground water pipe.

Three species were not observed on-site but are considered to have a high potential to occur because they have been mapped by CNDDB records within 1 mile of the study area. The snowy egret (*Egretta thula*) and black-crowned night heron (*Nycticorax nycticorax*) are tracked by the CNDDB but not listed by USFWS or CDFW. Both species are colonial nesters in trees, and the nest colony described above may be utilized by these species. The federally endangered, state threatened, and FP Yuma clapper rail (*Rallus longirostris yumanensis*) prefers stands of cattails and tules dissected by narrow channels of flowing water. All of these species may forage in the wetlands found on-site, and the snowy egret may also forage along the shoreline of the Salton Sea. Yuma clapper rail has been documented within the Coachella Valley Stormwater Channel near the mouth of the Salton Sea. Dense cattail marsh within this channel and the ditches bordering the created wetlands provide suitable habitat for Yuma clapper rail.

Two species, the prairie falcon (*Falco mexicanus*), BCC and WL, and black skimmer (*Rhynhops niger*), BCC and SSC, have moderate potential to occur due to presence of suitable foraging habitat on-site. The prairie falcon is mapped within 5 miles of the project area and may forage in the open shoreline of the Salton Sea. Alkali playas may provide non-vegetated areas suitable for nesting by colonies of black skimmers, but lack of sandy or gravelly substrate might be limiting. Black skimmers may forage in the wetlands and shores of the Salton Sea. This species has been observed within 1 mile of the project area.

Nine species are considered to have a low potential to occur on-site. For most of these species, habitat may be limited in extent *(i.e.*, along upper banks of drains and levees for the burrowing owl [*Athene cunicularia*]), may be of marginal quality *(i.e.*, lacking some of the preferred microhabitat characteristics), or may be utilized for foraging with no suitable nesting habitat close by (western snowy plover [*Charadrius alexandrines nivosus*], gull-billed tern [*Gelochelidon nilotica*]). Habitat quality is the primary limitation for many of these species. For example, the created wetlands may provide habitat for a variety of freshwater marsh or desert riparian birds such as the California black rail (discussed further below), white-faced ibis (*Plegadis chihi*), vermillion flycatcher (*Pyrocephalus rubinus*), yellow-breasted chat (*Icteria virens*) and crissal thrasher (*Toxostoma crissale*), but no water was present during surveys and the riparian trees were not in good condition. In addition, the lack of species diversity might also limit attractiveness to some species. For example, the almost monoculture iodine bush vegetation of the site may not be attractive to the LeConte's thrasher (*Toxostoma lecontei*), which prefers to nest in dense spiny brush or cacti that are not found in the project area. The sensitivity statuses of these species are listed in Table 3-2.

LeConte's thrasher is one of the four species with low potential to occur that are documented by the CNDDB within five miles of the project area. The yellow-breasted chat and crissal thrasher prefer dense riparian areas, which are of marginal quality on-site. Similarly, limited habitat exists on-site for the burrowing owl, but the species may be even more limited by a lack of burrowing rodents from which to borrow burrows.

The white-faced ibis is documented just outside of the 5-mile CNDDB search area for the proposed project. The created wetland areas may provide suitable freshwater habitat, but degradation caused by salt cedar invasion and lack of water may limit the potential for utilization by this species.

The state threatened California black rail (*Laterallus jamaicensis coturniculatus*), BCC and FP, has a low potential to occur on-site. While the wetlands within the study area may provide suitable habitat for the California black rail, this species needs approximately 1 inch of water that does not fluctuate during the year and dense vegetation for nesting habitat. These particular conditions have potential to occur in the created wetlands, drainage channels, and along the Coachella Valley Stormwater Channel in the project area, but the suite of microhabitat characteristics may not be optimal for this species. The California black rail is considered to have a low potential to occur because it is not known from the immediate region and habitat is currently marginal; the closest localities are greater than 5 miles south from the project area in marshes and channels along the eastern shore of the Salton Sea.

3.4.6 Mammals

California bats and bats in general are threatened by habitat destruction, especially since a wide variety of habitats are needed for different behaviors (roosting, foraging, drinking, hibernating, etc.) Many bat species roost in groups and use mature trees, snags, crevices and man-made structures for roosting, either for winter roosting (hibernacula) or for forming summer nursery

colonies. Since some bats will roost in man-made structures such as the undersides of bridges and vacant buildings, they are particularly vulnerable to roost disturbance or destruction by humans (Currie 2000). Protecting established roost sites is of particular importance to the conservation of bats, and management of these sites is receiving increasing attention from the CDFW.

Four special-status bat species are considered to have at least some potential to occur within the study area, including the following:

- Pallid bat (*Antrozous pallidus*), SSC
- Western yellow bat (*Lasiurus xanthinus*), SSC
- Western mastiff bat (*Eumops perotis californicus*), SSC
- Spotted bat (*Euderma maculatum*), SSC

Potential bat roosting habitat in the study area includes large trees present in the created wetlands and the portion of iodine bush scrub characterized by dead cottonwoods (Figure 2). Cliffs, caves, and large rock features are absent from the study area, thus those species that utilize trees for roosting are more likely to occur on-site.

The study area provides foraging opportunities over bodies of standing water, such as the created wetlands and channels, where insects may breed and congregate under wet conditions. Bats also require open stretches of water to drink from during flight. Some species, such as the pallid bat, are known to glean large insects, including crickets, grasshoppers, beetles, and scorpions, from the ground or other surfaces. Open shrub habitats support this type of foraging.

The Palm Springs round-tailed ground squirrel (*Xerospermophilus tereticaudus chlorus*), SSC, has been documented within 5 miles of the project area but is not expected to occur because suitable microhabitat (fine-textured sandy soil and grass) is not present on-site.

Although the American badger (*Taxidea taxus*), SSC, is mapped just outside 5 miles of the project area, the species has broad habitat preferences and thus a moderate potential to occur on-site. The American badger requires habitats with sufficient food (i.e. burrowing rodents), friable soils and open, uncultivated ground. The Coachella Valley Stormwater Channel and created wetlands provide potentially suitable habitat.

3.5 Observed Species

Nine species of plants were observed during surveys for the proposed project, none of which are special-status species.

No invertebrates, amphibians, reptiles, or mammals were observed on-site during surveys for the proposed project.

Six species of fish were observed during protocol-level surveys for desert pupfish, including the special-status desert pupfish mentioned above. The remaining five species observed on-site are not special-status species.

Twenty bird species were observed on-site, including the special-status great egret, northern harrier, great blue heron, American white pelican, and osprey mentioned above. The other bird species observed on-site are protected under the MBTA and California Fish and Game Code.

A complete list of observed species is provided in Attachment C.

3.6 Wildlife Movement Corridors and Habitat Fragmentation

Wildlife movement includes migration, inter-population movement, and small travel pathways. While small travel pathways usually facilitate movement for daily activities such as foraging or escape from predators, they also provide connection between outlying populations and the main corridor. Habitat linkages facilitate movement between populations located in discrete areas and populations located within larger habitat areas. Linkages between habitat types can extend for miles between primary habitat areas and occur on a large scale throughout California.

Habitat fragmentation is an event that creates a greater number of habitat patches that are smaller in size than the original contiguous tract(s) of habitat. Fragmentation of primary habitat types can hinder regional wildlife movements.

The proposed project is a habitat enhancement and creation project and does not involve construction of permanent linear structures that would potentially fragment existing habitat. In fact, the project will enhance wildlife movement by providing wetland habitat as the Salton Sea recedes.

The only remaining natural populations of desert pupfish in the U.S. are restricted to the Salton Sea and neighboring shoreline pools, freshwater ponds, and channels that are tributaries to the Salton Sea. As the shoreline recedes, the movement of desert pupfish is restricted even further. Therefore, the proposed project will provide the habitat that would otherwise be lost without implementation of the geotube. Furthermore, habitat for bird species would also be lost as the Salton Sea recedes, so implementation of the proposed project would preserve wildlife movement and habitat linkages.

3.7 Sensitive Natural Communities

Sensitive natural communities are those that are considered rare in the region, support special-status plant or wildlife species, or receive regulatory protection. In addition, the CNDDB has designated a number of communities as rare; these communities are given the highest inventory priority. The nearest sensitive natural community mapped by CNDDB in the Mecca quadrangle is the desert fan palm oasis woodland, which does not exist in the survey area or in the project vicinity.

All wetland areas, wetland buffers, and non-wetland waters of the U.S. are considered sensitive. These areas receive regulatory protection and are discussed in Section 3.7.1.

3.7.1 Jurisdictional Features

A jurisdictional delineation was conducted in the study area. The purpose of the delineation is to determine the extent of state and federal jurisdiction within the project area potentially subject to regulation by the USACE under Section 404 of the Clean Water Act (CWA), USEPA under Section 401 of the CWA, and CDFW under Section 1602 of the California Fish and Game Code.

Potentially jurisdictional waters of the U.S. (wetland and non-wetland) and streambeds under CDFW jurisdiction were identified in several locations within the project area as identified in Figure 5. Photo points identified in Figure 5 correspond to photographs included in Attachment D.

Potential jurisdictional waters in the survey area include:

- The **Coachella Valley Stormwater Channel,** which is a maintained drainage containing cattail dominated wetlands in a low flow channel and adjacent willow (*Salix* sp.), cottonwood (*Populus fremontii*), salt cedar, and arrow weed (*Pluchea sericea*) dominated riparian habitat found within the primary floodplain of the channel.
- The Torres Martinez Wetlands, which are **Created Wetlands** constructed by the Tribe in 2006, partially inclusive of Pond 1, Pond 2, and Pond 3 identified in Figure 5. The wetlands are currently primarily vegetated with salt cedar but also including emergents, such as cattails, in the water supply ditches.
- An **Ephemeral Wash**, identified as non-wetland waters, lies along the east edge of Pond 3. Water is supplied to this area from a discharge pipe originating in the Coachella Valley Stormwater Channel.
- **Drainage Channels,** including the 74th Avenue Channel and the 76th Avenue Channel non-wetland waters that are periodically maintained by the Coachella Valley Water District.
- The **Wetland North of 74th Avenue Channel** includes a salt cedar, iodine bush, and saltgrass vegetated area that received hydrology from discharge at the end of the 74th Avenue Channel. That discharge was removed in 2013 by connecting the 74th Avenue Channel with the 76th Avenue Channel. However, wetland soils and hydrology continue to exist in this vegetated area, at least temporarily.
- **Areas of Recent Hydrology,** including a recently formed non-wetland playa that has been exposed since 2012 due to the recession of the Salton Sea.
- The **Salton Sea**, including non-wetland waters within the OHWM of the Salton Sea as identified in September and October 2013.

Table 3-3 includes a summary of each potentially jurisdictional feature, its status, area of jurisdiction, and Cowardin classification (Cowardin et. al. 1979).

Table 3-3.
Summary of Jurisdictional Features

Jurisdictional Area	Non-Wetland WUS (acres)	Wetland WUS (acres)	CDFW Jurisdiction (acres)	Latitude/ Longitude	Length of Channel (feet)	Cowardin Class
Coachella Valley Stormwater Channel	14.9	3.8	18.7	33.52117/ -116.07410	3,600	R2EM
Created Wetlands	0	58.4	58.4	33.51808/ -116.07347	N/A	PEM1
Ephemeral Wash	3.6	0	3.6	33.52272/ -116.07266	2,600	R4SB4
Drainage Channels	12.7	0	12.7	33.49893/ -116.0884	14,000	R4SB4
Wetland North of 74th Avenue Channel	0	24.6	24.6	33.50415/ -116.08027	N/A	PEM1
Areas of Recent Hydrology	83	0	83	33.50203/ -116.07367	N/A	L2US2
Salton Sea	783	0	783	33.49349/ -116.06938	N/A	L1UBH
Total	897.2	86.8	984	N/A	21,200	N/A

Notes:
CDFW - California Department of Fish and Wildlife
N/A - Not Applicable
WUS - Waters of the United States
Cowardin Class: based on Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et. al. 1979).
R2EM - Riverine, Lower Perennial, Emergent
R4SB4 - Riverine, Intermittent, Strambed, Sand
PEM1 - Palustrine, Emergent, Persistent
L1UBH - Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded
L2US2 - Lacustrine, Littoral, Unconsolidated Shore, Sand

The USACE, in combination with the USEPA, when necessary, reserves the ultimate authority in making the final jurisdictional determination of WUS. Additionally, CDFW has ultimate discretion in the determination of their jurisdiction.

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4.0 REGULATORY SETTING

The following local, state, and federal environmental regulations apply to the proposed project:

Birds of Prey Protection Provision (California Fish and Game Code § 3503.5). This provision prohibits the taking of birds of prey (Order Falconiformes and Strigiformes) including their nests and eggs.

California Endangered Species Act (California Fish and Game Code §§2050 *et seq.*). Section 2050 of the California Fish and Game Code prohibits any activities that would jeopardize or take a species designated as threatened or endangered by the state.

California Fish and Game Code. Section 1602 regulates water resources in the State of California. Activities that divert or obstruct the natural flow of, or change or use material from the bed, channel, or bank of any river stream or lake may be authorized by the CDFW. CDFW jurisdiction includes, intermittent and perennial watercourses and extends to the top of the bank of a stream or lake if unvegetated, or to the limit of the adjacent riparian vegetation, located contiguous to the watercourse, if the stream or lake is vegetated.

CEQA, as amended (Public Resources Code [PRC] §§ 21000 *et seq*.). The goal of CEQA is to assist California public agencies in identifying potential significant negative environmental impacts caused by their actions, and avoiding or mitigating those impacts, when feasible.

California Fully Protected Wildlife Species Provision (California Fish and Game Code §§ 3511, 4700, 5050, and 5515). These provisions prohibit the taking of fully protected birds, mammals, amphibians and fish.

California Native Plant Protection Act of 1977 (California Fish and Game Code § 1900-1913). These provisions preserve, protect and enhance endangered or rare native plants of the state.

CWA, Section 404 (33 CFR 328.3[a]). These provisions regulate the discharge of dredged or fill material in WUS, including wetlands. Activities that discharge dredge or fill material into WUS can be authorized by the USACE.

Federal Endangered Species Act Sections 7 and 9 (16 USC §§ 1531 *et seq*.; 50 Code of Federal Regulations [CFR] Part 402). This prohibits the “take” (i.e., harm, harass, or kill individuals, or destroy associated habitat) of species federally listed as threatened or endangered. Take incidental to otherwise lawful activities can be authorized by the USFWS through a permit under Section 4(d), 7 or 10(a).

Migratory Bird Treaty Act (16 USC 703-712; 50 CFR 10). The Federal Migratory Bird Treaty Act prohibits the direct or indirect take of migratory birds and their active nests unless permitted.

Natural Community Conservation Planning Act, as amended (California Fish and Game Code §§ 2800-2835). The primary objective of this is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listing by focusing on the long-term suitability of wildlife and plant communities and including key interests in the process.

Rivers and Harbors Act Sections 9 and 10 (33 Code of Federal Regulations [CFR] 320-332). These provisions regulate the placement of structures in navigable WUS. These activities can be authorized by the USACE.

5.0 POTENTIAL PROJECT IMPACTS

The following section provides a summary of estimated project impacts to biological resources, including vegetation, special-status species, and jurisdictional waters.

5.1 Vegetation

Vegetation communities within the project survey area may be temporarily and/or permanently impacted by implementation of the proposed project. Potential impacts include:

- Permanent impacts from brushing vegetation to provide a 12-foot wide access road, which will extend from the north end of the Torres Martinez Wetlands site to the proposed solar PV site;
- Permanent and temporary impacts from installation of the 12-inch wide above-ground water pipe, extending from the Torres Martinez Wetlands site to the proposed geotube location;
- Permanent impacts from installation of 10 acres of solar PV; and
- Permanent impacts from dredging sediments from the borrow area for the geotube enclosure, installation of an earth embankment at the geotube location, and creation of the geotube pond.

Construction of the proposed access road does not involve installation of a permanent, concrete roadway. Installation of the proposed above-ground water pipe will not require clearing or grading of vegetation.

The proposed project may result in permanent impacts to Historical Alkali Playa, Iodine Bush Scrub, Cattail Marsh, and Open Water habitats.

Table 5-1 summarizes the permanent and temporary impacts by vegetation type as depicted on Figure 6.

Table 5-1.
Project Impacts on Vegetation Communities

Vegetation Community	Temporary Impacts (acres)	Permanent Impacts (acres)	Total (acres)
Upland			
Developed/Disturbed	0.00	0.38	0.38
Historical Alkali Playa	0.76	17.40	18.16
Iodine Bush Scrub	0.35	1.00	1.35
Riparian/Wetland			
Tamarisk/Arrow Weed Riparian	0.00	0.00	0.00
Created Wetlands	58.40	0.00	58.40
Cattail Marsh	0.00	0.13	0.13
Brine Ditch	0.00	0.00	0.00
Drainage Ditch	0.00	0.00	0.00
Wetlands	0.21	0.00	0.21
Ephemeral Drainage	0.00	0.00	0.00
Open Water	0.00	5.53	5.53
Total	**59.72**	**24.44**	**84.16**

Potential temporary, indirect impacts to the vegetation communities surrounding the disturbance area as a result of grading and construction activities (i.e. dust and potential introduction of exotic plant species) are not expected to be significant.

The overall result of project will be enhancement of over 58 acres of created wetlands. Furthermore, the project will create over 5 acres of open water habitat.

5.2 Special-Status Plants

Impacts to special-status plant species with implementation of the proposed project are considered to be less than significant. Only two special-status plants have potential to occur on-site – jackass clover and ashen forget-me-not. Suitable habitat for ashen forget-me-not is restricted to the Coachella Valley Stormwater Channel which will be avoided by the project. The alkali playa which will be permanently and temporarily disturbed by the project provides potential habitat for jackass clover. Focused surveys have not been conducted for this annual species; however, the closest documented occurrence is over 10 miles away so the likelihood of its presence is minimal.

5.3 Special-Status Wildlife

There are several special-status wildlife species that have potential to occur within the project area, including fish and bird species. Potential impacts to species that were observed on-site or have a potential to occur in the project area are discussed in the following sections. Potential impacts from implementation of the potential expansion project would be similar to those described in the following sections. In addition, project-specific analysis would be completed for the expansion project to quantify impacts and obtain the appropriate permits.

5.3.1 Fish

5.3.1.1 Desert Pupfish

Dredging and temporary intake of water from the Salton Sea at the geotube site has the potential to directly impact the desert pupfish. Potential impacts may be in the form of direct loss of individuals during the dredging process, or harassment due to restriction of movement of pupfish through the enclosure area and temporary loss of habitat in the enclosure.

Installation of the proposed 12-inch water pipe will not involve excavation at any point in the project, even at its crossing of the 76th Avenue Channel at the Salton Sea shoreline. The pipe will lie from bank to bank over the current outlet, and will avoid any potential impacts to pupfish habitat with the exception of shading. The channel is currently non-vegetated yet still occupied, thus shading is not expected to affect pupfish habitat quality.

The pipeline will also cross suitable pupfish habitat in the Cattail Marsh on the north end of the project. There is an existing access road over the channel at this location that will be used to support the pipe; therefore, there will be no effects to pupfish habitat associated with this crossing.

Approximately 5 acres of suitable pupfish habitat will be temporarily unavailable to pupfish during the construction the geotube pond, but it is not expected to have a long-term affect upon the pupfish population.

The geotube pond will be designed to incorporate a valve that will allow natural Salton Sea pupfish populations to enter the open water habitat. The waters of the pond will be maintained at a salinity of approximately 20 parts per thousand, which provides a more favorable environment for pupfish than the currently high salinity of the Salton Sea. It is expected that the dredging project will enhance pupfish habitat, which will eventually be lost if the Salton Sea level recedes as currently projected.

The project will not have a permanent impact to pupfish habitat and is expected to have a long-term beneficial effect to pupfish and their habitat.

5.3.2 Birds

5.3.2.1 Yuma Clapper Rail

Implementation of the proposed project will have a less than significant impact on the Yuma clapper rail as no construction activities will be conducted in suitable clapper rail habitat. The emergent marsh habitat in the Coachella Valley Stormwater Channel and ditches associated with the created wetlands will be avoided. The created wetlands may provide suitable habitat after enhancement activities, but are not expected to support the species in their current state. Ground disturbance during removal of salt cedar in the created wetlands will occur under dry conditions and will avoid native plant species. Furthermore, all construction activities within 500

feet of potential clapper rail habitat will be conducted outside of the breeding season (March 15 – September 1). It is expected that Yuma clapper rail habitat will be enhanced within the created wetlands as a result of the proposed project.

5.3.2.2 Nest Colony

The great egret, great blue heron, snowy egret, and black crowned night heron likely nest within dead cottonwood trees on-site. However, the project will avoid the iodine bush scrub vegetation community where these nesting colonies were identified and all construction activities within 500 feet of this habitat will be conducted outside of the active nesting season. Pre-construction surveys will be conducted to confirm no active nests are located within 500 feet of construction activities.

5.3.2.3 Burrowing Owl

Potential burrowing owl habitat may occur along the banks of the major channels. No burrowing owls were observed on-site during our site visits however they have been documented immediately in the vicinity of the study area. Direct impacts to the channels will be avoided however construction activities will occur immediately adjacent. Disturbance to individual burrowing owls will be avoided through minimization measures including pre-construction surveys.

5.3.2.4 Other Nesting and Foraging Birds

With the exception of salt cedar in the created wetlands, minor vegetation removal is anticipated for project implementation as the solar PV has been designed to avoid vegetated habitats. Removal of shrubs and trees (including salt cedar) will result in a loss of potential nesting habitat for several bird species that are protected under the MBTA, California Fish and Game Code, or are considered SSC. Temporary disturbance to foraging habitats for many bird species will occur during construction activities. Habitat loss and temporary disturbance is not considered a significant impact as foraging and nesting opportunities for birds are not unique on-site and are available throughout the Coachella Valley. The quality of nesting and foraging habitat will not be reduced and the project will have an overall net benefit on habitat quality for wildlife in the region. Direct impacts to individuals will be avoided through minimization measures including pre-construction surveys and buffers.

5.3.3 Mammals

5.3.3.1 American Badger

American badgers have the potential occur within various habitats on-site. Direct loss of denning mammals during construction can be avoided through pre-construction clearance surveys and other minimization measures. Kit fox and badger dens are highly visible and identifiable by sign, shape, and size. Habitat loss is not considered a significant impact given the amount of available habitat in the region for this relatively widespread species.

5.3.3.2 Roosting Bats

Removal of trees and shrubs with implementation of the project will result in a loss of potential roosting habitat for several sensitive bat species. Habitat loss is not considered a significant impact as roosting opportunities for bats are not unique on-site and are available throughout the Coachella Valley. Direct impacts to individuals will be avoided through minimization measures including pre-construction surveys and buffers.

5.4 Wildlife Movement

Construction noise and lighting has potential to disrupt and discourage wildlife on the lands in the immediate vicinity of the project site. This may interfere with feeding, resting or reproductive activities. However, these impacts will be temporary and are offset by the net benefit of the project to wildlife in the region. Thus temporary impacts from construction noise and lighting are considered less than significant.

5.5 Jurisdictional Resources

Over 70 acres of jurisdictional resources within the project survey area may be temporarily and/or permanently impacted by implementation of the proposed project. The project involves habitat enhancement, dredging sediments in areas of recent hydrology, and discharge of dredged material into the Salton Sea, which is considered a navigable WUS. Potential impacts from implementation of the potential expansion project would be similar to those described in this section. In addition, project-specific analysis would be completed for the expansion project to quantify impacts and obtain the appropriate permits.

Potential impacts include to jurisdictional resources include:

- Permanent impacts from dredging sediments from the borrow area for the geotube enclosure, installation of an earth embankment at the geotube location, and creation of the geotube pond
- Temporary impacts from installation of the 12-inch wide above-ground water pipe and 12-foot wide (drive and crush) access for construction adjacent to the pipeline, extending from the Torres Martinez Wetlands site to the proposed geotube location; and
- Incidental sidecast from targeted removal of salt cedar using a back hoe in the 58 acres of created wetlands.

Less than 12 acres of jurisdictional resources, including non-wetland WUS, wetlands, and CDFW streambeds, will be permanently impacted by the proposed project. Table 5-2 summarizes the permanent and temporary impacts by jurisdictional status.

Table 5-2.
Summary of Proposed Impacts to Jurisdictional Features

Jurisdictional Feature	Area of Non-Wetland waters (acres)	Area of Wetland waters (acres)	Dredge Volume (cubic yards)	Fill Volume (cubic yards)	Latitude/ Longitude
Wetland north of 74th Ave Channel	0	0.21 (T)	0	20 (pipeline material only)	33.50415/ -116.08027
Areas of Recent Hydrology	6.27 (P)	0	5,000	4,000	33.50203/ -116.07367
Salton Sea	5.52 (P)	0	5,200	6,200	33.49349/ -116.06938
Created Wetlands	0	58.4 (T)	10,000	0	33.51808/ -116.07347
Total	**11.79 (P)**	**58.61 (T)**	**20,200**	**10,220**	-

Notes:
(P) - Permanent Impacts
(T) - Temporary Impacts
Cowardin Class: based on Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et. al. 1979).
PEM1 - Palustrine, Emergent, Persistent
L1UBH - Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded
L2US2 - Lacustrine, Littoral, Unconsolidated Shore, Sand

Permanent impacts to 11.79 acres of non-wetland WUS and temporary impacts to 0.21 acre of wetlands are anticipated as a result of construction of the geotube project. Temporary impacts to 58.4 acres of existing created wetlands will occur during invasive species control. The creation of new wetland and open waters as part of the geotube project, and the enhancement of existing created wetlands by tamarisk control are expected to provide a net gain to the species by increasing the total amount of suitable habitat for the desert pupfish and the Yuma clapper rail.

6.0 AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

Overall, the proposed project is a self-mitigating project. However, some avoidance and minimization measures will be implemented during construction activities to reduce potential impacts to less than significant.

6.1 Vegetation

The proposed project may result in permanent impacts to Historical Alkali Playa, Iodine Bush Scrub, Cattail Marsh, and Open Water habitats. No mitigation is required for impacts to Developed/Disturbed areas.

The proposed project is a habitat enhancement and creation project, which is self-mitigating for impacts to vegetation. Over 58 acres of created wetlands will be enhanced during implementation of the proposed project. This wetland enhancement will include salt cedar removal via foliar treatment, cut stump/herbicide treatment using aquatic-approved glyphosate, and targeted clearing and grubbing using a backhoe. Application of herbicide will be conducted per the manufacturer's specifications and selective clearing will avoid all native species to the maximum extent practicable. The ponds will be dry during these treatments and topography will be re-established after clearing and grubbing.

Furthermore, the project will create over 5 acres of open water habitat via installation of the geotube.

6.2 Special-Status Wildlife

Permanent impacts to 11.79 acres of non-wetland WUS and temporary impacts to 0.21 acre of wetland WUS are anticipated as a result of construction of the geotube, which may have a temporary impact to the desert pupfish. A qualified biologist will provide project contractors and construction crews with a worker-awareness program before any work within the project area. This program will be used to describe the species, its habits and habitats, its legal status and required protection, and all applicable mitigation measures. Similarly, the avoidance, minimization, and mitigation measures outlined in the following sections for this pilot project would be applicable to the potential expansion project. However, project-specific analysis would be conducted to quantify impacts and obtain permits for the expansion project in the future. It is not anticipated that impacts from the potential expansion project would extend beyond the species and habitats identified in this section.

6.2.1 Fish

6.2.1.1 Desert Pupfish

Desert pupfish were confirmed to be present within the 76th Avenue Channel and assumed to be present within the Salton Sea. A Biological Assessment will be submitted to the USFWS to solicit a Biological Opinion for potential effects to desert pupfish from implementation of the proposed project.

The Biological Opinion will likely include the following avoidance and minimization measures, which will be implemented to reduce impacts to desert pupfish from implementation of the proposed project:

1. Dredging and construction activities in the Salton Sea will be conducted outside of the spawning season of the desert pupfish (April through October) to reduce effects on desert pupfish spawning.
2. A pupfish barrier will be installed prior to dredging activities, and will encompass the dredging and geotube areas to exclude pupfish from water intake activities.
3. The pupfish barrier will be composed of appropriate materials (e.g. fine mesh block net or silt curtain) to confine the flow of any sediment stirred up during dredging.
4. Once a pupfish barrier is established, a pupfish removal live-trapping program will be instituted to remove any pupfish trapped within the dredging and geotube areas. Trapping will continue until five continuous days of trapping result in no pupfish captures. All captured pupfish will be transferred and released immediately within the adjacent shallow waters of the Salton Sea. Trapping protocols will follow USFWS and CDFW requirements.
5. If the pupfish barrier is dislodged, damaged, or ripped such that desert pupfish passage is possible, then dredging and project construction will cease. The desert pupfish trapping protocol will be reinitiated, and trapping will be conducted every day until no pupfish are captured for five consecutive days.
6. BMPs will be employed during dredging operations to assure that the vehicles and equipment are fueled at least 100 feet from the Salton Sea shoreline or other occupied water bodies such as the 76th Avenue Channel.
7. Barriers composed of appropriate materials will be placed around dredging equipment to prevent any accidental spill of materials into the sea.
8. In the event of an accidental spill, dredging operations will cease until the reason for the spill is determined and the spill is cleaned.
9. Installation of the temporary 12-inch water pipeline will not involve excavation at its crossing of the 76th Avenue Channel. The pipeline will lie from bank to bank over the current channel and avoid any potential impacts to pupfish.
10. BMPs will be employed while working near the 76th Avenue Channel to prevent spills, runoff, or sediment from entering the channel.

6.2.2 Birds

6.2.2.1 Yuma Clapper Rail

Avoidance and minimization measures for potential impacts to Yuma clapper rail include:

1. All construction activities proposed within 500 feet of suitable Yuma Clapper rail habitat will be conducted outside of the breeding season (March 15 through September 1). This includes vegetation clearing and grading for construction of the solar PV access road, pipeline installation, and wetland enhancement activities.

6.2.2.2 Nest Colony

Additional avoidance and minimization measures to avoid impacts to other nesting birds include:

1. Removal of trees or shrubs will occur outside of the nesting season (January 15 to September 1). If ground-disturbing activities, removal of trees or shrubs, or other construction-related activities begin between February 1 and August 31 (nesting season for passerine or non-passerine land birds) or January 15 and August 31 (nesting season for raptors), a nesting bird survey will be performed by a qualified biologist within 14 days before the removal or disturbance of potential nesting structure, trees, or shrubs. For ground-nesting birds, surveys will be conducted by walking narrow transects through the playa.
2. For those potential nesting trees or shrubs within the project site and within 500 feet of the project boundaries that will not be removed, a nesting bird survey will be performed by a qualified biologist within 14 days before initiation of construction activities that will occur in the vicinity.
3. All vegetation with active nests will be flagged and an appropriate non-disturbance buffer zone will be established around the nest site. The size of the buffer zone will be determined by the project biologist in consultation with CDFW and will depend on the species involved, site conditions, and type of work to be conducted in the area.
4. A qualified biologist will monitor active nests to determine when the young have fledged and are feeding on their own. The project biologist and CDFW will be consulted for clearance before construction activities resume in the vicinity.

6.2.3 Mammals

Avoidance and minimization measures for potential impacts to the American badger and roosting bats are itemized in the following section.

6.2.3.1 American Badger

1. A qualified biologist will conduct pre-construction surveys for American badger in all construction areas identified as potential dispersal habitat located within the project area

two weeks prior to initiation of construction activities. If an American badger or active burrow, indicated by the presence of badger sign (i.e. suitable shape and burrow-size, scat) is found within the construction area during pre-construction surveys, the CDFW will be consulted to obtain permission for animal relocation.

2. If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent badgers from re-using them during construction.
3. If the qualified biologist determines that potential dens may be active, the entrances of the dens shall be blocked with soil, sticks, and debris for three to five days to discourage use of these dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over the three to five day period. After the qualified biologist determines that badgers have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

6.2.3.2 Roosting Bats

1. A qualified biologist will conduct preconstruction surveys for active bat roosts within 30 days and within 200 feet of grading or earthmoving activities. If no active roosts are found, then no further action would be warranted.
2. If active maternity roosts or hibernacula are found in trees that will be removed as part of project construction, the project will avoid the tree occupied by the roost to the extent feasible as determined by the CDFW. If an active maternity roost is located and the project cannot avoid removal of the occupied tree, demolition will commence before maternity colonies form (i.e., before March 1) or after young are flying. Disturbance-free buffer zones as determined by a qualified biologist in coordination with the CDFW will be observed during the maternity roost season (March 1 through August 31).
3. If a non-breeding bat hibernacula is found in a tree scheduled for removal, the individuals will be safely evicted, under the direction of a qualified biologist (as determined by a Memorandum of Understanding with the CDFW), by opening the roosting area to allow airflow through the cavity. Demolition will then follow at least one night after initial disturbance for airflow. This action should allow bats to leave during darkness, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight. Trees with roosts that need to be removed will first be disturbed at dusk, just before removal that same evening, to allow bats to escape during the darker hours.

6.3 Jurisdictional Features

The proposed project is a habitat enhancement and creation project, which is self-mitigating for impacts to jurisdictional features. Over 58 acres of created wetlands will be enhanced during implementation of the proposed project. This wetland enhancement will include salt cedar removal via foliar treatment, cut stump/herbicide treatment using aquatic-approved glyphosate, and targeted clearing and grubbing using a backhoe. Application of herbicide will be conducted per the manufacturer's specifications and selective clearing will avoid all native species to the maximum extent practicable. The ponds will be dry during these treatments and topography will be re-established after clearing and grubbing.

Furthermore, the project will create over 5 acres of open water habitat via installation of the geotube.

The following measures will be implemented to avoid or minimize impacts to WUS:

1. Enhancement activities within the created wetlands will occur when the soil is dry, and the topography will be re-established.
2. There is a potential for selenium sequestered in sea sediments to be released into the water column temporarily in the vicinity of the geotube pond as a result of dredging. A silt curtain will be installed to completely surround the geotube pond dredge area to restrict the dispersal of any sediment released into the water column during the dredging of the channel and deposition of dredged materials on the adjacent shoreline.
3. Dredging activities and construction that impact water bodies with the potential to support desert pupfish will be conducted outside of the spawning season of the desert pupfish (April through October) to reduce effects on desert pupfish spawning.
4. Installation of the 12-inch above-ground water pipe to the geotube will not involve excavation, but will be laid on the surface of the ground. Pipe construction may require removal of a small amount of surface vegetation in vegetated areas including the wetland north of the 74th Avenue Channel. Temporary access by pipeline construction equipment (likely one backhoe and an all terrain vehicle) would be "drive and crush" only.
5. Temporary construction mats would be used in wetland and playa areas with unstable ground surfaces. Equipment used in playa areas may include an excavator or backhoe and/or small bulldozer.
6. The pipeline crossing the 76th Avenue Channel will lie from bank to bank over the current outlet to the Salton Sea. This method would not require excavation in the channel as the pipeline would be placed above the water level.

An application for Department of the Army permit for nationwide permit (NWP) 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities will be submitted to the USACE for the proposed project. NWP 27 will authorize the habitat enhancement activities in the existing created wetlands at the Torres Martinez Wetlands site and the creation of aquatic habitat through installation of geotube features in Salton Sea waters.

A Notification for Streambed Alteration Agreement will be sent to the CDFW for the project to comply with Section 1602 of the California Fish and Game Code. The Streambed Alteration Agreement will authorize impacts to CDFW jurisdictional areas, including areas of recent hydrology near the Salton Sea.

The avoidance, minimization, and mitigation measures outlined in this section for this pilot project would be applicable to the potential expansion project. However, project-specific analysis would be conducted to quantify impacts and obtain permits for the expansion project in the future. It is not anticipated that impacts from the potential expansion project would extend beyond the resources identified in this section.

7.0 CONCLUSIONS

The project will provide habitat for wildlife in the area and will also serve as a pilot project for use of the Salton Sea playa soils for renewable energy infrastructure. While the proposed project will permanently impact vegetation and jurisdictional resources, the project is self-mitigating. Over 58 acres of created wetlands will be enhanced during implementation of the proposed project. Habitat enhancement activities include removal of salt cedar, and other invasive species. Furthermore, the project will create over 5 acres of open water habitat via installation of a geotube.

Implementation of the proposed project may adversely affect desert pupfish as a result of dredging activities, but avoidance, minimization, and mitigation measures will reduce this impact to less than significant. Finally, the project is expected to have a long-term net benefit to desert pupfish habitat.

The project is one of three projects that were awarded grant money through the Salton Sea Financial Assistance Program administered by the DWR to improve habitat for fish and wildlife at the Salton Sea. Any cumulative impacts from implementation of the proposed activity would be beneficial to restoring the Salton Sea.

The technologies employed by this project will be evaluated for performance and for suitability for future use in the Salton Sea playa environment. For example, if the geotube performs well and is suitable for use on playa soils, the Tribe may authorize expansion of the geotube pond concept on the Reservation. The potential expansion area would connect to existing infrastructure and may include up to 100 acres of created open water habitat directly adjacent to the geotube pond in the proposed project.

The impacts and avoidance, minimization, and mitigation measures outlined in this document for this pilot project would be applicable to the potential expansion project. However, project-specific analysis would be conducted to quantify impacts and obtain permits for the expansion project in the future. It is not anticipated that impacts from the potential expansion project would extend beyond the resources identified in this section.

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ATTACHMENT A

FIGURES

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Path: R:\2013\Biology\SaltonSea_TorresMartinez\MXD\ReportFigures\BTR\Figure 1_Site_Location.mxd, aaron.johnson 12/17/2013

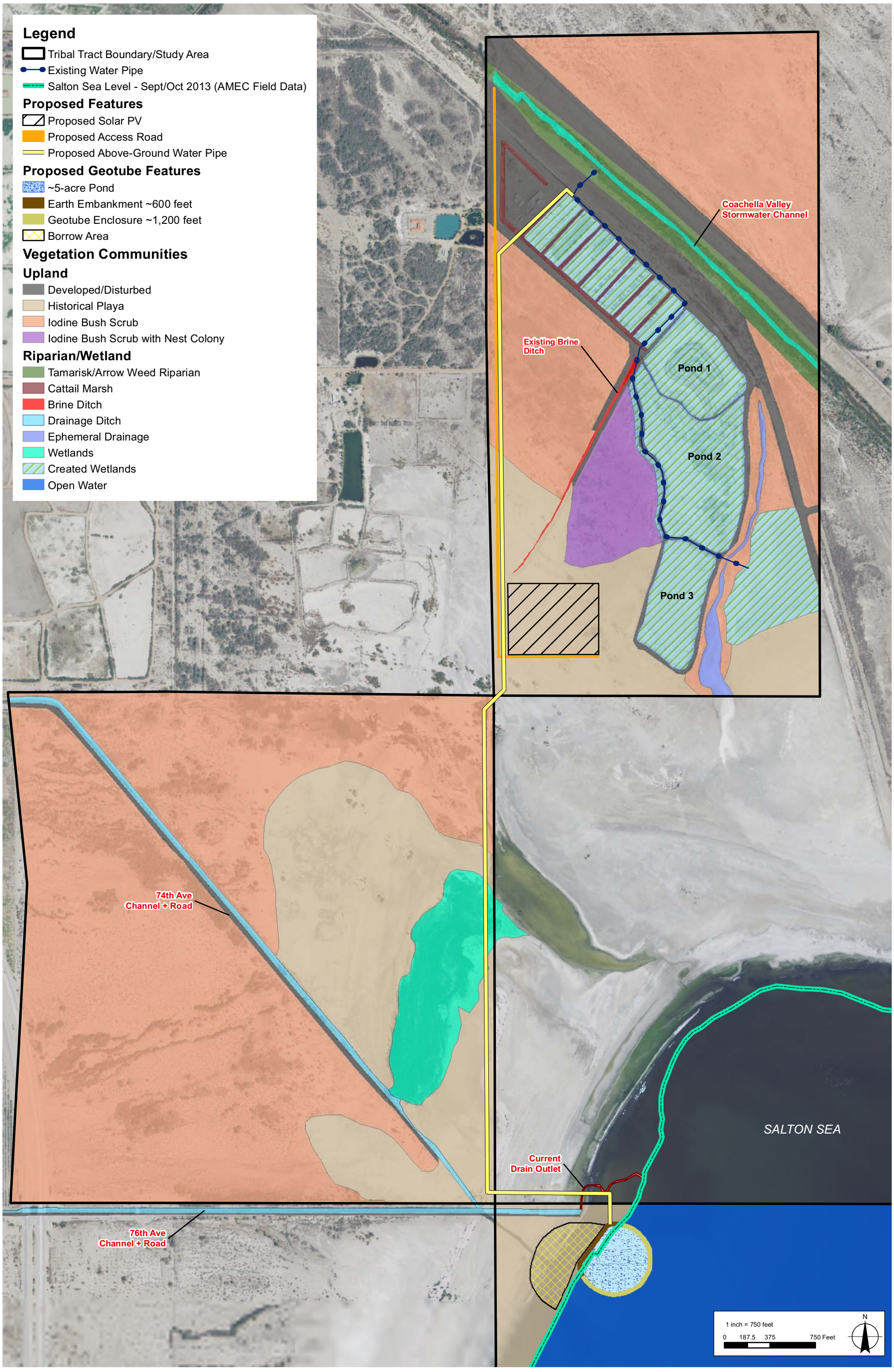
Source: ESRI - 2010

Regional Location
Habitat Enhancement and Creation:
Geotube Technology and Solar PV on the Salton Sea Playa
Torres Martinez Wetlands, Salton Sea Authority

amec

FIGURE

1



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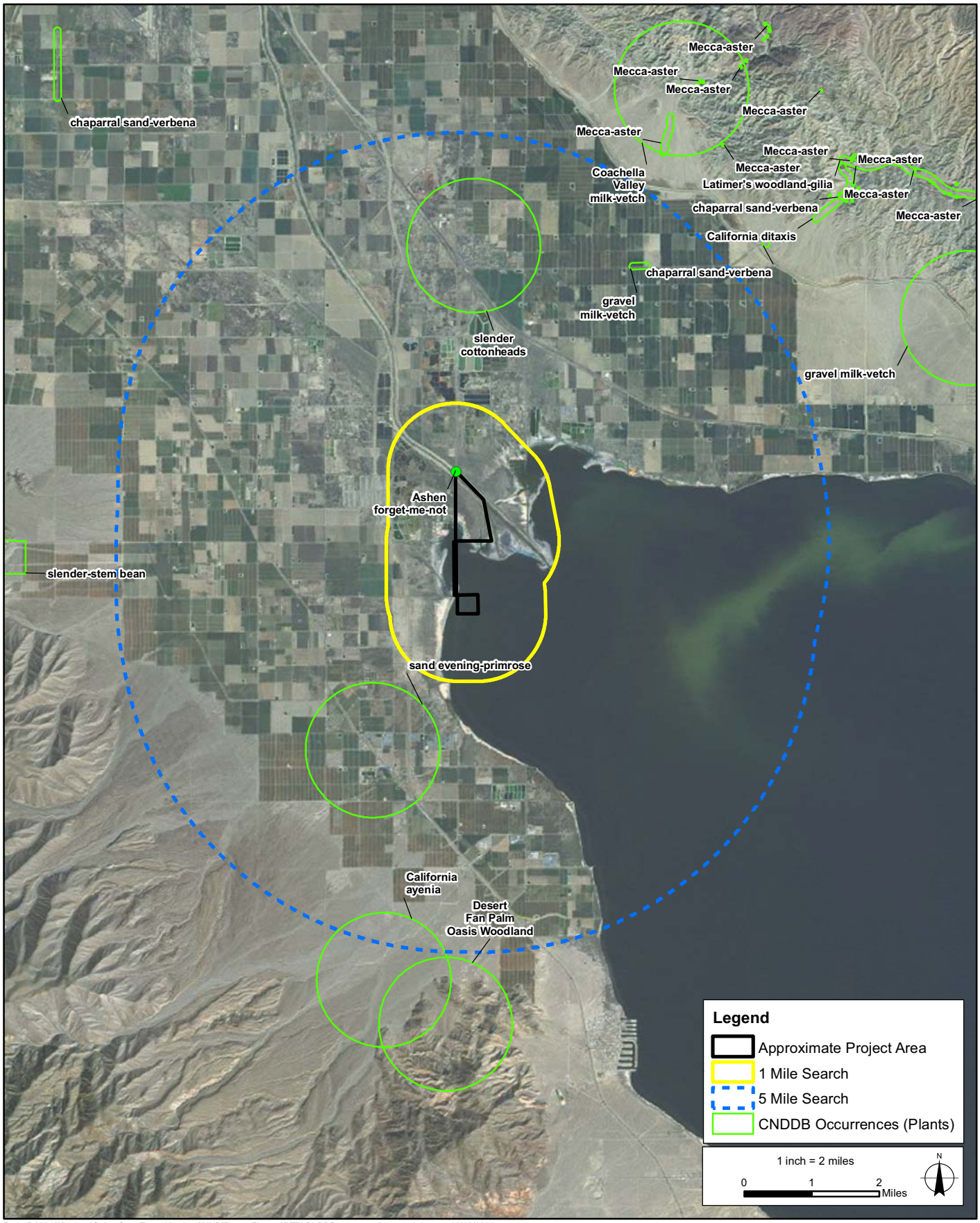
Vegetation Communities
Habitat Enhancement and Creation:
Geotube Technology and Solar PV on the Salton Sea Playa
Torres Martinez Wetlands, Salton Sea Authority

FIGURE
2



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Regionally Occurring Special-Status Plant Species
Habitat Enhancement and Creation:
Geotube Technology and Solar PV on the Salton Sea Playa
Torres Martinez Wetlands, Salton Sea Authority

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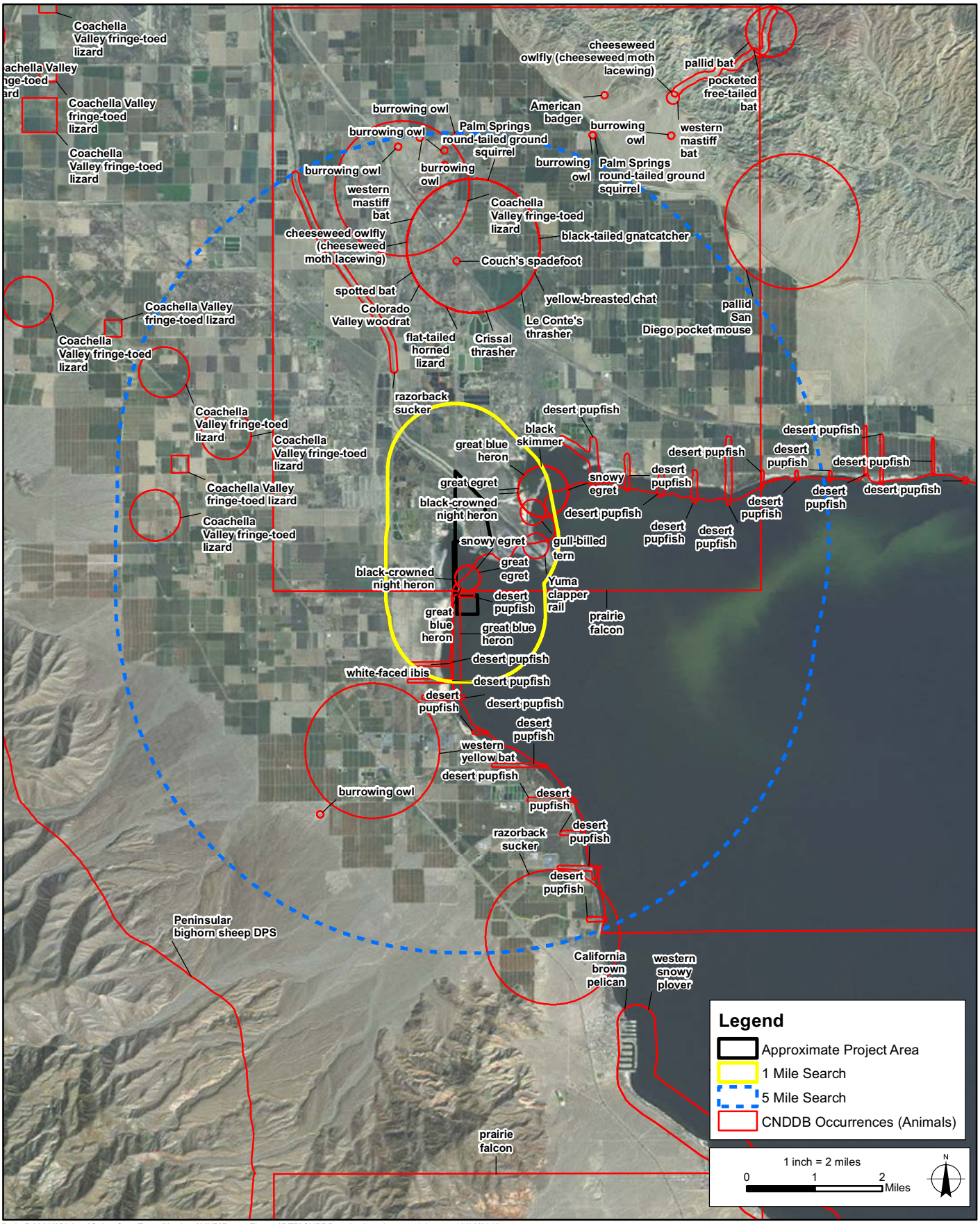
FIGURE

3



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Regionally Occurring Special-Status Wildlife Species
Habitat Enhancement and Creation:
Geotube Technology and Solar PV on the Salton Sea Playa
Torres Martinez Wetlands, Salton Sea Authority

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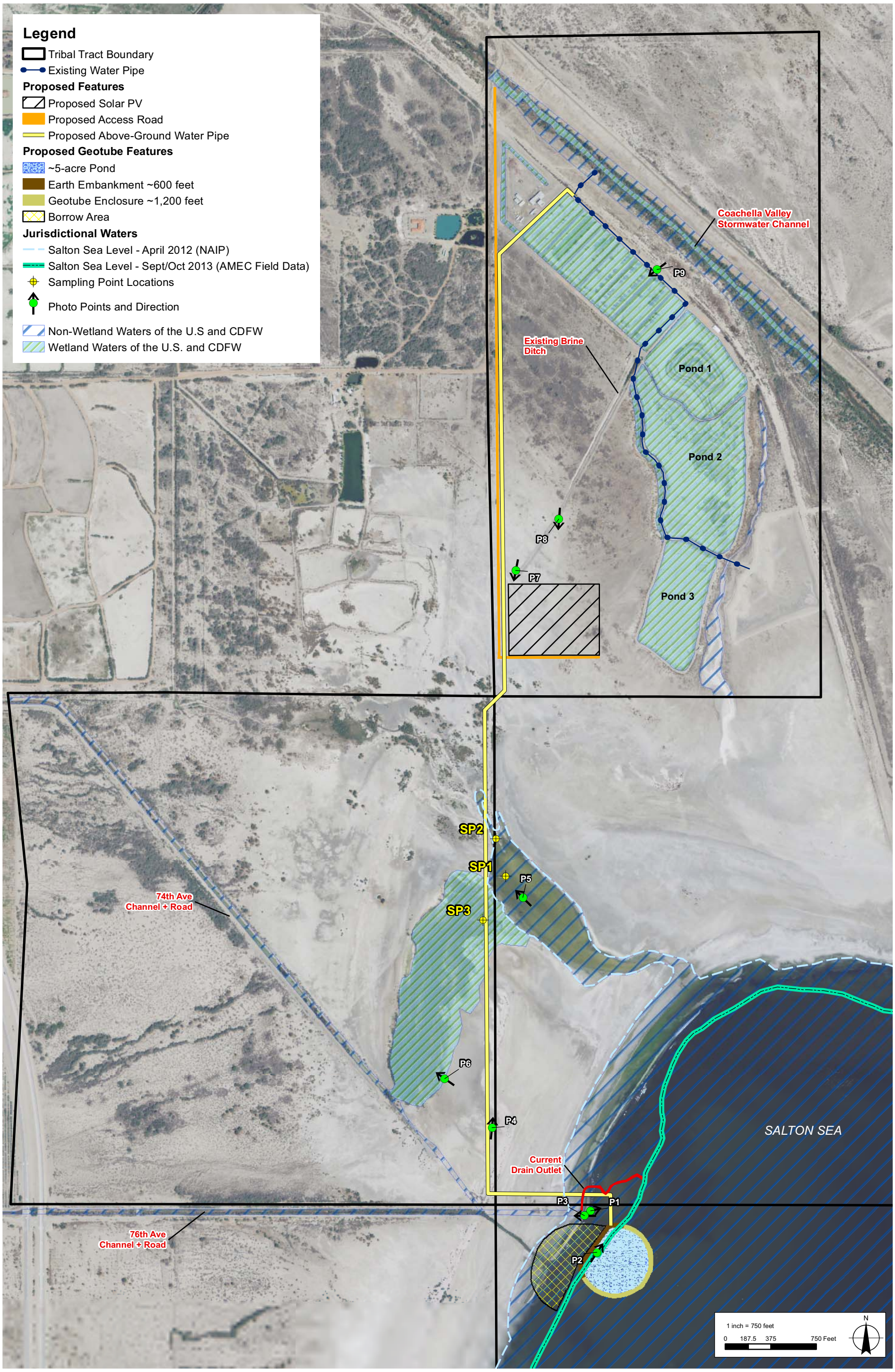
FIGURE

4



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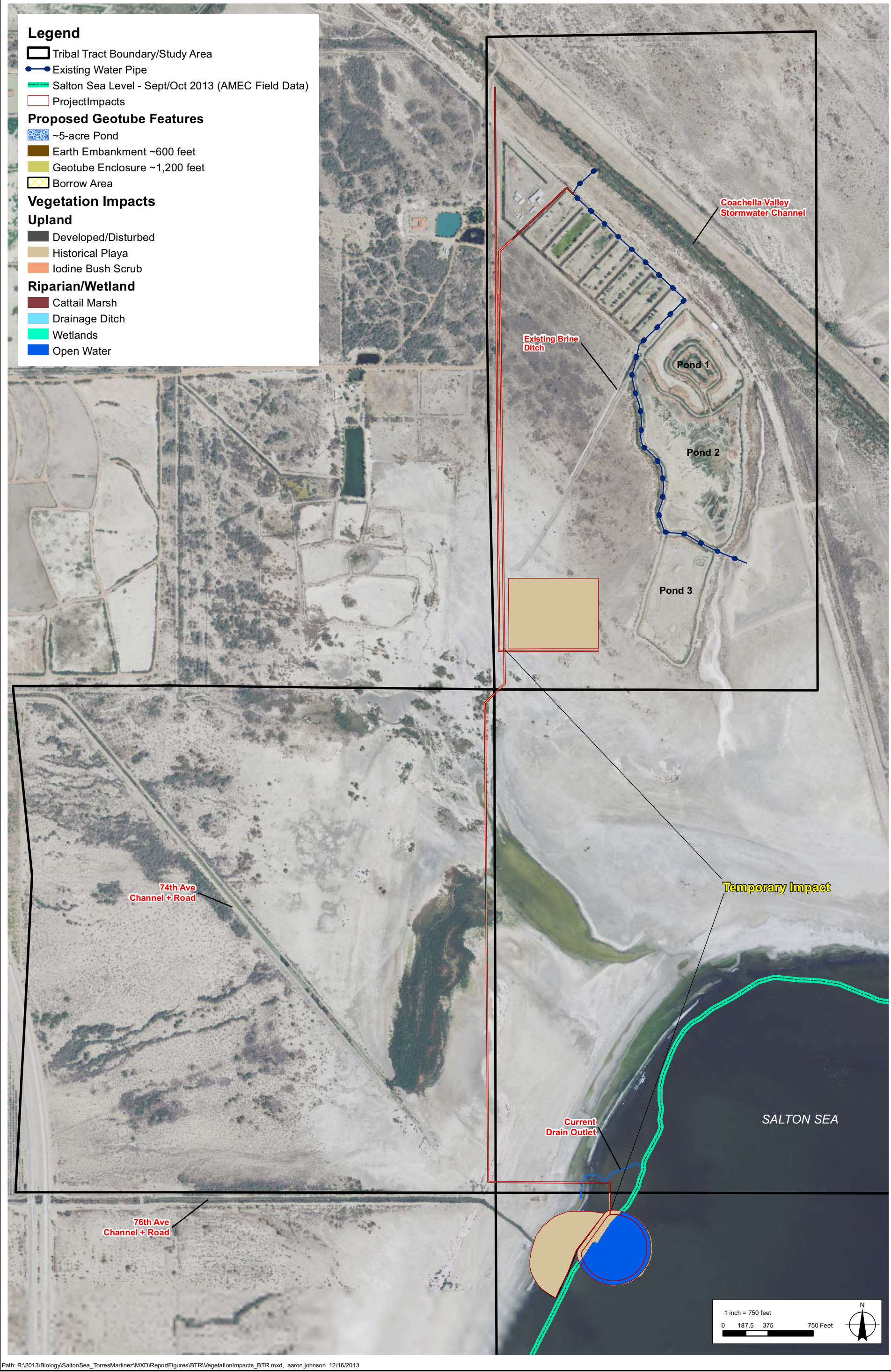
Delineation of Jurisdictional Waters
Habitat Enhancement and Creation:
Geotube Technology and Solar PV on the Salton Sea Playa
Torres Martinez Wetlands, Salton Sea Authority

FIGURE
5



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amec

Impacts to Vegetation Communities
Habitat Enhancement and Creation:
Geotube Technology and Solar PV on the Salton Sea Playa
Torres Martinez Wetlands, Salton Sea Authority

FIGURE

6

ATTACHMENT B

SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR

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APPENDIX B – PLANTS

SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE PROJECT REGION ON THE USGS MECCA, THERMAL CANYON, COTTONWOOD BASIN, MORTMAR, SALTON, OASIS, RABBIT PEAK, VALERIA, AND INDIO QUADRANGLES

Scientific Name **Common Name**	**Listing Status**			**Habitat Affinities Blooming Period Life Form**	**Potential for Occurrence**
	USFWS	**CDFW**	**CNPS**		
Abronia villosa var. *aurita* chaparral sand-verbena	S	None	1B.1	Chaparral, coastal scrub January – September Annual herb	Not Expected – habitat not suitable; no records within 5-miles of the project area.
Ambrosia monogyra singlewhorl burrobush	None	None	2B.3	Chaparral, Sonoran desert scrub, sand August – November Shrub	Not Expected – habitat not suitable; historic record within 5 miles of project, but outside of principal range
Astragalus crotalarieae Salton milkvetch	None	None	4.3	Sonoran desert scrub (sandy, gravelly) January – April Perennial herb	Not Expected – habitat not suitable; historic records within 5 miles of project area, just north of principal distribution
Astragalus lentiginosus var. *coachellae* Coachella Valley milk-vetch	FE	None	1B.2	Desert wash, Sonoran desert scrub February – May Annual/Perennial herb	Not Expected – habitat not suitable; documented outside of 5-mile search of the project area.
Astragalus preussii var. *laxiflorus* Lancaster milk-vetch	None	None	1B.1	Chenopod scrub, Desert wash March – May Perennial herb	Not Expected – habitat not suitable; outside of principal known range and not documented near the project area.
Astragalus sabulonum gravel milk-vetch	None	None	2B.2	Desert dunes, Mojavean desert scrub, Sonoran desert scrub February – June Annual/perennial herb	Not Expected – habitat not suitable; reported within 5-mile search of the project area, but not observed in area.
Ayenia compacta California ayenia	None	None	2B.3	Desert wash, Mojavean desert scrub, Sonoran desert scrub March – April Perennial herb	Not Expected – habitat not suitable; documented outside of 5-mile search of the project area.
Bursera microphylla little-leaf elephant tree	None	None	2B.3	Desert wash, Sonoran desert scrub June – July Perennial deciduous tree	Not Expected – habitat not suitable; outside of principal known range and not documented near the project area.

APPENDIX B – PLANTS

SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE PROJECT REGION ON THE USGS MECCA, THERMAL CANYON, COTTONWOOD BASIN, MORTMAR, SALTON, OASIS, RABBIT PEAK, VALERIA, AND INDIO QUADRANGLES

Scientific Name **Common Name**	**Listing Status**			**Habitat Affinities Blooming Period Life Form**	**Potential for Occurrence**
	USFWS	**CDFW**	**CNPS**		
Chylismia arenaria sand evening-primrose	None	None	2B.2	Sonoran desert scrub November – May Annual/perennial herb	Not Expected – habitat not suitable; reported within 5 miles of the project area, outside of principal range.
Coryphantha alversonii Alverson's foxtail cactus	None	None	4.3	Mojavean desert scrub, Sonoran desert scrub April – June Perennial stem succulent	Not Expected – habitat not suitable; outside of principal known range and not documented near the project area.
Cryptantha costata *ashen forget-me-not*	None	None	4.3	Desert dunes, Mojavean desert scrub, Sonoran desert scrub	Low – habitat not suitable; but reported within 1 mile of project area, within body of principal distribution
Ditaxis claryana glandular ditaxis	None	None	2B.2	Desert wash, Mojavean desert scrub, Sonoran desert scrub October – March perennial herb	Not Expected – habitat not suitable; outside of principal known range and not documented near the project area.
Ditaxis serrata var. californica California ditaxis	None	None	3.2	Desert wash, Sonoran desert scrub March – December perennial herb	Not Expected – habitat not suitable; documented outside of 5-mile search of the project area.
Leptosiphon floribundus ssp. hallii Santa Rosa Mountains leptosiphon	S	None	1B.3	Sonoran desert scrub May – July perennial herb	Not Expected – habitat not suitable; outside of principal known range and not documented near the project area.
Nemacaulis denudata var. gracilis slender cottonheads	None	None	2B.2	Coastal dunes, Desert dunes, Sonoran desert scrub March – May annual herb	Not Expected – habitat not suitable; reported within 5-mile search of the project area, but not observed in area and it is outside of principal known range.

APPENDIX B – PLANTS

SPECIAL-STATUS PLANT SPECIES POTENTIALLY OCCURRING IN THE PROJECT REGION ON THE USGS MECCA, THERMAL CANYON, COTTONWOOD BASIN, MORTMAR, SALTON, OASIS, RABBIT PEAK, VALERIA, AND INDIO QUADRANGLES

Scientific Name **Common Name**	**Listing Status**			**Habitat Affinities Blooming Period Life Form**	**Potential for Occurrence**
	USFWS	**CDFW**	**CNPS**		
Phaseolus filiformis slender-stem bean	None	None	2B.1	Desert wash, Sonoran desert scrub April Annual herb	Not Expected – habitat not suitable; documented outside of 5-mile search of the project area.
Saltugilia latimeri Latimer's woodland-gilia	S	None	1B.2	Chaparral, Mojavean desert scrub March – June Annual herb	Not Expected – habitat not suitable; outside of principal known range and not documented near the project area.
Salvia greatae Orocopia sage	None	None	1B.3	Desert wash, Mojavean desert scrub, Sonoran desert scrub March – April Perennial evergreen shrub	Not Expected – habitat not suitable; outside of principal known range and not documented near the project area.
Senna covesii Cove's cassia	None	None	2B.2	Desert wash, Sonoran desert scrub March – June Perennial herb	Not Expected – habitat not suitable; outside of principal known range and not documented near the project area.
Wislizenia refracta ssp. *refracta* jackass-clover	None	None	2B.2	Alkali playa, Desert dunes, Desert wash, Mojavean desert scrub, Sonoran desert scrub April – November Annual herb	Low – suitable habitat (alkali playa) may be present; outside of principal known range and not documented near the project area.
Xylorhiza cognata Mecca-aster	None	None	1B.2	Sonoran desert scrub January – June Perennial herb	Not Expected – habitat not suitable; documented outside of 5-mile search of the project area.

USFWS; Federal Endangered Species Act or USFWS designations:

FE:	Federally listed, Endangered
FT:	Federally listed, Threatened
S:	Sensitive

CDFW; California Endangered Species Act or CDFW designations:

SE:	State listed, Endangered
ST:	State listed, Threatened

CNPS designations:

LIST 1A:	Presumed extinct in California
LIST 1B:	Rare, threatened, or endangered in California and elsewhere
LIST 2A:	Presumed Extirpated in California, but more common elsewhere
LIST 2B:	Rare, Threatened, or Endangered in California, but more common elsewhere
LIST 3:	A Review List, eligible for listing in California, but more information is needed
LIST 4:	Plants of limited distribution in California
0.1:	Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2:	Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3:	Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

ATTACHMENT C

OBSERVED SPECIES

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APPENDIX C

SPECIES OBSERVED IN THE PROJECT AREA

Scientific Name	Common Name	USFWS	CDFW	CNPS
Birds				
Ardea alba	great egret	None	S	N/A
Ardea herodias	great blue heron	None	S	N/A
Buteo jamaicensis	red-tailed hawk	None	None	N/A
Cathartes aura	turkey vulture	None	None	N/A
Circus cyaneus	northern harrier	None	SSC	N/A
Corvus corax	common raven	None	None	N/A
Eremophila alpestris	horned lark	None	None	N/A
Himantopus mexicanus	black-necked stilt	None	None	N/A
Hydroprogne caspia	Caspian tern	None	None	N/A
Melozone crissalis	California towhee	None	None	N/A
Pandion haliaetus	osprey	None	WL, S	N/A
Pelecanus erythrorhynchos	American white pelican	None	SSC	N/A
Pelecanus occidentalis	brown pelican	None	None	N/A
Phalacrocoracidae sp.	cormorant	None	None	N/A
Polioptila melanura	black-tailed gnatcatcher	None	None	N/A
Rallus limicola	Virginia rail	None	None	N/A
Recurvirostra americana	American avocet	None	None	N/A
Sayornis saya	Say's phoebe	None	None	N/A
Thryomanes bewickii	Bewick's wren	None	None	N/A
Fish				
Cyprinella lutrensis	red shiner	None	None	N/A
Cyprinodon macularius	desert pupfish	FE	SE	N/A
Gambusia affinis	mosquitofish	None	None	N/A
Poecilia latipinna	sailfin molly	None	None	N/A
Poeciliopsis gracilis	porthole livebearer	None	None	N/A
Tilapia sp.	tilapia	None	None	N/A
Plants				
Allenrolfea occidentalis	iodine bush	None	None	None
Distichlis spicata	saltgrass	None	None	None
Pluchea sericea	arrow weed	None	None	None
Populus fremontii	Fremont cottonwood	None	None	None
Salix sp.	willow	None	None	None
Schoenoplectus sp.	bulrush	None	None	None
Suaeda nigra	Bush seepweed	None	None	None
Tamarix ramosissima	salt cedar	None	None	None
Typha sp.	cattail	None	None	None

USFWS; Federal Endangered Species Act or USFWS designations:

FE = Federally listed, Endangered
FT = Federally listed, Threatened
BCC = Birds of Conservation Concern

CDFW; California Endangered Species Act, CDFW or California Department of Forestry (CDF) designations:

S = Sensitive (CDF)
SE = State listed, Endangered
ST = State listed, Threatened
FP = California Fully Protected Species
SSC = California Species of Special Concern
WL = Watch List

CNPS designations:

LIST 1A:	Presumed extinct in California
LIST 1B:	Rare, threatened, or endangered in California and elsewhere
LIST 2A:	Presumed Extirpated in California, but more common elsewhere
LIST 2B:	Rare, Threatened, or Endangered in California, but more common elsewhere
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0.3:	Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

ATTACHMENT D

PHOTOGRAPHIC LOG

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Photograph No. 1 - Facing northeast from the end of the 76th Ave Channel showing the outfall, recently formed playa, and the Salton Sea. The Geotube pond is proposed for construction at the edge of the current sea level. An earthen berm will be constructed at the western edge of the pond along the playa to create wetland habitat.

Photograph No. 2 - Photograph facing northeast showing the proposed location of the Geotube pond at the current level of the Salton Sea.

Photograph No. 3 - Facing west showing the east end of the 76th Ave Channel road and drain.

Photograph No. 4 - Photograph facing north showing the approximate location of the 12-inch water pipeline along the property boundary of the Torres Martinez Indians. The property boundary lies to the west (left) of the electrical poles shown in this photo. The photo shows the historical playa of the Salton Sea.

Photograph No. 5 - Photograph facing northwest showing a playa with “recent hydrology” that was inundated in 2012, but is currently dry. Electrical poles at the left edge of the photo show the property boundary of the Torres Martinez Indians.

Photograph No. 6 - Photograph facing northwest showing the iodine bush, salt cedar, and saltgrass dominated wetland habitat at the former discharge of the 74th Ave Channel. Wetland hydrology and soils persist in this location. The 12-inch water pipeline will be placed along the ground surface through the eastern edge of this wetland.

Photograph No. 7 - Photograph facing south showing historical playa that was inundated in 2007, but is now dry. The playa is the approximate site of Solar PV construction. The electrical poles at the right edge of the photo are the approximate property boundary of the Torres Martinez Indians.

Photograph No. 8 - Photograph facing south showing the boundary between iodine bush scrub and historical playa that was inundated in 2006, but is now dry. The playa is the approximate site of Solar PV construction.

Photograph No. 9 - Photograph facing southwest showing the existing condition of the Torres Martinez Wetlands (created wetland cell) that is choked by salt cedar along its banks. This project includes removal of salt cedar using cut stump/herbicide treatment method but no disturbance of soils within existing ponds.

APPENDIX C

PHASE I CULTURAL RESOURCES ASSESSMENT OF AN APPROXIMATELY 85-ACRE PILOT WETLAND PROGRAM PROPERTY, THERMAL AREA OF UNINCORPORATED RIVERSIDE COUNTY, CALIFORNIA

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Phase I Cultural Resources Assessment of an Approximately 85-Acre Pilot Wetland Program Property, Thermal Area of Unincorporated Riverside County, California

Prepared for:

Torres Martinez Desert Cahuilla Indians
P.O. Box 1160
Thermal, CA 92274

Prepared by:

James Brock

December 2004

USGS 7.5' Topographic Quadrangle: Mecca, Calif.
Acreage: Approx. 85
Key Words: Torres Martinez Reservation, Thermal, Negative Archaeological Survey, Salton Sea
AAG Job No: 041129

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MANAGEMENT SUMMARY

This report presents the results of a Phase I cultural resources assessment for an approximately 85-acre property in Thermal, unincorporated Riverside County, California. This property is Torres Martinez Desert Cahuilla tribal land and is under consideration for a pilot wetland program. The study area is located on the northwest shore of the Salton Sea at the southern terminus of Lincoln Street.

This study consisted of a NHPA Section 106 Phase I investigation that included an archaeological records search, a walkover field survey of the properties, limited archival research, and Native American consultation. The purpose of the study was to identify any "historic properties," as defined in 36 CFR Part 800, that are in or near the project APE (area of potential effect). Such properties consist of precontact or historic cultural resources in excess of 50 years in age.

A records search conducted for the property indicated that it had not been previously surveyed for cultural resources. The records search indicated that no cultural resources had been previously recorded on, or within one mile of, the study area. Very little previous archaeological/historical research has occurred in the region.

A Sacred Lands File check with the State's Native American Heritage Commission was negative. The property holds no special cultural concerns for the project sponsors, the Torres Martinez Desert Cahuilla Indians.

The field reconnaissance of the property was negative. No "historic properties" (archaeological or historical sites, features, isolated artifacts, buildings, structures, or cultural landscapes) were identified on the study area. No known potentially significant cultural resources will be impacted by the proposed development. There is a potential for buried precontact cultural resources to be present, as the property is in a silt-accumulating context.

INTRODUCTION

This report presents the findings of a Phase I (archaeological/historical survey) cultural resources study for an approximately 85-acre property located at the southeast corner of the intersection of Lincoln Street and Avenue 72. This parcel is located on Torres Martinez Desert Cahuilla tribal land in the Thermal area of unincorporated Riverside County, California (Figures 1, 2, 3, and 4). A pilot wetland project is proposed for the property.

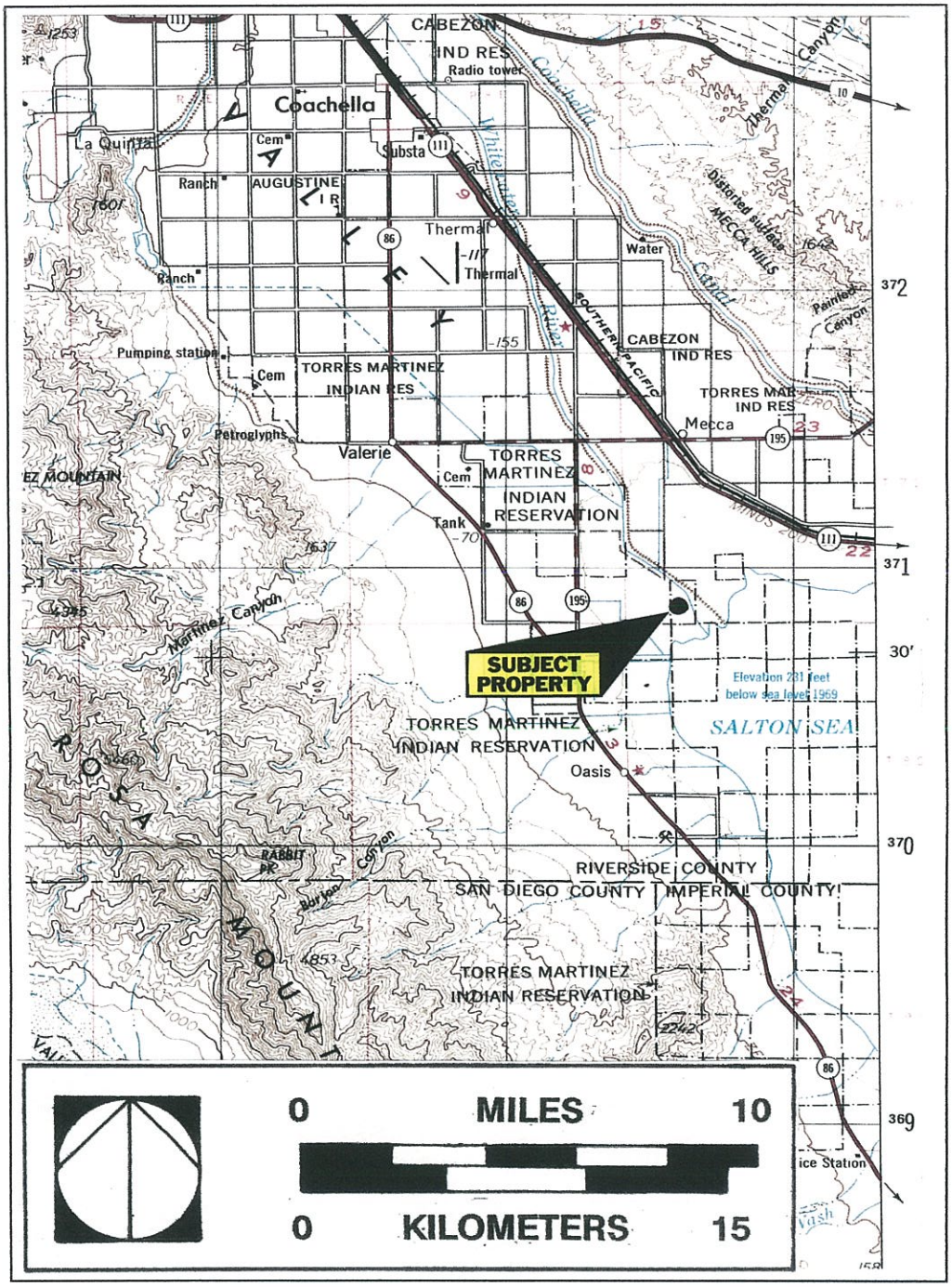

Figure 1. General location of the study area plotted on a portion of the USGS 1:250,000 Western United States Series Santa Ana, California map (1959, revised 1979).

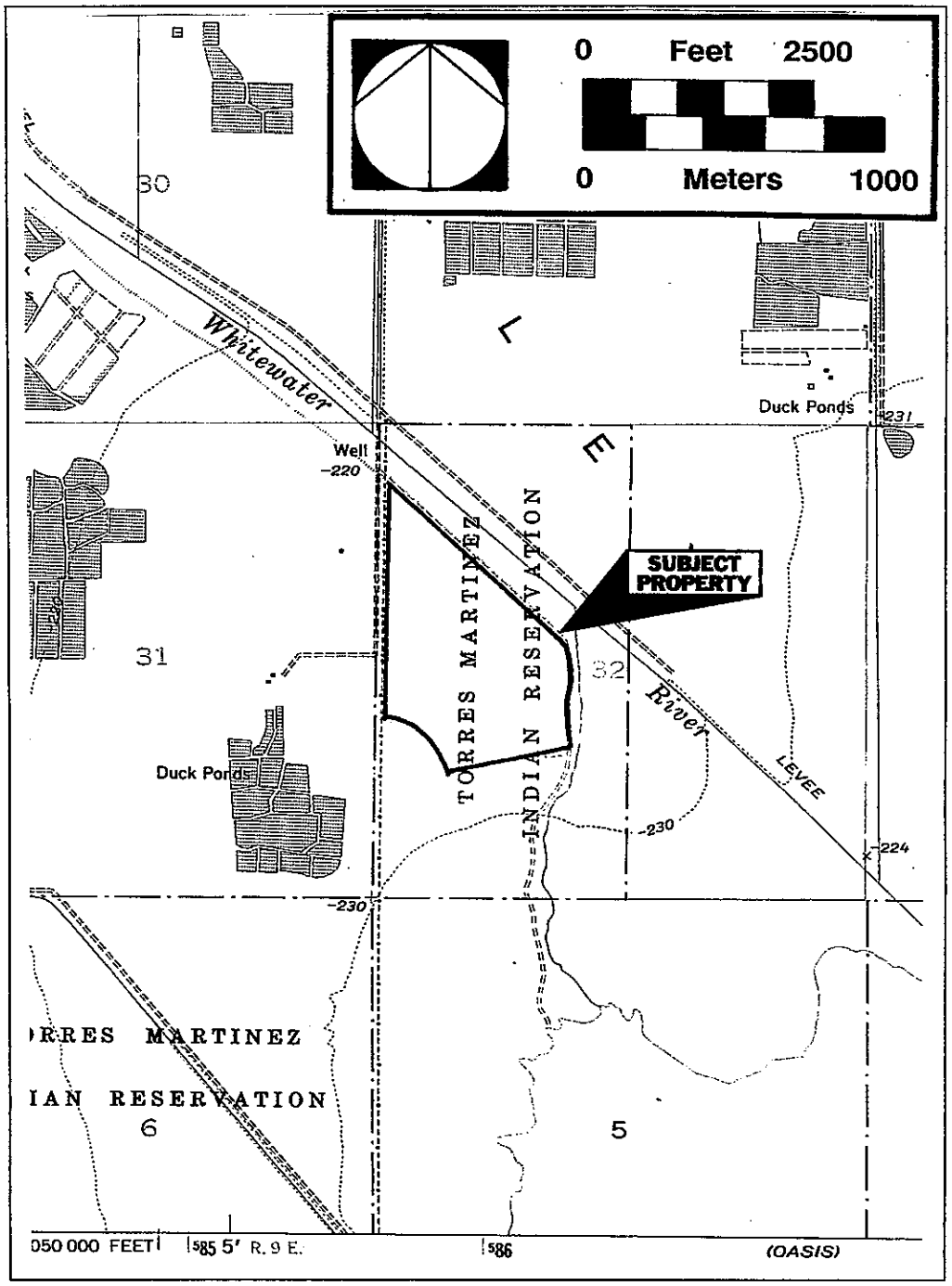

Figure 2. Specific location of the study area plotted on a portion of the USGS 7.5' Mecca (1955, photorevised 1972) topographic quadrangle.

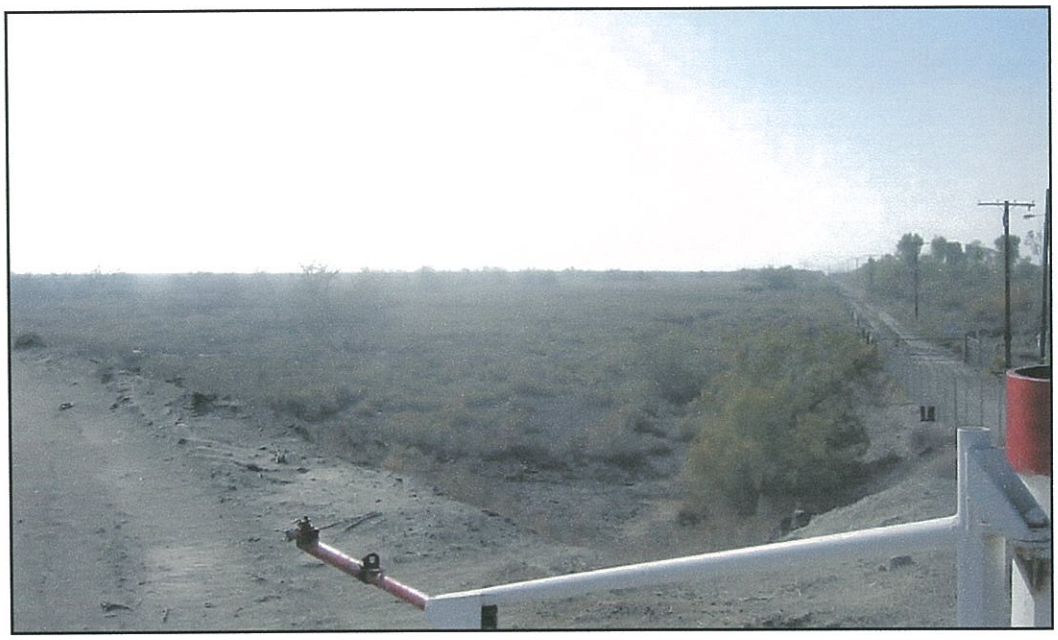

Figure 3. General view from the northern tip of the study area looking south-southeast. The western bank of the Whitewater River Channel is on the left.

Figure 4. General view of the study area from the southeastern corner looking northwest.

Fieldwork entailed a systematic, intensive pedestrian survey of the entire project area. The project was conducted by Archaeological Advisory Group for the Torres Martinez Desert Cahuilla Indians.

The proposed project is subject to review by various Federal agencies including the U.S. Army Corps of Engineers, the Bureau of Reclamation, and the Bureau of Indian Affairs. This study is intended to address the requirements of Section 106 of the National Historic Preservation Act as defined in the regulations of the Advisory Council on Historic Preservation, "Protection of Historic and Cultural Properties" (36 CFR Part 800). Briefly, the "Section 106 review" process applies to any property listed in, or eligible for (even if as yet undiscovered), the National Register of Historic Places. It is intended to identify eligible properties, determine the effect of a project on the property, and, if there is an adverse effect, provide ways to avoid or reduce it.

The Principal Investigator was James Brock. He was assisted with the fieldwork by Mary Anne Eason. The qualifications of these individuals are presented in Appendix 1. All Archaeological Advisory Group staff meet and exceed the Secretary of the Interior's qualifications for their particular staffing level.

Field notes and other materials pertaining to this study are on file with Archaeological Advisory Group (Job No. 041129). No artifacts were observed or collected during the study.

LOCATION AND ENVIRONMENTAL SETTING

The study area is located within the Thermal area of unincorporated Riverside County, California (Figures 1 and 2). The project area is irregularly shaped and falls within the western half of Section 32, Township 7S, Range 9E, SBBM, as shown on the USGS 7.5' Mecca, California topographic quadrangle (Figure 2). The subject property consists of an alkali flat associated with the northwest shoreline of the Salton Sea. The study area elevation is approximately 222 feet *below* mean sea level (msl). The soil is a dark gray-brown saline silt ranging from crusty to finely powdered. The current vegetation consists of an alkali flat community consisting almost exclusively of *Allenrolfea occidentalis* (iodine bush), *Suaeda moquinii* (bush seepweed), and *Tamarix sp.* (tamarisk). The nearest natural source of water comprises the Whitewater River located immediately to the northeast of the study area. The river has been channelized and a large bank separates it from the proposed project area. The study area would have been part of the natural flood plain of the Whitewater River. Channelization of the river may have impacted the natural ground of the subject property.

The study area would have been occasionally inundated by the Ancient Lake Cahuilla, which had a high stand of 42 feet amsl. This lake, also called Lake La Conte or Blake's Sea, existed during periods of inundation of the area by the Colorado River. The River's usual course was to flow directly into the Gulf of California. Periodically, fluctuations in distributary channels would create an accumulation of sediments at the river's mouth. This would result in the formation of a delatic barrier which restricted access to the gulf, causing the course of the river to

shift. This diversion caused the Salton Trough, a geologic depression that extends northward 140 miles (225 km) from the gulf, to fill and form a huge fresh water lake. It is believed that the lake has filled four or five times within the last 2000 years. During high stands the study area would have been submerged under some 264 feet of water.

The study area falls within the Lower Sonoran Life Zone (Bean and Saubel 1972:12). This zone extends from the desert floor (below sea level) to the pinyon-juniper belt (about 3,500 feet amsl). This region generally has a low rainfall of less than 5 inches of precipitation annually. It is also one of the hottest regions of the world with temperatures easily exceeding 100° Fahrenheit (Bailey 1966:42).

PRECONTACT BACKGROUND

While the regional ethnography of the study area is fairly well accounted for, its precontact history is poorly understood. Archaeologists have struggled for years to put together comprehensive chronologies for what is referred to as the Precontact (or "Prehistoric") Period (time preceding contact with Europeans) of Native American history. The sequence of prehistoric habitation presented here is based primarily on the concordance of sequences presented by Warren (1984) and Warren and Crabtree (1986). Warren's timeframe divisions were based on technological changes in lithic use (i.e. milling stones and projectile points). His model was originally devised for the Mojave desert region, but because of basic technological similarities in southern California Indian cultures it is also applicable, with some modifications, to the Colorado desert peoples.

Lake Mojave Period

This period probably represents the earliest phase of human occupation in southern California. It began by at least 10,000 BC and lasted until around 5000 BC. This period is characterized by hunting of larger games animals using spears and articulated spear-throwing devices termed "atlatls." Spear points of this period initially were quite large, lanceolate in shape, and were oftentimes fluted, having a longitudinal groove along the central portion of the body for attachment to a spear. Other projectile points such as Lake Mojave, Parman, and Silver Lake points, were somewhat smaller (though still large in comparison to later arrow points) and foliate in shape. Crescents, specialized scrapers, leaf-shaped knives, drills, and some choppers/ hammer stones are other tools which have been identified with this period. Milling stones typically are not present. The artifact assemblage of this period is indicative of a generalized hunting and gathering subsistence economy.

Archaeological sites from early on in this period were generally associated with Pleistocene lake shorelines. As the Altithermal (a warmer and drier climatic period that lasted from 6000 BC to 900 BC) set in, sites began to concentrate around desert oases, away from receding lakes that were becoming too brackish for consumption. This movement likely spawned the technological change that would lead to the Pinto Basin complex.

Pinto Period

The Pinto Period (or Early Archaic) dates from around 5000 to 2000 BC, corresponding roughly to the Millingstone Horizon in the coastal areas of California. Although desert and coastal peoples shared cultural traits during this period, desert peoples probably did not have the same dependence on milling stones as coastal peoples. Seed grinding does not appear to be an important economic activity yet to the peoples of this period, but the presence of flat slab and occasionally shallow-basin metates along with manos, indicates growing importance that plant seed resources were beginning to have. Presumably these peoples were still maintaining a large and small game hunting and vegetal gathering economy during this period. Pinto points, as defined by Campbell and Campbell (1935), are the distinctive lithics of this period. These are usually found in association with heavy-keeled scrapers, and milling stones.

Pinto Basin complex sites are generally found in association with ephemeral lakes, stream channels, and springs, which to some suggests a break in the Altithermal warming. Presumably there was a reoccupation of lakeshore areas around 4500 BC and then a retreat back to desert oases by 3500 BC. This time period is known as the Little Pluvial.

Gypsum Period

The Gypsum Period (Late Archaic) is believed to date from around 2000 BC to about AD 500. Again, primary artifacts indicative of this period are projectile points of various types, including Gypsum Cave, Humbolt series, and Elko series points. The early Gypsum period is characterized by larger projectile points when use of the dart and atlatl were still common. Later, with the introduction of the bow and arrow, smaller points become prominent. Manos and metates become more common, and the mortar and pestle come into use--indicating a developing reliance upon fleshier seed foods such as mesquite pods and acorns. Presence of *Haliotis* and *Olivella* shell beads in sites of this period provide the earliest evidence for contact between desert and coastal peoples.

Saratoga Springs Period/Patayan I

The Saratoga Springs Period lasts from about AD 500 to 1200. The Patayan I Period lasts from about AD 700 to 1000 (Waters 1982:281). During this period the southern desert region, in which the Coachella Valley lies, deviates from the rest of the desert region due to heavy cultural influence by the Patayan, a lower Colorado River group. The Patayan influence brings drastic technological change to the peoples of this region. Buffware and Brownware pottery, made using the paddle and anvil technique, are introduced and reliance on the bow and arrow increases which leads to a new projectile point type called Cottonwood Triangular. Milling stones, including manos, metates, pestles, and mortars are also present in this time period.

Shoshonean Period/Patayan II and III

The Shoshonean Period spans from AD 1200 to contact with Europeans. The Patayan II Period lasts from about AD 1000 to 1500. The Patayan III Period lasts from about AD 1500 to European contact. It is characterized mostly by continuing regional development, which causes

groups to differentiate technologically, ethnographically, and linguistically. In the Coachella Valley region, Patayan influence continues, with Colorado Buffware and Tizon Brownware still present. There are a number of changes in the Patayan ceramic traits, such as the disappearance of the Colorado shoulder, red clay slip, and incised decoration (Waters 1982:287). New ceramic traits include recurved rims and stucco finish. Desert Side-notched points have become the dominant point type.

Proto-Historic Period

The Desert Cahuilla are the Native Americans ethnographically associated with the Coachella Valley region. They are a Takic speaking people who are more closely culturally tied with coastal and Colorado River groups than with most Mojave desert peoples. The Cahuilla inherited much of their material culture from the Patayan people however they were linguistically different, being Shoshonean rather than Yuman, like the Patayan.

First known contact with the Cahuilla by a European was during the Juan Bautista de Anza expedition in 1774-1776. They were largely ignored by the Spanish until the establishment of the Asistencias San António de Pala (1816), Santa Ysabel (1818), and San Bernardino (1830). Through these mission outposts the Spanish managed to indirectly influence Cahuilla religious beliefs and culture. During the Mexican occupation of California, the Cahuilla were largely left alone by intruders. It was not until 1853 when the Southern Pacific Railroad began surveying the Coachella Valley for a possible railroad route that the Cahuilla were again bothered. By this point the lands inhabited by the Cahuilla had become desired by Americans. In response to this, President Ulysses S. Grant began allotting Cahuilla lands in 1875 to American settlers. It was during this period when the removal of the Cahuilla to government reservations began. Ten reservations were created that affected the Cahuilla; of these, four are in the Coachella Valley.

Ethnography

Many studies of Cahuilla culture have been conducted over the years. Among the most informative accounts are Bean (1972, 1978), Strong (1929), Hooper (1920), and Kroeber (1908). Four excellent ethnobiological studies also exist (Ebeling 1986, Barrows 1900, Kroeber 1925, and Bean and Saubel 1972), as well as archaeological accounts of prehistoric Cahuilla adaptations to the desiccation of ancient Lake Cahuilla (e.g. Wilke 1978).

The Cahuilla are divided by anthropologists into three subgroups, the Desert Cahuilla of the Coachella Valley, the Pass Cahuilla of the San Gorgonio pass area, and the Mountain Cahuilla of the Santa Rosa and San Jacinto mountains. These divisions were based on geographic separation and dialect differences, but they were not necessarily recognized by the Cahuilla themselves. Actually, the Cahuilla did not consider themselves to be of one tribe as western anthropologists have designated them to be. Bean (1972:85) reported that "the maximal level of social identification among the Cahuilla was the *?ivi?lyu?atum*, a linguistically and culturally defined group . . . [which] refers to persons speaking the Cahuilla language and recognizing a commonly shared cultural heritage . . . [but] a more precise membership criterion existed at the next level of group identity." A person's inclusion in his or her moiety and lineage (or clan) was primary to any tribal affiliation.

The two moeities, or main divisions, of the Cahuilla were the *Istam* (coyote) and the *Tuktum* (wild cat). Moieties were patrilineal and exogamous, meaning that lineage was followed through the father and that members of one moiety had to marry into the other. Clans were numerous and were named after or associated with the villages they comprised. Individual clans claimed ownership over their village and the territories in which they hunted, gathered, and camped. Territories could be several square miles in extent and were only for the use of a specific lineage. Mesquite grove boundaries, for instance, were drawn to include specific trees. Everyone knew who those trees belong to so that if someone from another lineage was found trespassing, a fight could ensue. But in times of need, areas were shared with other clans. This allowance occurred regularly with mesquite because these groves do not produce bountiful crops each year. In the case of crop failure, a neighboring clan would invite the misfortunate person into their territory to gather.

HISTORICAL BACKGROUND

With the desiccation of ancient Lake Cahuilla Native American settlement moved onto the fertile lake bed around what was to become Coachella and Thermal. Their water supply was provided by hand-excavated wells. The early General Land Office surveyors, particularly Henry Washington and John La Croze, noted fairly heavy Cahuilla use of the region at the time they surveyed for the 1856 map of the region. It is no strange coincidence that so much reservation land exists in the area.

The region is historically associated with the unincorporated town of Thermal. The town started with the establishment of a post office at the Southern Pacific station of Kokell in 1901. The next year the Thermal townsite was filed and the post office was renamed (Gunther 1984:270).

METHODS

RECORDS SEARCH

An archaeological records search for the study area was conducted by the author on December 7, 2004 at the Eastern Information Center of the California Historical Resources Information System (CHRIS) at the Department of Anthropology, University of California, Riverside.

ARCHIVAL RESEARCH

Limited archival research was conducted for the project area using the Science Library Map Collection and the Rivera Library at UC Riverside on December 7, 2004, as well as material on the Thermal and Mecca areas on file with Archaeological Advisory Group. This research entailed reviewing US General Land Office (USGLO) plat maps, US Geological Survey (USGS) maps, and the history of the region. Internet sites checked consisted of the Bureau of Land Management land patents site (www.glorecords.blm.gov) and the National Park Service's National Register of Historic Places site (www.cr.nps.gov/nr).

As a further step in the research the following "heritage property" registers were checked for this property: *The National Register of Historic Places* (American Association for State and Local History 1991), *California Historical Landmarks* (California Department of Parks and Recreation 1990), and *California Inventory of Historic Places* (California Department of Parks and Recreation 1976). Additional registers were checked during the records search at UC Riverside. No historical resources listed in these publications were found to be specific to, or adjacent to, the study area.

FIELDWORK TECHNIQUES

An initial orientation visit to the study area was made by James Brock with Torres Martinez staff on November 24, 2004. The systematic pedestrian survey of the study area was conducted on December 1 and 8, 2004 by James Brock and Mary Anne Eason. The parcel was generally walked in 5 to 10 meter systematic east-west transects, beginning at the southeast corner of the study area and ending at the northern tip. The central western portion of the study area has very dense growths of *Allenrolfea occidentalis* (iodine bush) where ground surface visibility was poor (±5%) and transect intervals needed to be wider (20-30 meters). Approximately 25 total person hours were spent on field work. Ground surface visibility ranged from poor (as noted) to excellent (95%+) in the less vegetated southern area.

All "historic properties" (prehistoric or historic cultural resources over 50 years in age) were considered for potential significance.

SACRED LANDS FILE CHECK/NATIVE AMERICAN COORDINATION

A request was made to the Native American Heritage Commission (NAHC) on November 29, 2004 for a check of their Sacred Lands File. The Sacred Lands File search was negative. The NAHC cover letter is attached to this study as Appendix 2. The project sponsors, the Torres Martinez Desert Cahuilla Indians, do not have any special concerns regarding the project proposed for this portion of their tribal lands.

RESULTS

RECORDS SEARCH RESULTS

The records search conducted at the Eastern Information Center of the California Historical Resources Information System (CHRIS) at the University of California, Riverside indicated that the property had not been previously surveyed for cultural resources and that no cultural resources were known to exist within the property boundaries. Two previous archaeological surveys, both negative, have occurred within a one-mile radius of the study area (Dominici 1988; Budinger 2003). No properties within one-half mile of the study area have been previously examined for archaeological resources. Less than five percent of the area within a one-mile radius of the study area has been examined for archaeological resources. By southern California standards this is a very low percentage. The nearest *recorded* archaeological sites are over two miles away. The archaeological potential of the area is essentially unknown.

The records search also indicated that no historic resources (buildings, structures, linear features, etc.) have been recorded, as yet, within a one mile radius of the study area, although historical maps indicate that a few are present.

ARCHIVAL RESULTS

The US General Land Office (USGLO) 1856 plat map shows no cultural activity in the vicinity of the study area. There is a well present about one mile to the west of the subject property. The USGLO 1914 map shows no cultural activity in the vicinity of the study area. The USGS 15' Coachella map for 1941 (Figure 5), the US Army Corps of Engineers 15' Coachella map for 1944, and the USGS 15' Coachella map for 1956 (Figure 6) all show the channelized Whitewater River going across the western half of Section 32. None of the maps show other cultural activity within this one-half section (in which the study area falls). By 1956 there are a couple of houses located on private property to the west of the study area.

The on-line Bureau of Land Management land patent records produced no information for this Torres Martinez Desert Cahuilla tribal property.

The records search and background research indicated that the study area was in a location that was of low sensitivity for prehistoric and historic cultural resources, although the lack of research in the area may have been skewing the data.

FIELD SURVEY RESULTS

The field reconnaissance conducted for this study was negative. No prehistoric or historical sites, structures, buildings, cultural landscapes, or features ("historic properties") were located during the field reconnaissance. The possibility of ancient archaeological sites being deeply buried—perhaps many meters deep--under silt deposits from the Ancient Lake Cahuilla cannot be entirely ruled out.

EVALUATION/RECOMMENDATIONS

RESOURCE EVALUATION/POTENTIAL IMPACTS

Under Section 106 of the National Historic Preservation Act a cultural resource can be regarded as potentially significant, and therefore potentially eligible for inclusion in the National Register of Historic Places (NRHP), if it meets one or more of the following criteria (Advisory Council on Historic Preservation 1984):

A. Association with events that have made a significant contribution to the broad patterns of history.

B. Association with the lives of persons significant in our past.

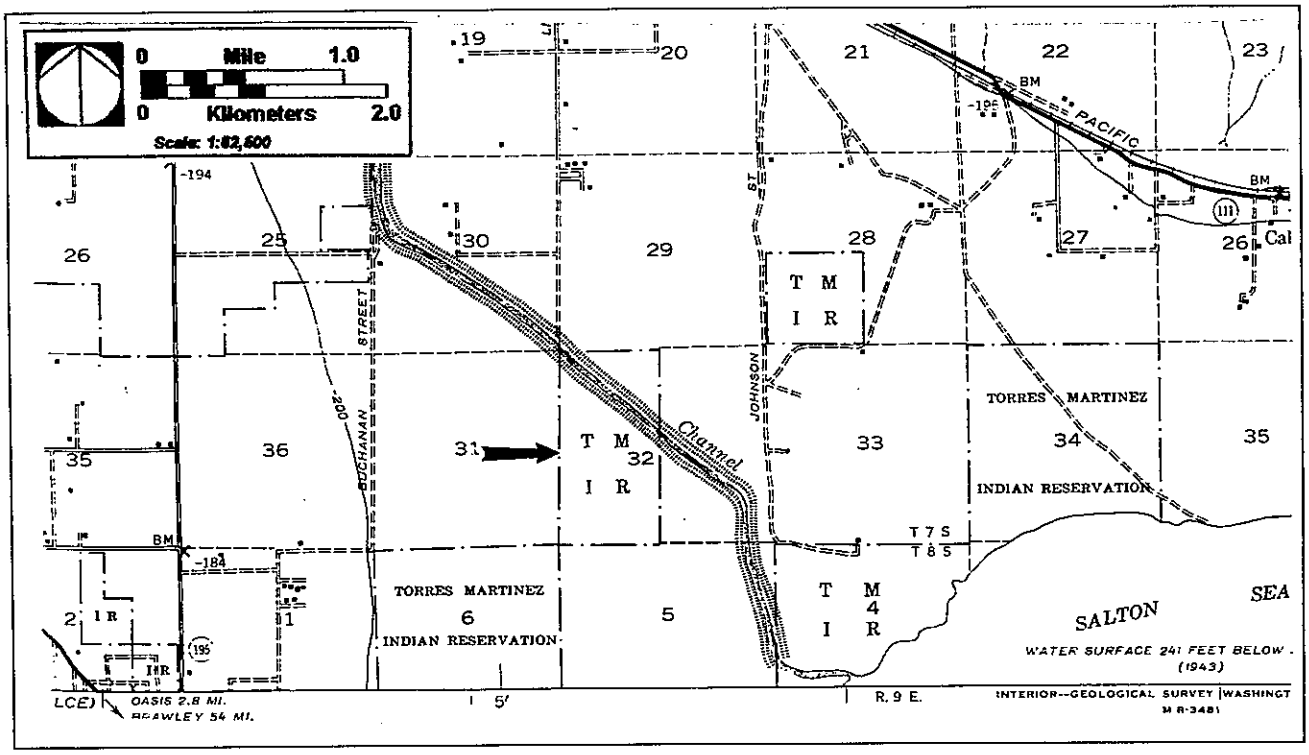

Figure 5. A portion of the 1941 USGS 15' Coachella map with the study area vicinity indicated (W. half of Section 32).

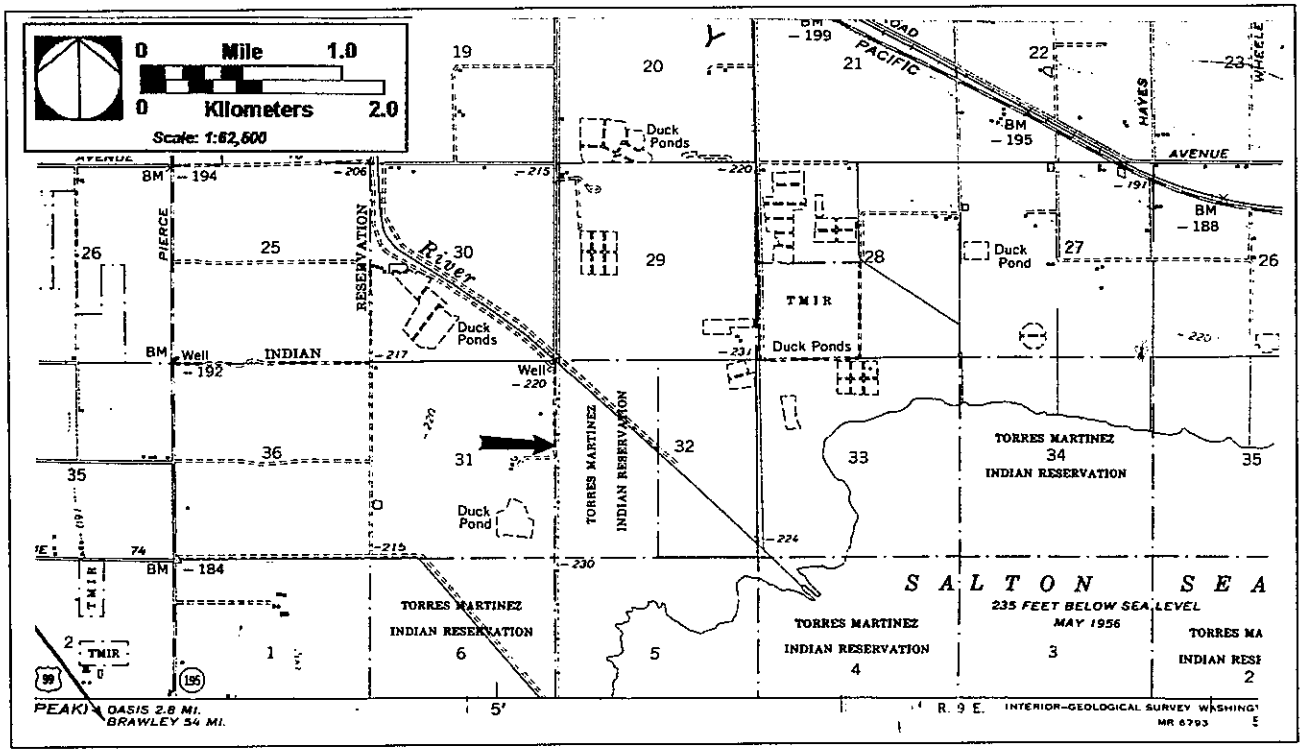

Figure 6. A portion of the 1956 USGS 15' Coachella map with the study area vicinity indicated.

C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction.

D. Have yielded or may be likely to yield information important in history or prehistory.

No "historic properties" (prehistoric or historical resources over 50 years in age) have been identified on the study area and the proposed project will have no adverse impact on known, potentially significant cultural resources.

RECOMMENDATIONS

In the event that buried "historic properties" are discovered during earthmoving activities for the project, work should stop in the vicinity of the find and a plan of action for their evaluation and treatment should be developed in consultation with the Federal agencies involved and a qualified archaeological consultant (meeting the Secretary of the Interior's Standards and Guidelines).

In the unlikely event that human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98.

CERTIFICATION

CERTIFICATION: I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this archaeological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: 12/15/2004 Signed: _____

James Brock, MA, RPA
Principal Investigator

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APPENDIX 1: PERSONNEL QUALIFICATIONS

James Brock (Principal Investigator)

- BA (Anthropology) UC Santa Barbara
- MA (Archaeology) University of Durham, Durham, England
- Registered Professional Archaeologist (RPA), i.e. listed on Registry of Professional Archaeologists, formerly the Society of Professional Archaeologists (SOPA). SOPA certifications in field research, theoretical/archival research, and historical archaeology.
- 24 years of experience as a Principal Investigator on cultural resource management projects throughout southern California

Mary Anne Eason (Archaeologist)

- BA (Anthropology), CSU San Bernardino
- MA (Anthropology), UC Riverside
- Anthropology Instructor (adjunct), San Bernardino Valley College
- 6 years of cultural resource management experience in southern California

APPENDIX 2:

RESULTS OF SACRED LANDS FILE CHECK (CALIFORNIA NATIVE AMERICAN HERITAGE COMMISSION)

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

December 10, 2004

James Brock
Archaeological Advisory Group
PO Box 491
Pioneertown, CA 92268

Sent by Fax: 760-369-4002
Number of Pages: 2

Re: Proposed 85-acre property on Torres Martinez Desert Cahuilla Tribal Land, Riverside County

Dear Mr. Brock:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-6251.

Sincerely,

Karen Fowler

for: Carol Gaubatz
Program Analyst

APPENDIX D

CULTURAL RESOURCES REVIEW OF PILOT WETLANDS PROJECT - TORRES MARTINEZ RESERVATION LETTER

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THE TORRES MARTINEZ DESERT CAHUILLA INDIANS
P.O. Box 1160
Thermal, CA 92274
(760) 397-0300 – FAX (760) 397-8146

November 14, 2013

Debi Livesay
Water Resources Manager
Torres Martinez Desert Cahuilla Indians

RE: Cultural Resources Review of Pilot Wetlands Project – Torres Martinez Reservation

Dear Debi Livesay,

Please accept this letter as confirmation that the Torres Martinez Tribe has reviewed the cultural resources assessment and gives its support of the project.

After reviewing the documents regarding the cultural assessment for the pilot wetlands project on 85 acres of the Torres Martinez Desert Cahuilla Indian Reservation, we advise the following:

Although there are no profound concerns regarding the disturbance of cultural resources, the Tribe advises that a cultural monitor be present for all ground disturbances relating to this project. The project area is within the historical and traditional use area of the Torres Martinez Tribe and the Tribe needs to protect cultural resources in the event of an unanticipated discovery. Furthermore, if any burial sites are disturbed, the monitor has the authority to halt the project until a qualified archaeologist (RPA) can investigate the discovery and, if necessary, work with the Tribe in preparing a mitigation plan. Additionally, should human remains be discovered, the monitor has the authority to halt the project until the county coroner can investigate the finding.

The Tribe requests to receive regular updates from you in addition to the stipulations stated in the above paragraph.

If you have any questions, do not hesitate to contact me via e-mail at mkrystall@tmdci-nsn.gov or via phone at (760)409-2987.

Sincerely,

Matt Krystall

Matthew Krystall
Tribal Resources Manager