Biological Technical Report

Vega SES 4 Solar Project

Imperial County, California

Prepared for:

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LIST OF ACRONYMS AND ABBREVIATIONS

AOU	American Ornithologists' Union
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CNPSEI	CNPS Electronic Inventory
CWA	Clean Water Act
ESA	Endangered Species Act
GIS	Geographic Information System
GPS	Global Positioning System
HCP	Habitat conservation plan
MBTA	Migratory Bird Treaty Act
MW	Megawatt
MWH	Megawatt-hour
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	Vega SES 4 Solar Project
RWQCB	Regional Water Quality Control Board (Colorado River Basin)
SAA	Streambed Alteration Agreement
SSAR	Society for the Study of Amphibians and Reptiles
SSC	Species of Special Concern
sUAS	Small unmanned aircraft system
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

The Vega SES 4 Solar Project (Project) is a 100-Megawatt (MW) direct current (dc) and 400 MW-hour (MWH) battery storage utility-scale solar project located on approximately ±511.61 acres of vacant land in Imperial County, California (CA). ECORP Consulting, Inc. conducted a literature review, small unmanned aircraft system (sUAS) survey, and biological reconnaissance survey of the Project Area to document the existing biological resources, to assess the habitat for its potential to support sensitive plant and wildlife species, and, as required under the California Environmental Quality Act (CEQA), to determine whether Project-related impacts would occur to sensitive biological resources.

1.1 Purpose of the Report

This report was prepared to describe biological resources in the Project and to support Project review under CEQA. Assessment of potential occurrences of special-status plants and animals is based on habitat, geographic and elevational range, and data from field surveys conducted by ECORP in 2020 and 2022. For purposes of this report, the term "Project Area" refers to the solar field and the access road which include areas of permanent impacts. The term "Survey Area" refers to the areas proposed to be directly affected by the Project, the 500-foot buffer, and areas potentially subject to temporary impacts.

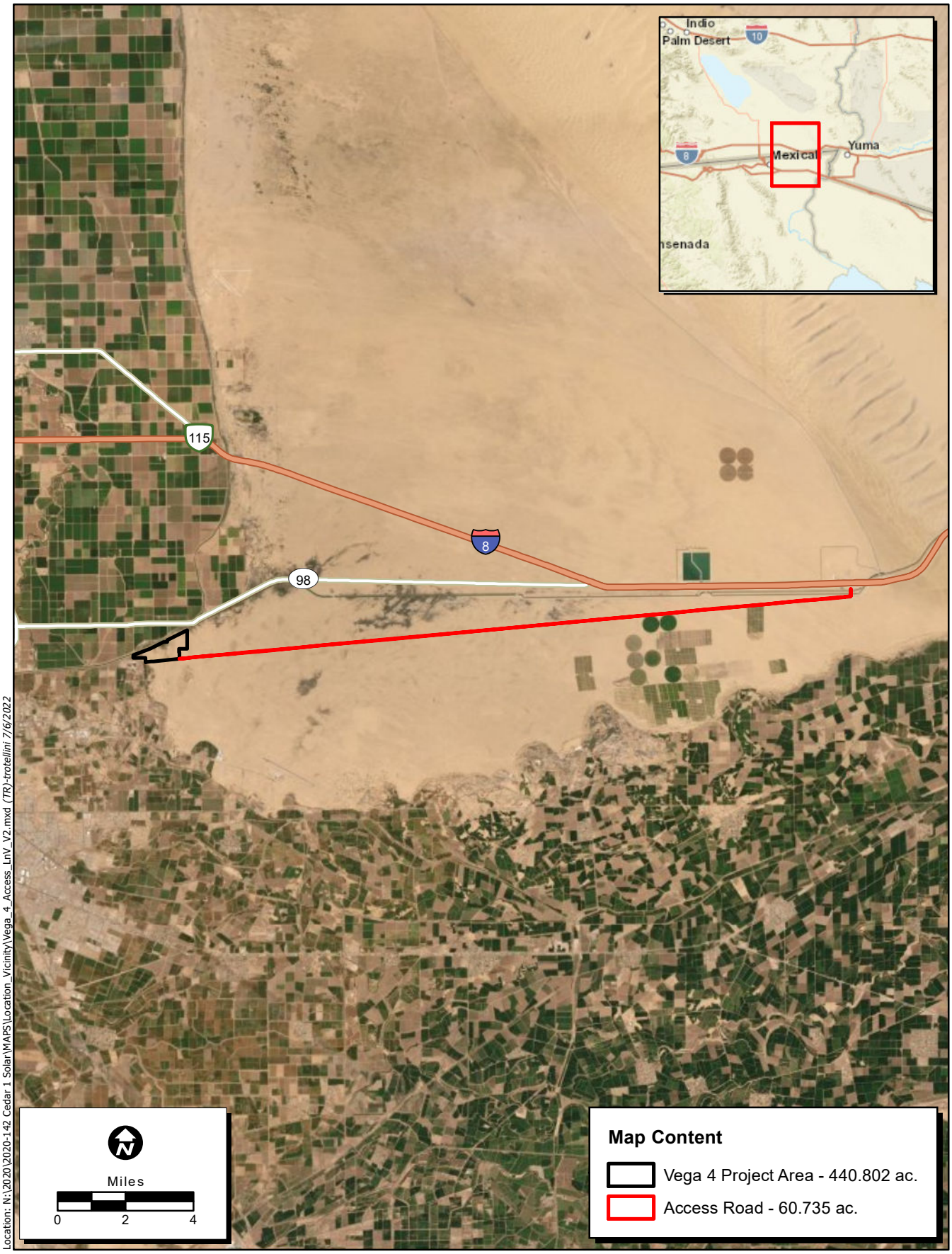
1.2 Project Location and Description

The proposed Project includes a 100-MW dc and 400 MWH battery storage utility-scale solar project located on approximately 511.61 acres of vacant land on two parcels in Imperial County, California (Assessor Parcel Numbers 059-300-015 and 059-300-017). An approximately 22-linear-mile access road totaling 61 acres will be used to access the solar site. The Project Area is approximately nine miles southeast of Calexico, California, and ½ mile south of Highway 98. It is adjacent to the All-American Canal to the north and the United States (U.S.)/Mexico border to the south (Figure 1). A complete summary of geographic information for the Study Area is provided in Table 1.

Table 1. USGS Quadrangle Information

USGS 7.5-Minute Quad Map Name	Township	Range	Section(s)	Approximate Center of Study Area
Bonds Corner, CA (1976) Midway Well NW, CA (1979) Midway Well, CA (1979) Grays Well, CA (1976)	17S	16E 17E 18E 19E 20E	12, 13, 14 7, 8, 9, 10, 11, 12 1, 7, 8, 9, 10, 11, 12 1, 2, 3, 4, 5, 6 1, 6	32.682898, -115.304246

The Project will connect to an Imperial Irrigation District (IID) 92 kilovolt transmission line that runs close to the property. The Project is also currently contemplated to include a potential cross border permit to enable building a transmission line approximately three miles from the proposed site substation across the international border to deliver power to the closest Federal Electricity Commission substation in Mexico (Figure 2).



Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Location_Vicinity\Vega_4_Access_LnV_V2.mxd (TR)-trotellini 7/6/2022

Map Date: 6/29/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Figure 1. Project Location and Vicinity

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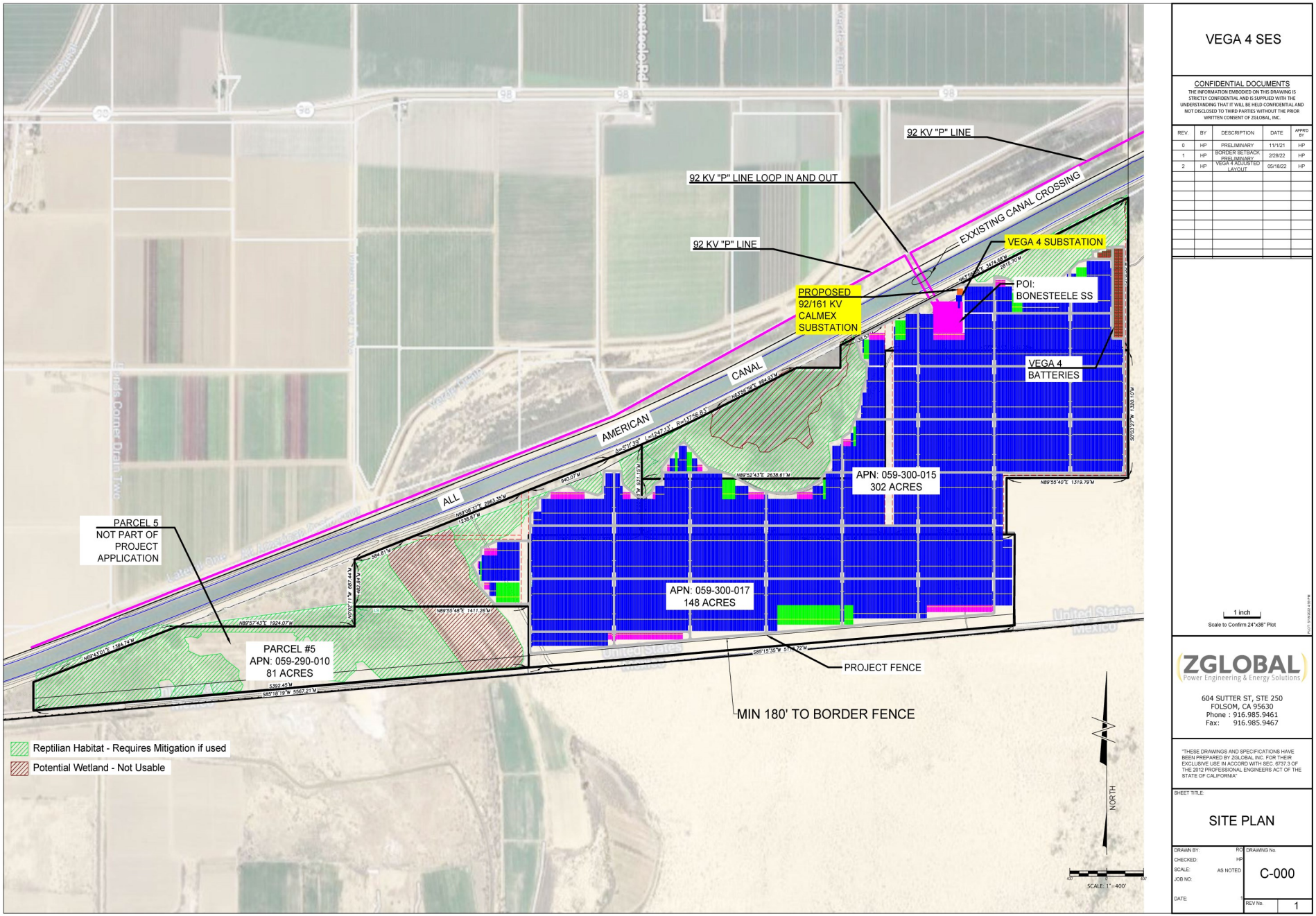

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Figure 2. Site Plan
2020-142 Vega SES 4

Topography is relatively flat with elevations ranging between 11 meters (38 feet) and 48 meters (159 feet) above mean sea level. Adjacent land uses include agricultural and ranch land to the north and west, the U.S./Mexico border to the south, and undeveloped land to the east. The All-American Canal travels northeast to southwest, north of the site. The access road runs east-west directly north and adjacent to the U.S./Mexico border wall.

2.0 REGULATORY CONSIDERATIONS

The biological reconnaissance survey was conducted to identify potential constraints and to ensure compliance with State and federal regulations regarding listed, protected, and sensitive species. The regulations are detailed below.

2.1 Federal Regulations

2.1.1 Endangered Species Act

The Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. Section 9 of the ESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 U.S. Code 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan (HCP) is developed.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

2.1.3 Clean Water Act

The purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency (USEPA) acts as a cooperating agency to set policy, guidance, and criteria for use in evaluation permit applications and also reviews USACE permit applications.

The USACE regulates "fill" or dredging of fill material within its jurisdictional features. "Fill material" means any material used for the primary purpose of replacing an aquatic area with dry land or changing the bottom elevation of a water body. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the State Water Resources Control Board (SWRCB), administered by each of nine California Regional Water Quality Control Boards.

2.2 State and Local Regulations

2.2.1 California Endangered Species Act

The California ESA generally parallels the main provisions of the ESA but, unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called "candidates" by the State). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700) provide that fully protected species may not be taken or

possessed at any time. Furthermore, CDFW prohibits any State agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code § 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.4 Porter Cologne Water Quality Control Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" [Water Code 13260(a)].

Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050[e]). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

On April 2, 2019, the SWRCB adopted the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (referred to as the Procedures) for inclusion in the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Resolution No. 2019-0015). The new Procedures include:

- definition of wetlands and aquatic resources that are Waters of the State,
- description of application requirements for individual orders (not general orders) for water quality certification, or waste discharge requirements,
- description of information required in compensatory mitigation plans, and
- definition of exemptions to application procedures.

The Office of Administrative Law approved the procedures on August 28, 2019, and the rule went into effect May 28, 2020.

2.2.5 California Fish and Game Code

Streambed Alteration Agreement

Section 1602 of the California Fish and Game Code requires that a Notification of Lake or Streambed Alteration be submitted to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the Applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant is the Streambed Alteration Agreement (SAA). Often, projects that require an SAA also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the SAA may overlap.

Migratory Birds

The CDFW enforces the protection of nongame native birds in §§ 3503, 3503.5, and 3800 of the California Fish and Game Code. Section 3513 of the California Fish and Game Code prohibits the possession or take of birds listed under the MBTA. These sections mandate the protection of California nongame native birds' nests and also make it unlawful to take these birds. All raptor species are protected from "take" pursuant to California Fish and Game Code § 3503.5 and are also protected at the federal level by the MBTA of 1918 (USFWS 1918).

2.2.6 Conservation and Open Space Element

Imperial County created the Conservation and Open Space Element plan to provide details and measures for management and preservation of biological resources as well as various other resources (i.e. cultural, soils, minerals, etc.). This plan focuses on protecting scarce resources and preventing wasteful exploitation, neglect, and destruction of California's natural resources. The plan outlines areas with sensitive habitat and sensitive species, also labelled "Resource Areas". Open space easements and protection of riparian habitat, rock outcrops, California fan palm oases, and wildlife corridors are also discussed in the plan. As it currently stands, the open space element follows CEQA guidelines with special focus on its scarce resources.

2.2.7 California Environmental Quality Act Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- 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 CDFW or USFWS;

- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- 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;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or State HCP.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

3.0 METHODS

3.1 Literature Review

Prior to conducting the biological reconnaissance survey, ECORP biologists performed a literature review using the CDFW's California Natural Diversity Data Base (CNDDB; CDFW 2022a) and the California Native Plant Society's (CNPS') Electronic Inventory (CNPSEI; CNPS 2022) to determine the special-status plant and wildlife species that have been documented in the vicinity of the Project. The CNDDB and CNPSEI database searches were initially conducted on September 24, 2020, and an updated literature search was performed again on April 5, 2022. ECORP searched CNDDB and CNPSEI records within the Project Area boundaries as depicted on USGS 7.5-minute Bonds Corner, Midway Well NW, Midway Well, and Grays Well, and the surrounding topographic quadrangles: Grays Well NE, Ogilby, Cactus, Glamis SE, Glamis SW, Holtville East, Holtville West, and Calexico. The CNDDB and CNPSEI contain records of reported occurrences of federally or state-listed endangered, threatened, proposed endangered or threatened species, California Species of Special Concern (SSC), and other special-status species or habitat that may occur within or in the vicinity of the Project. Additional information was gathered from the following sources and includes, but is not limited to:

- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) *Web Soil Survey* (NRCS 2022a);
- *Special Animals List* (CDFW 2022b);
- *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2022c);
- *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012);
- *The Manual of California Vegetation*, 2nd Edition (Sawyer et al. 2009); and
- various online websites (e.g., CalFlora 2022).

A desktop review of the National Wetlands Inventory (USFWS 2022a) and the corresponding USGS topographic maps was also conducted to determine if there were any blue line streams or drainages in the Survey Area that might potentially fall under the jurisdiction of either federal or State agencies.

3.2 Field Survey

3.2.1 Small Unmanned Aircraft System Survey and Vegetation Mapping

Due to the size of the area and limited road access, an initial survey utilizing a sUAS was conducted to quickly assess current solar field site conditions and gather high-resolution imagery. Upon arrival at the site, an initial field reconnaissance was conducted by the drone pilot to obtain an understanding of the site topography, access, vegetation densities, and staging areas for controlling the aerial flights. The drone was programmed to do a systematic flight over the property to collect high-resolution aerial photographs of the entire property. The photos collected were then combined into a single orthomosaic image that was incorporated into mapping files in a Geographic Information System (GIS).

The information gathered from the sUAS/drone survey were then used to assist the biologists with accurate mapping of the vegetation communities. A botanist utilized the high-resolution drone imagery to map vegetation communities. Vegetation classifications were in accordance with *A Manual of California Vegetation* (Sawyer et al. 2009). Vegetation communities that did not fit within the Sawyer classification system were described following Holland (1986) or Oberbauer (2008). Areas of the site that had already been graded, developed, and/or disturbed were mapped as such. Acreages of each vegetation community were calculated based on GIS data collected during the sUAS survey.

3.2.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted by walking the entire Survey Area to determine the vegetation communities and wildlife habitats present within the Survey Area. Private property and inaccessible areas within the buffer were surveyed utilizing 8x42 binoculars. The biologists documented the plant and animal species present in the Survey Area and the conditions within the Survey Area were assessed for their potential to provide habitat for special-status plant and wildlife species, including those from the literature review. Data were recorded on submeter Global Positioning System (GPS) devices, data

sheets, and maps. In instances where a special-status species was observed, the date, species, location and habitat, and GPS coordinates were recorded. The locations of special-status species observations were recorded using a handheld submeter GPS in North American Datum (NAD) 83, Universal Transverse Mercator (UTM) coordinates, Zone 11S. Photographs were also taken during the survey to provide visual representation of the various vegetation communities within the Survey Area. The Survey Area was also examined to assess its potential to facilitate wildlife movement or function as a movement corridor for wildlife throughout the region.

Plant and wildlife species, including any special-status species that were observed during the survey, were recorded. Plant nomenclature follows that of *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). Wildlife nomenclature follows that of *The American Ornithologists' Union (AOU) Checklist of North American Birds* (AOU 2022), the Society for the Study of Amphibians and Reptiles (SSAR 2017), and the *Revised Checklist of North American Mammals North of Mexico* (Bradley et al. 2014).

3.2.3 Aquatic Resources Delineation

An aquatic resources delineation was conducted by ECORP delineation specialists in conjunction with the biological reconnaissance survey, the results of which are presented under separate cover (ECORP 2022).

3.3 Potential for Occurrence Determinations

Using information from the literature review and observations in the field, a list of special-status plant and animal species that have potential to occur within the Survey Area was generated. For the purposes of this assessment, special-status species are defined as plants or animals that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or the USFWS, and/or are protected under either the federal or California ESAs;
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California Fish and Game Code, §§ 3511, 4700, 5050, or 5515; and
- are of expressed concern to resource and regulatory agencies or local jurisdictions.

Special-status species reported for the region in the literature review or for which suitable habitat occurs on the Survey Area were assessed for their potential to occur within the Survey Area based on the following guidelines:

Present: The species was observed on site during a site visit or focused survey.

High: Habitat (including soils and elevation factors) for the species occurs within the Survey Area and a known occurrence has recently been recorded (within the last 20 years) within five miles of the area.

Moderate: Habitat (including soils and elevation factors) for the species occurs within the Survey Area and a documented observation occurs within the database search, but not within five miles of the area; a

historic documented observation (more than 20 years old) was recorded within five miles of the Survey Area; or a recently documented observation occurs within five miles of the area and marginal or limited amounts of habitat occurs in the Project Area.

Low: Limited or marginal habitat for the species occurs within the Survey Area and a recently documented observation occurs within the database search, but not within five miles of the area; a historic documented observation (more than 20 years old) was recorded within five miles of the Survey Area; or suitable habitat strongly associated with the species occurs on site, but no records or only historic records were found within the database search.

Presumed Absent: Species was not observed during a site visit or focused surveys conducted in accordance with protocol guidelines at an appropriate time for identification; habitat (including soils and elevation factors) does not exist on site; or the known geographic range of the species does not include the Survey Area.

Note: Location information on some special-status species may be of questionable accuracy or unavailable. Therefore, for survey purposes, the environmental factors associated with a species' occurrence requirements may be considered sufficient reason to give a species a positive potential for occurrence. In addition, just because a record of a species does not exist in the databases does not mean it does not occur. In many cases, records may not be present in the databases because an area has not been surveyed for that particular species.

4.0 RESULTS

Summarized below are the results of the literature review and field surveys, including site characteristics, vegetation communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors).

4.1 Literature Review

4.1.1 Special-Status Plants and Wildlife

Special-status plants and wildlife species reported for the region in the literature review or for which suitable habitat occurs were evaluated for their potential to occur within the Project Area or in the buffer areas within the Survey Area where indirect impacts could occur. Of all available records, a total of 14 special-status plant species and 21 special-status wildlife species were identified as having the potential for occurrence in the vicinity of the Project Area (Attachments B and C).

4.1.2 U.S. Fish and Wildlife Service Designated Critical Habitat

The Project Area is not located within any USFWS designated critical habitat.

4.2 Biological Reconnaissance Survey

The biological reconnaissance survey for the solar field was conducted on September 28, 2020, by ECORP biologists Christina Congedo, Greg Hampton, Caroline Garcia, and Christina Torres. The biological

reconnaissance survey for the access road was conducted on April 12 and 13, 2022, by ECORP biologists Caroline Garcia and Christina Torres. Summarized below are the results of the biological reconnaissance survey, including site characteristics, plants and plant communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors). Weather conditions during the surveys are summarized in Table 2.

Table 2. Weather Conditions During the Survey

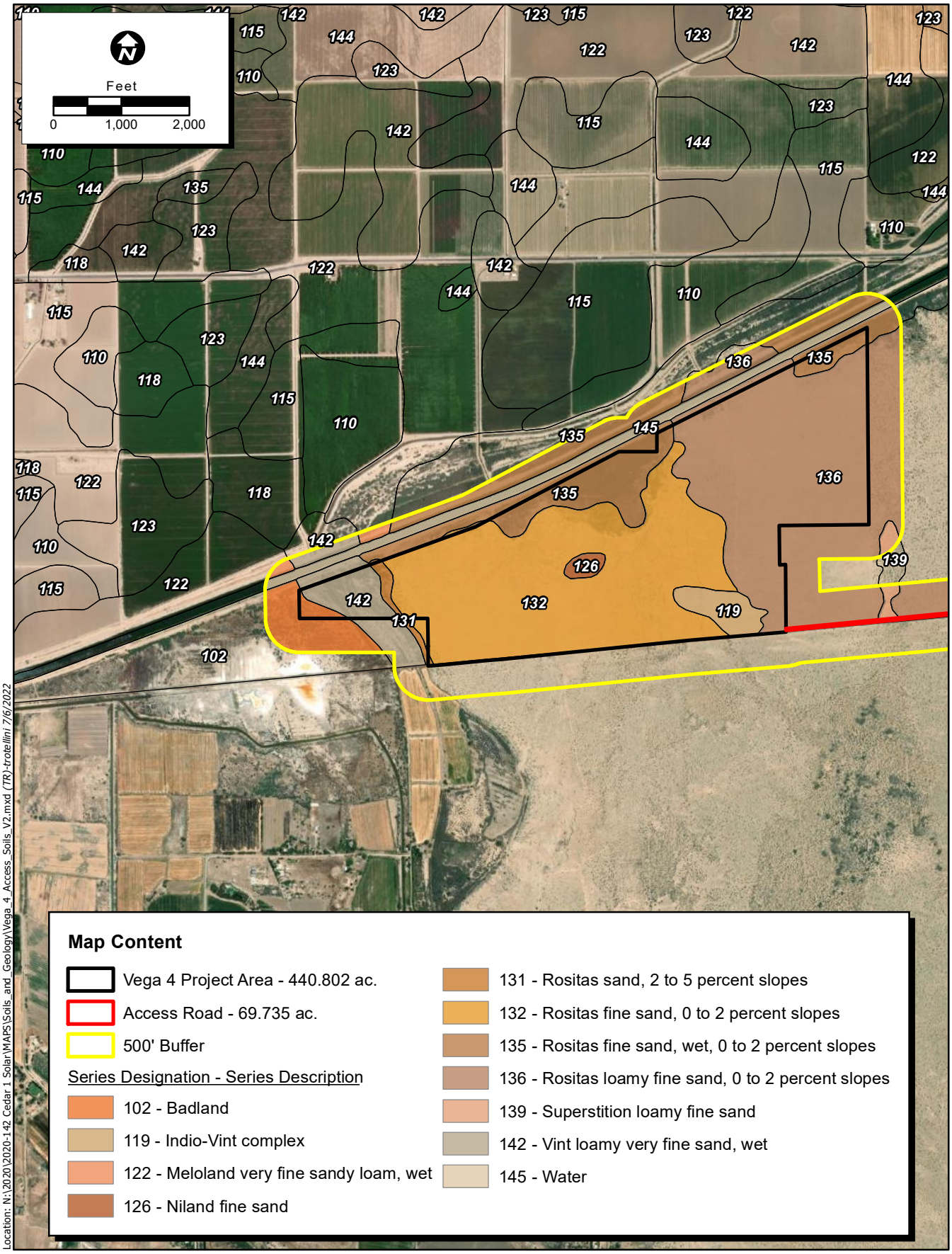
Date	Time		Temperature (˚F)		Cloud Cover (%)		Wind Speed (mph)	
	Start	End	Start	End	Start	End	Start	End
9/28/2020	0715	1615	67	102	0	0	0-3	0-5
4/12/2022	0915	1650	63	73	15	3	13-18	0-12
4/13/2022	0830	1620	60	76	0	3	3-7	0-2

4.2.1 Property Characteristics

The Project Area consists of undeveloped land that appears to have been historically altered. The disturbed nature of the site, including flora composition, old agricultural foundations, and farming equipment including a center-pivot irrigation system, indicates that portions of the land may have been historically used for agricultural purposes. The eastern portion of the site consists primarily of creosote bush scrub with bordering riparian scrub and wetland habitats in the northwestern section. The Project Area is surrounded to the north and southwest by agricultural fields, and undeveloped land to the east and southeast. The All-American Canal is just north of the site and the U.S./Mexico border is located just south of the site. The access road runs east-west directly north and adjacent to the U.S./Mexico border wall. A bridge at Gordon Wells Road crosses an offline storage canal of the All-American Canal and the All-American Canal itself and connects to the 22-mile access road. Representative site photographs are included in Attachment A.

Topography throughout the Project Area is relatively flat with a matrix of subtle depressions located in the western section of the site. These depressions consist of an expansive riparian scrub community with associated wetlands and drainages. A soils analysis search was conducted using NRCS soil survey data (NRCS 2022a). Twelve soil series occur within the Project Area (Figure 3). These include:

- 102- Badland
- 111- Holtville-Imperial silty clay loams
- 119- Indio-Vint complex
- 126- Niland fine sand
- 131- Rositas sand, 2 to 5 percent slopes
- 132- Rositas fine sand, 0 to 2 percent slopes



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Map Date: 7/6/2022

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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Figure 3. Natural Resources Conservation Service Soil Types - Sheet 1 of 9

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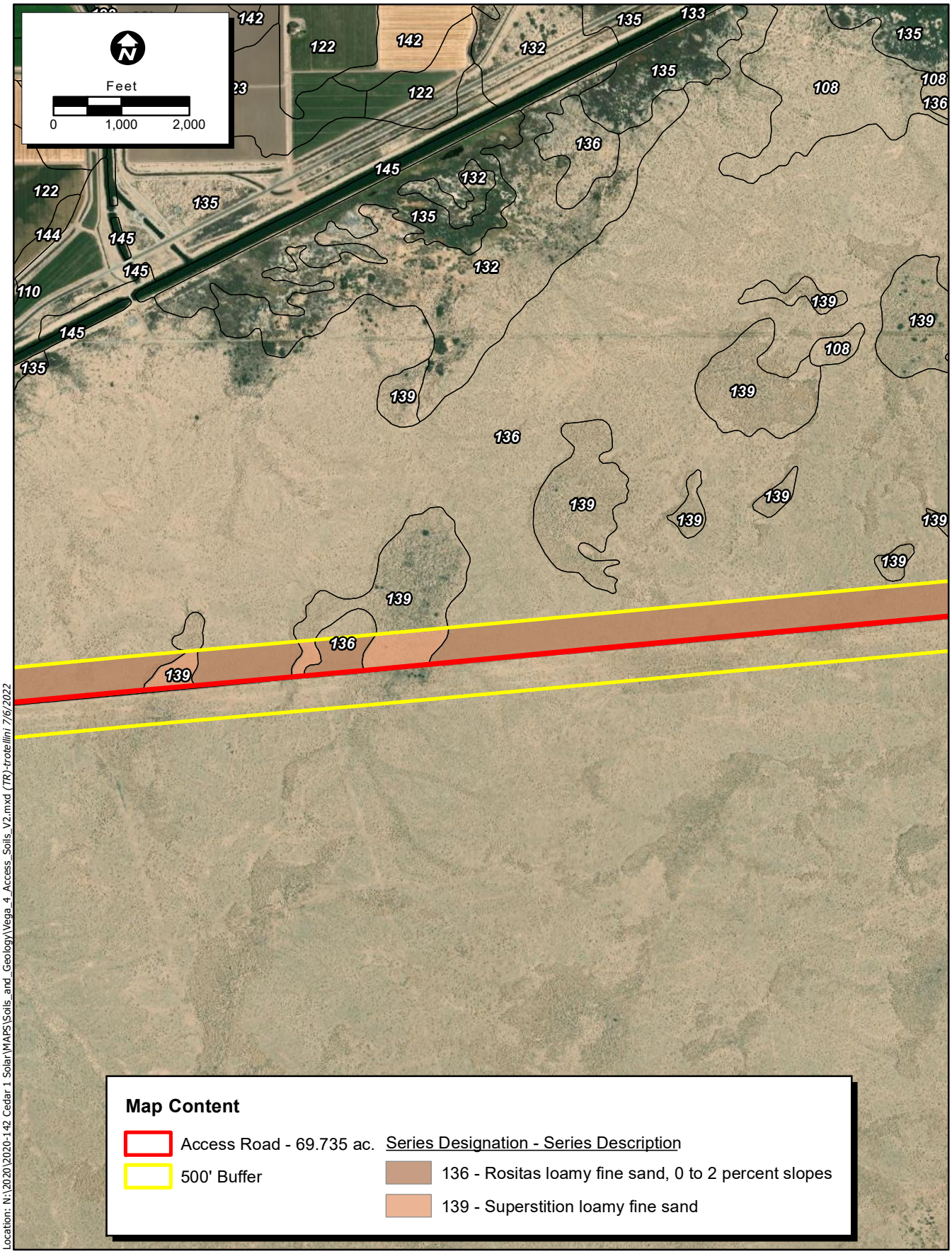

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Figure 3. Natural Resources Conservation Service Soil Types - Sheet 2 of 9

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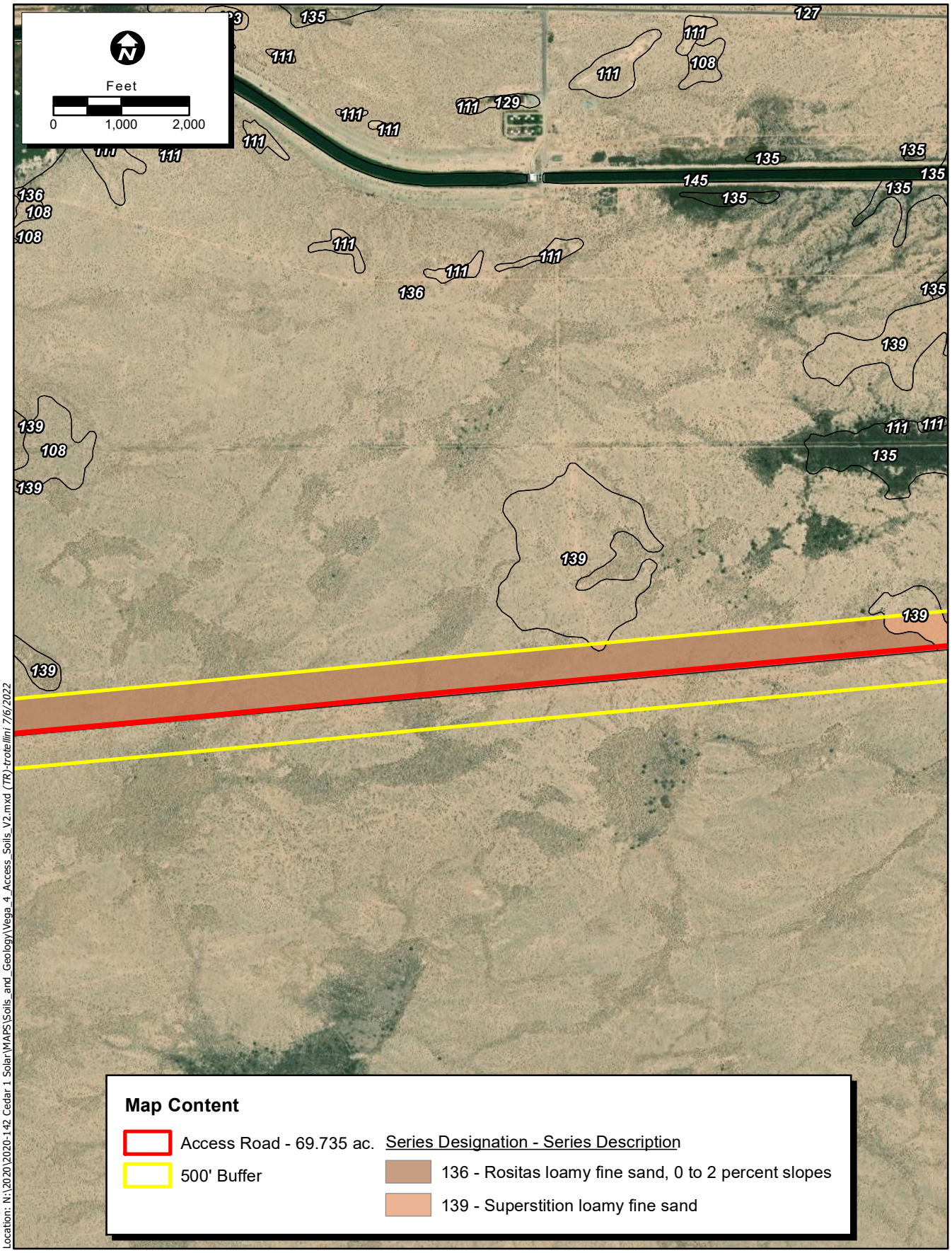

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Figure 3. Natural Resources Conservation Service Soil Types - Sheet 3 of 9

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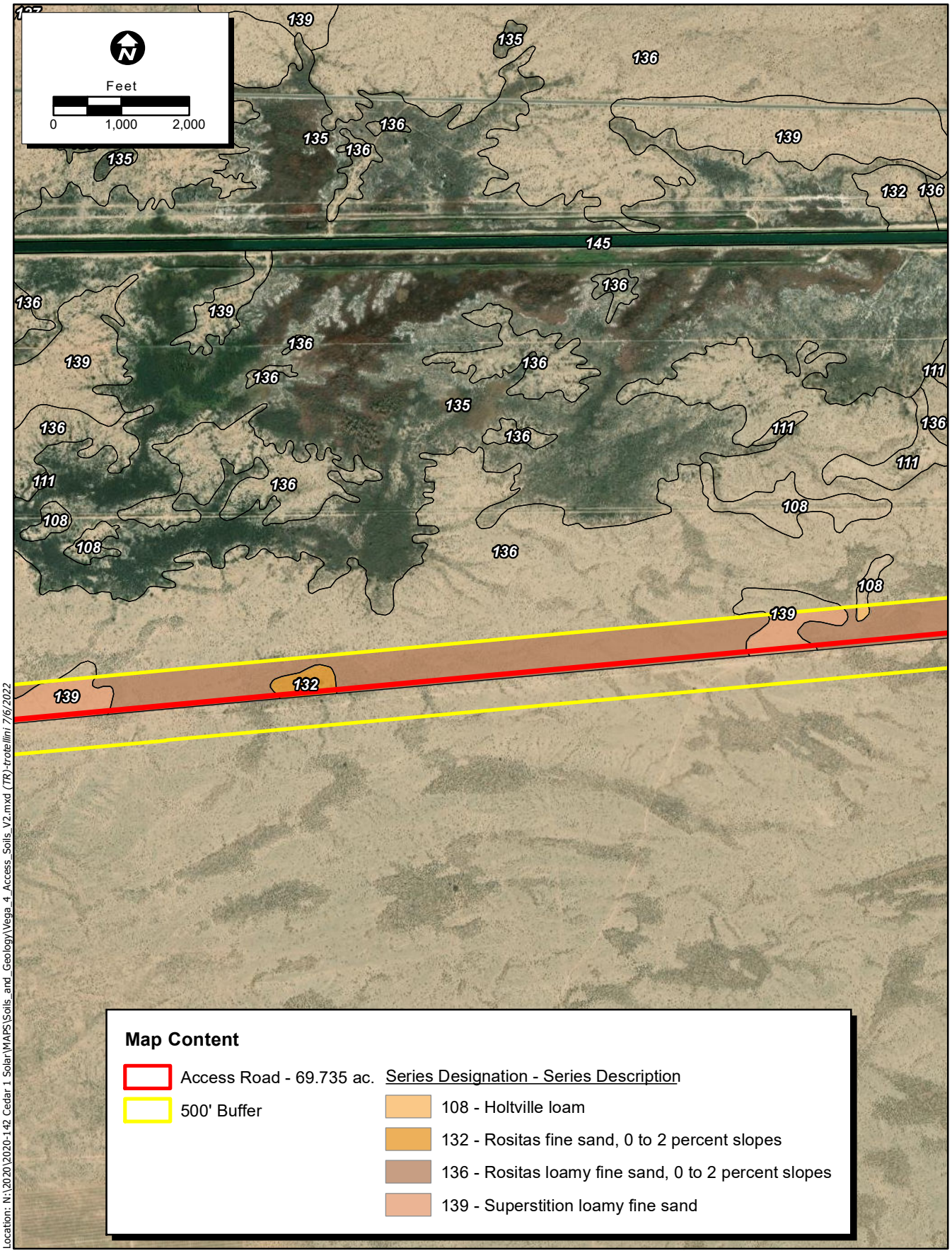

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Map Date: 7/6/2022

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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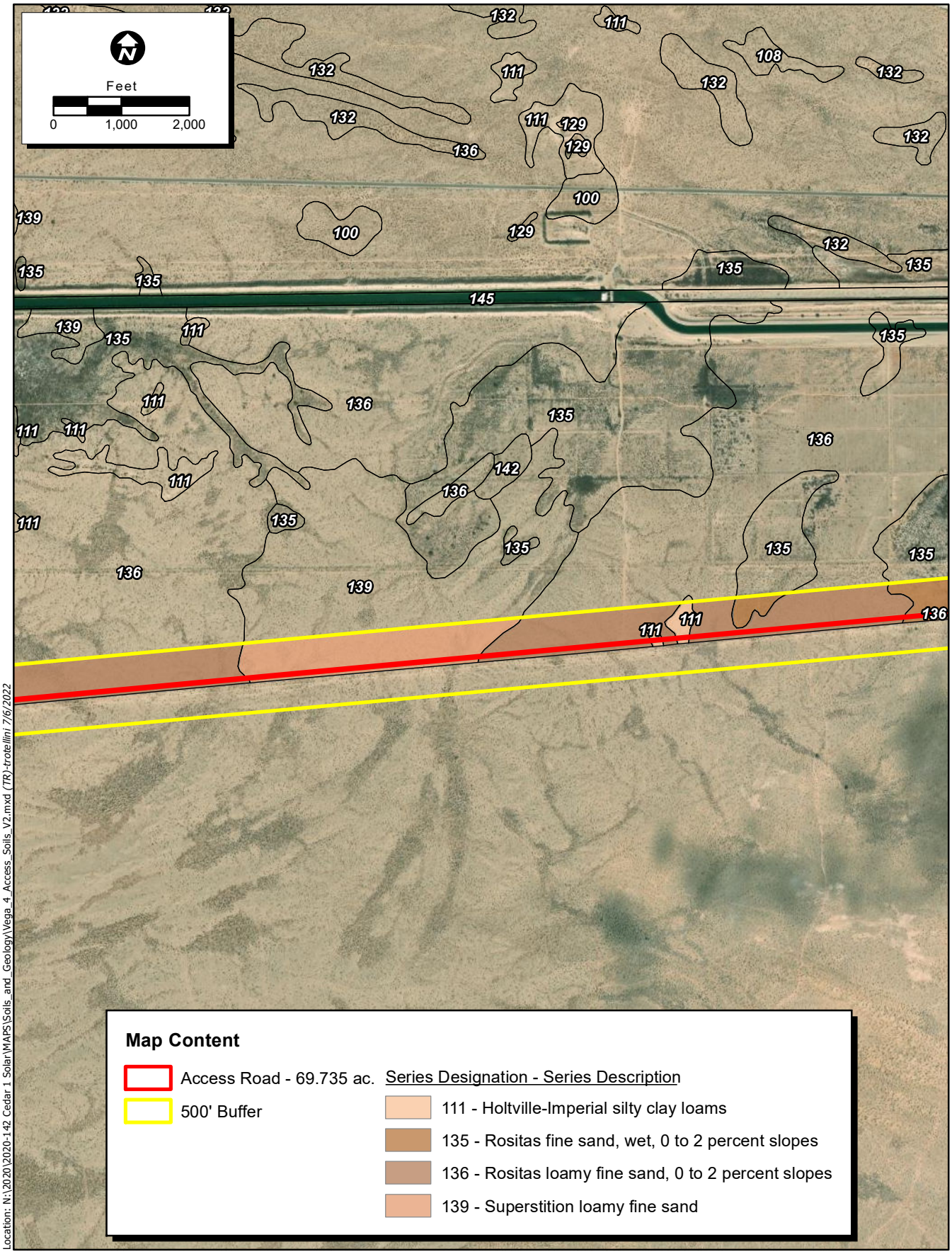
Figure 3. Natural Resources Conservation Service Soil Types - Sheet 4 of 9

2020-142 Vega SES 4



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Map Date: 7/6/2022

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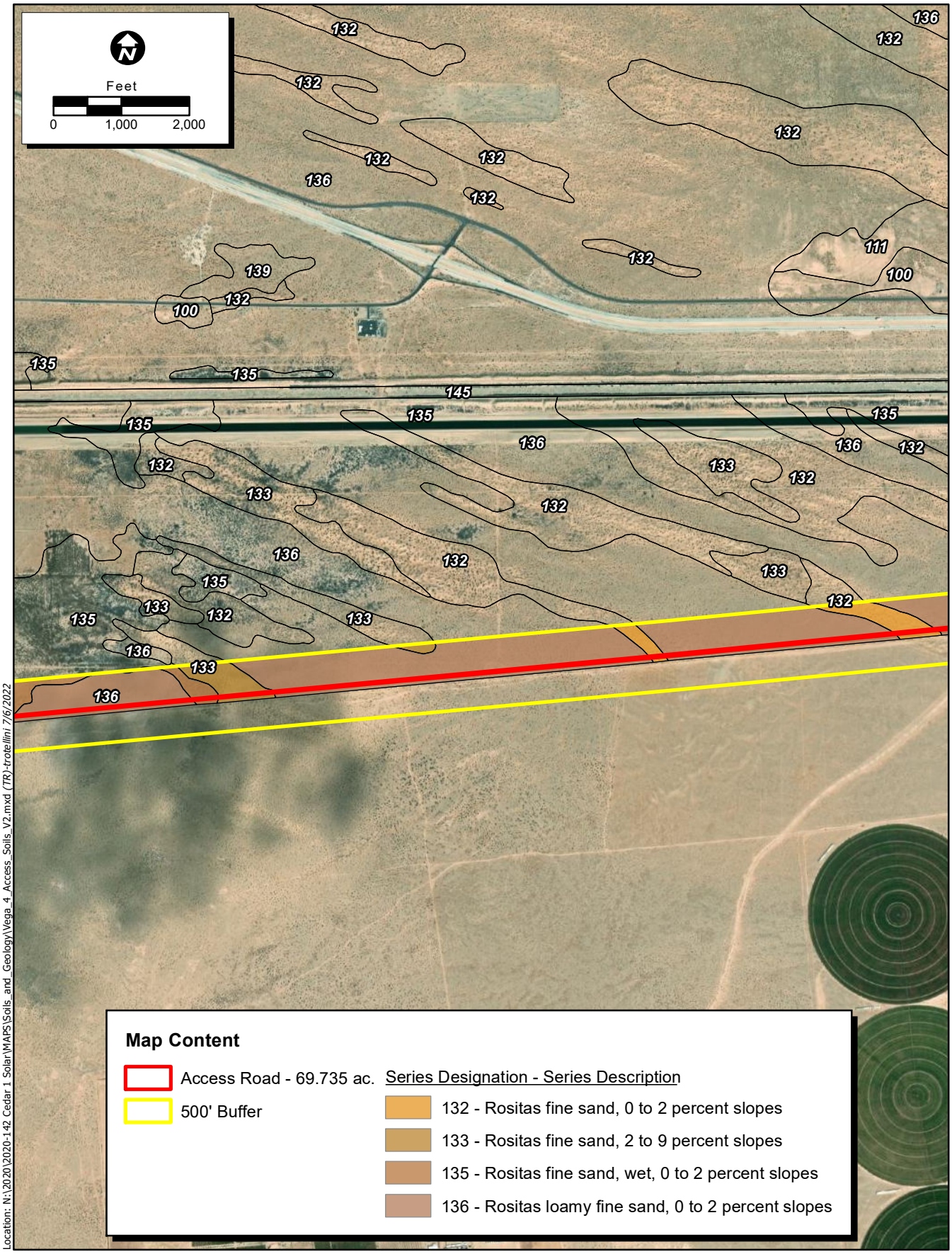
Figure 3. Natural Resources Conservation Service Soil Types - Sheet 5 of 9

2020-142 Vega SES 4



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Map Date: 7/6/2022

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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Figure 3. Natural Resources Conservation Service Soil Types - Sheet 6 of 9

2020-142 Vega SES 4

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Map Date: 7/6/2022

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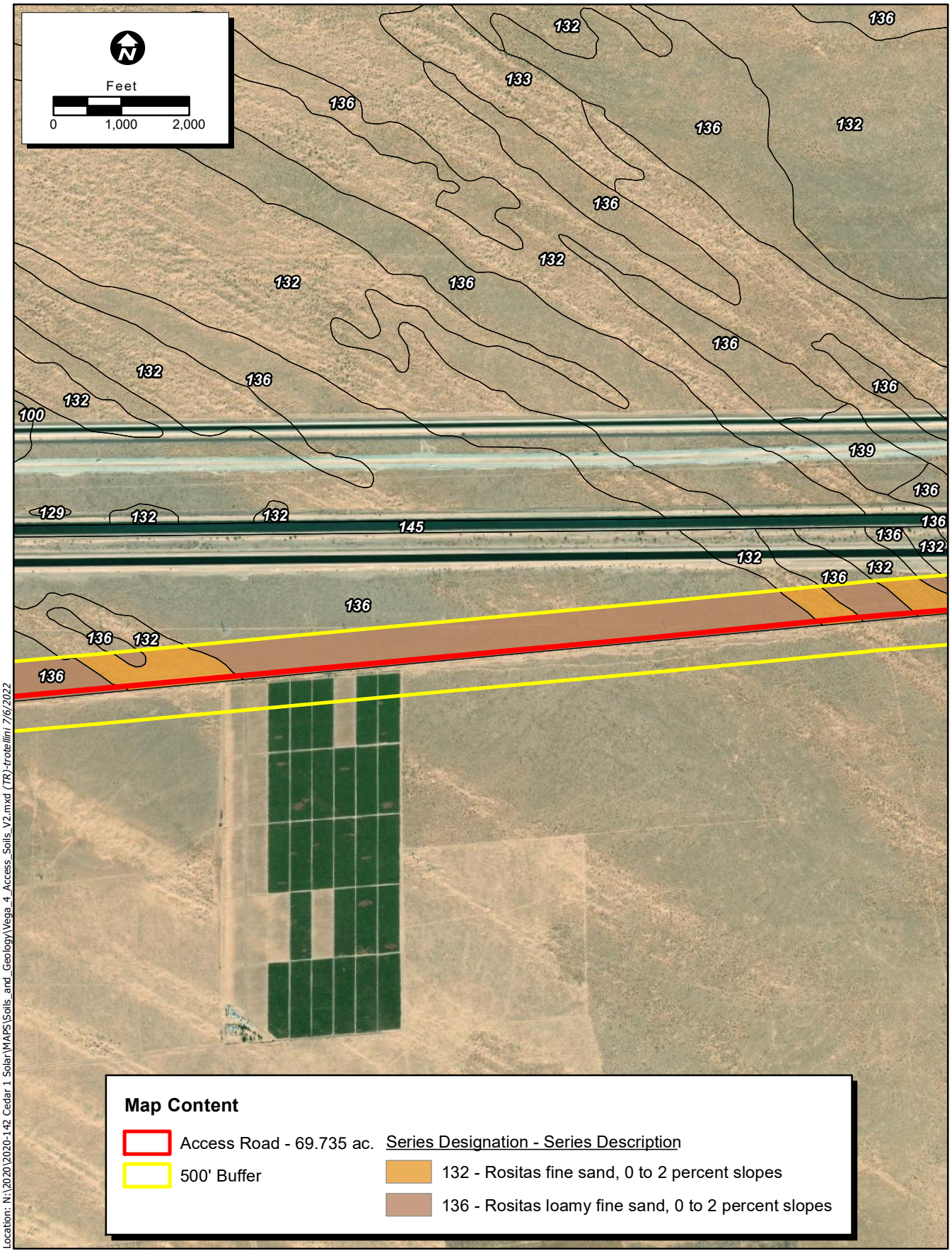
Figure 3. Natural Resources Conservation Service Soil Types - Sheet 7 of 9

2020-142 Vega SES 4



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Map Date: 7/6/2022

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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Figure 3. Natural Resources Conservation Service Soil Types - Sheet 8 of 9

2020-142 Vega SES 4

Location: N:\2020\2020-142 Cedar 1 Solar\MAPS\Soils_and_Geology\Vega_4_Access_Soils_V2.mxd (TR)-trotellini 7/6/2022

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Figure 3. Natural Resources Conservation Service Soil Types - Sheet 9 of 9

2020-142 Vega SES 4

- 133- Rositas fine sand, 2 to 9 percent slopes
- 135- Rositas fine sand, wet, 0 to 2 percent slopes
- 136- Rositas loamy fine sand, 0 to 2 percent slopes
- 139- Superstition loamy fine sand
- 142- Vint loamy very fine sand, wet
- 145- Water

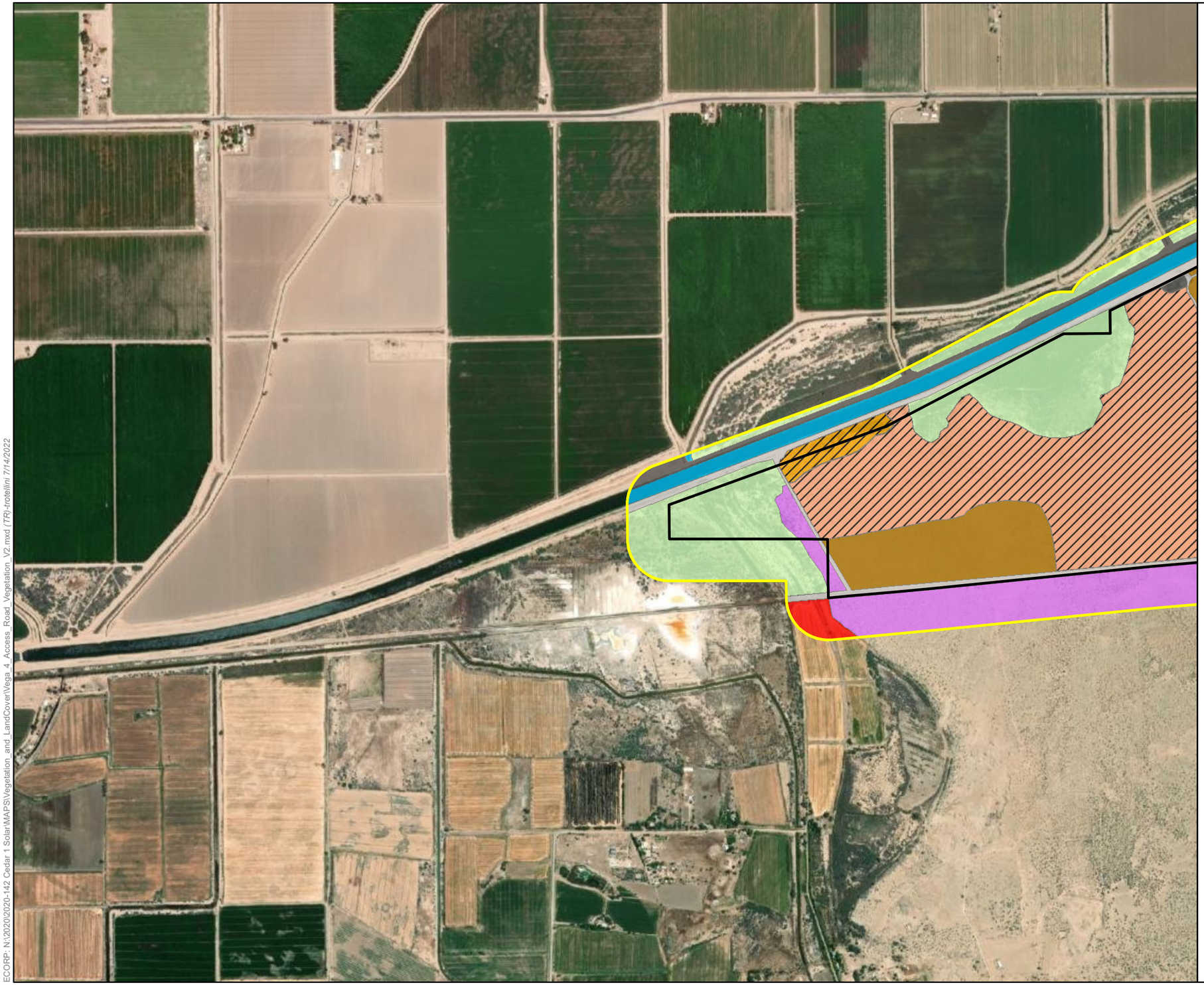
None of the aforementioned soil types contain hydric components (NRCS 2022b). Badland soils are restricted to the western portion of the site and are characterized by high runoff. Indio-Vint complex soils are restricted to the southeastern portion of the site and are characterized as having well-drained soils with low to very low surface runoff. Niland fine sand soils exist in the eastern portion of the site and are characterized as having moderately well-drained soils with low surface runoff. The Rositas series exists throughout the Project Area and is characterized as having somewhat excessively drained soils with very low surface runoff. Vint loamy very fine sand exists in the western portion of the site and is characterized as having moderately well-drained soils with very low surface runoff. Superstition loamy fine sand occurs along the access road and is characterized as having somewhat excessively drained soils. Three additional soil series occur within the survey buffer: Meloland very fine sandy loam (wet) and Holtville loam.

4.2.2 Vegetation Communities/Land Use

The majority of the Project Area consists of creosote bush – white bursage scrub (disturbed), disturbed lands, and tamarisk thickets. The location of each vegetation community in the Project Area and Survey Area are described in detail below and presented on Figure 4. Acreages of each habitat and vegetation community in the Project Area (excluding the buffer area) are shown in Table 3. Representative photographs of the habitats within the Project Area are included in Attachment A.

Table 3. Vegetation Communities and Land Covers in Project Area

Vegetation Communities and Land Covers	Acres
Arrow weed thickets (disturbed)	10.41
Creosote bush scrub	9.45
Creosote bush – white bursage scrub (disturbed)	181.56
Disturbed	159.73
Tamarisk thickets	66.28
Urban/Developed	0.75
Urban/Developed – Roads	73.37
Project Area Total	**501.55**



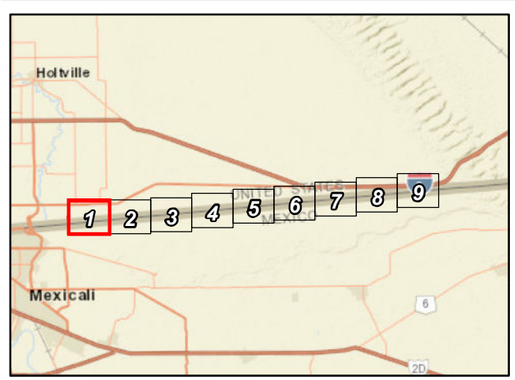
Map Features

- Vega 4 Project Area - 440.802
- 500' Buffer

Vegetation Communities and Land Cover Types

- Active Agriculture
- Channel
- Creosote Bush Scrub
- Disturbed Creosote-White Bursage Scrub
- Disturbed
- Disturbed Arrow Weed Thickets
- Tamarisk Thickets
- Urban/Developed
- Urban/Developed - Dirt Road

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



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Map Date: 7/6/2022

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Scale in Feet
0 1,200

Figure 4. Vegetation Communities and Land Cover
Sheet 1 of 9
2020-142 Vega SES 4

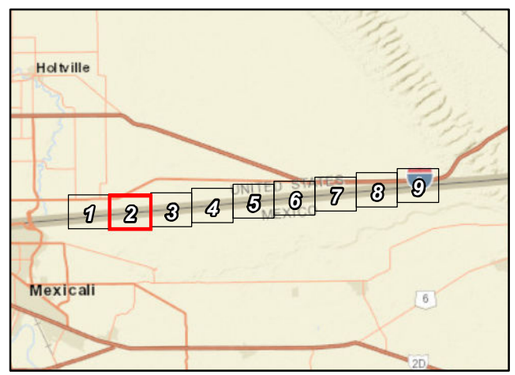
Map Features

- Vega 4 Project Area - 440.802
- Access Road - 69.735 ac.
- 500' Buffer

Vegetation Communities and Land Cover Types

- Channel
- Creosote Bush Scrub
- Creosote Bush -White Bursage Scrub
- Disturbed Creosote-White Bursage Scrub
- Disturbed
- Disturbed Arrowweed Scrub
- Tamarisk Thickets
- Urban/Developed
- Urban/Developed - Dirt Road

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



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Map Date: 7/6/2022

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Scale in Feet
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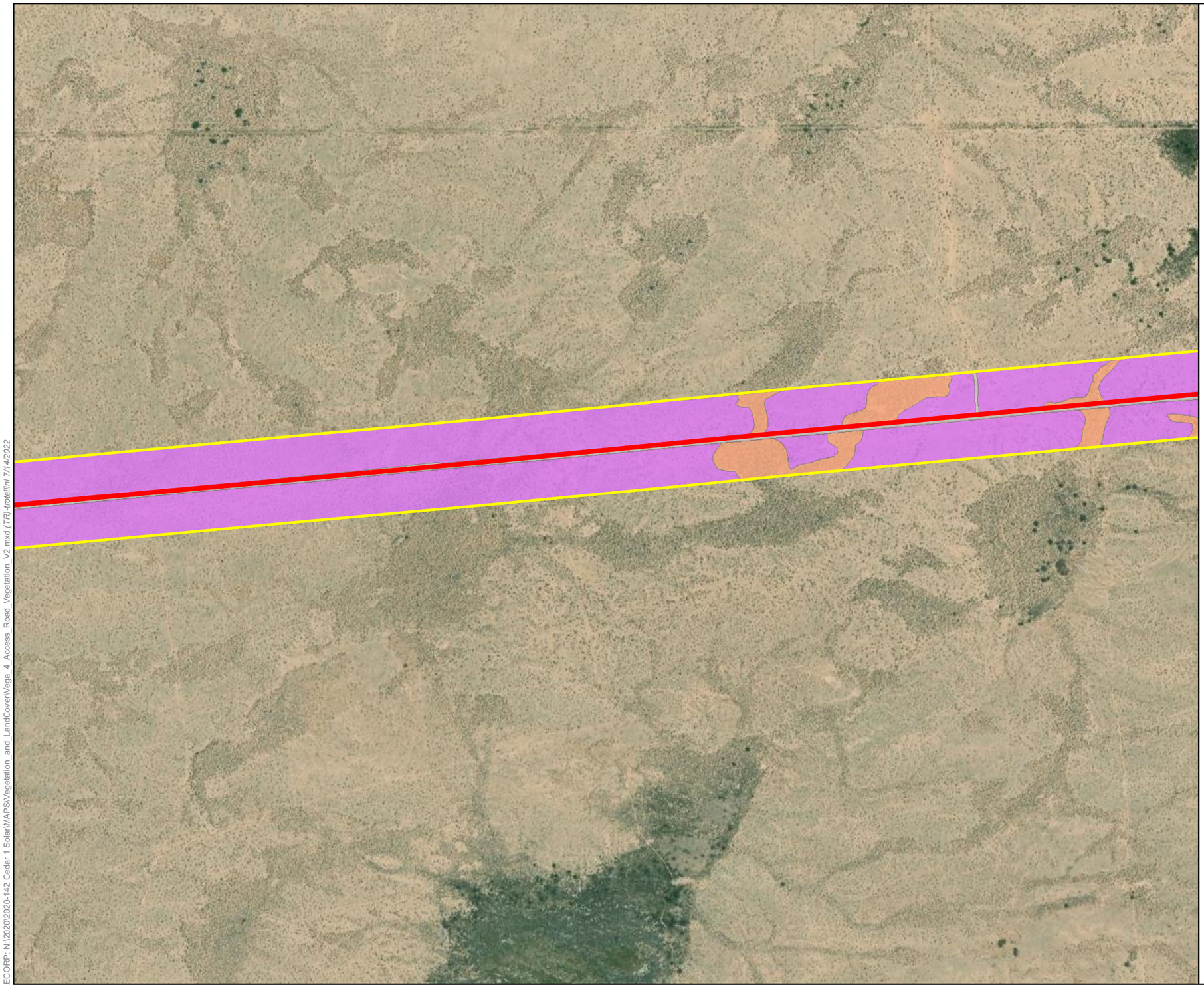
Figure 4. Vegetation Communities and Land Cover
Sheet 2 of 9
2020-142 Vega SES 4



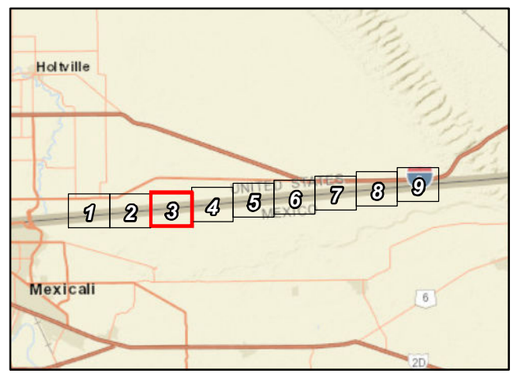
Map Features

- Access Road - 69.735 ac.
- 500' Buffer

Vegetation Communities and Land Cover Types

- Creosote Bush Scrub
- Creosote Bush -White Bursage Scrub
- Urban/Developed - Dirt Road

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



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Map Date: 7/6/2022

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Scale in Feet
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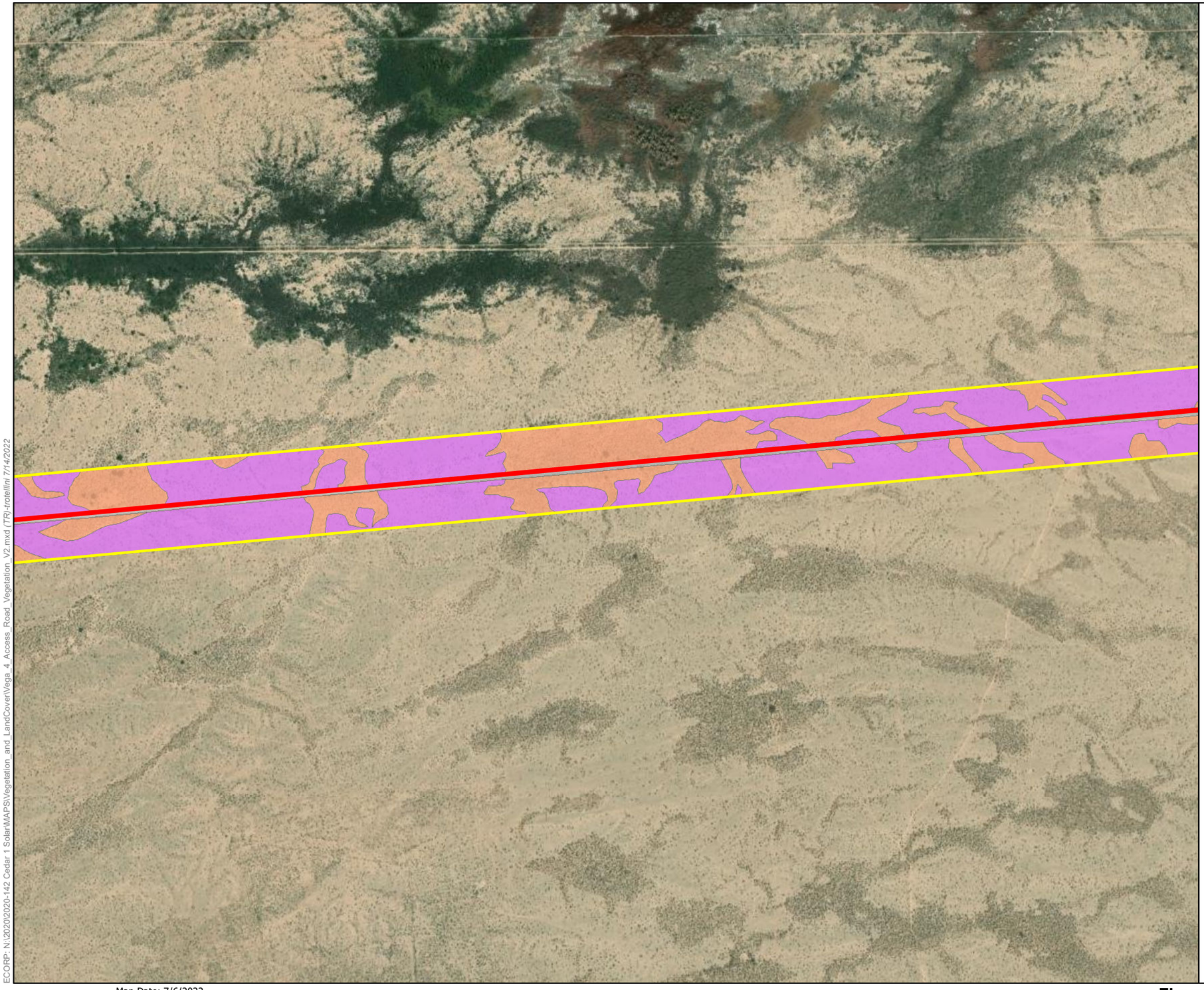
Figure 4. Vegetation Communities and Land Cover
Sheet 3 of 9
2020-142 Vega SES 4



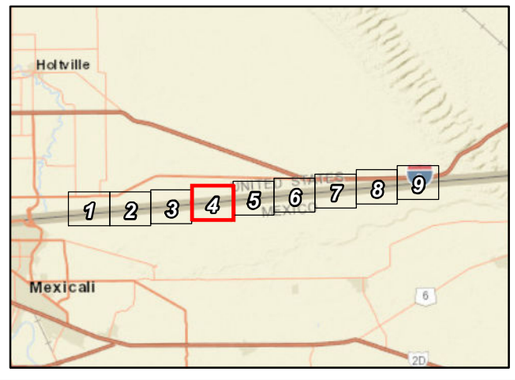
Map Features

- Access Road - 69.735 ac.
- 500' Buffer

Vegetation Communities and Land Cover Types

- Creosote Bush Scrub
- Creosote Bush -White Bursage Scrub
- Urban/Developed - Dirt Road

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



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Map Date: 7/6/2022

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Scale in Feet
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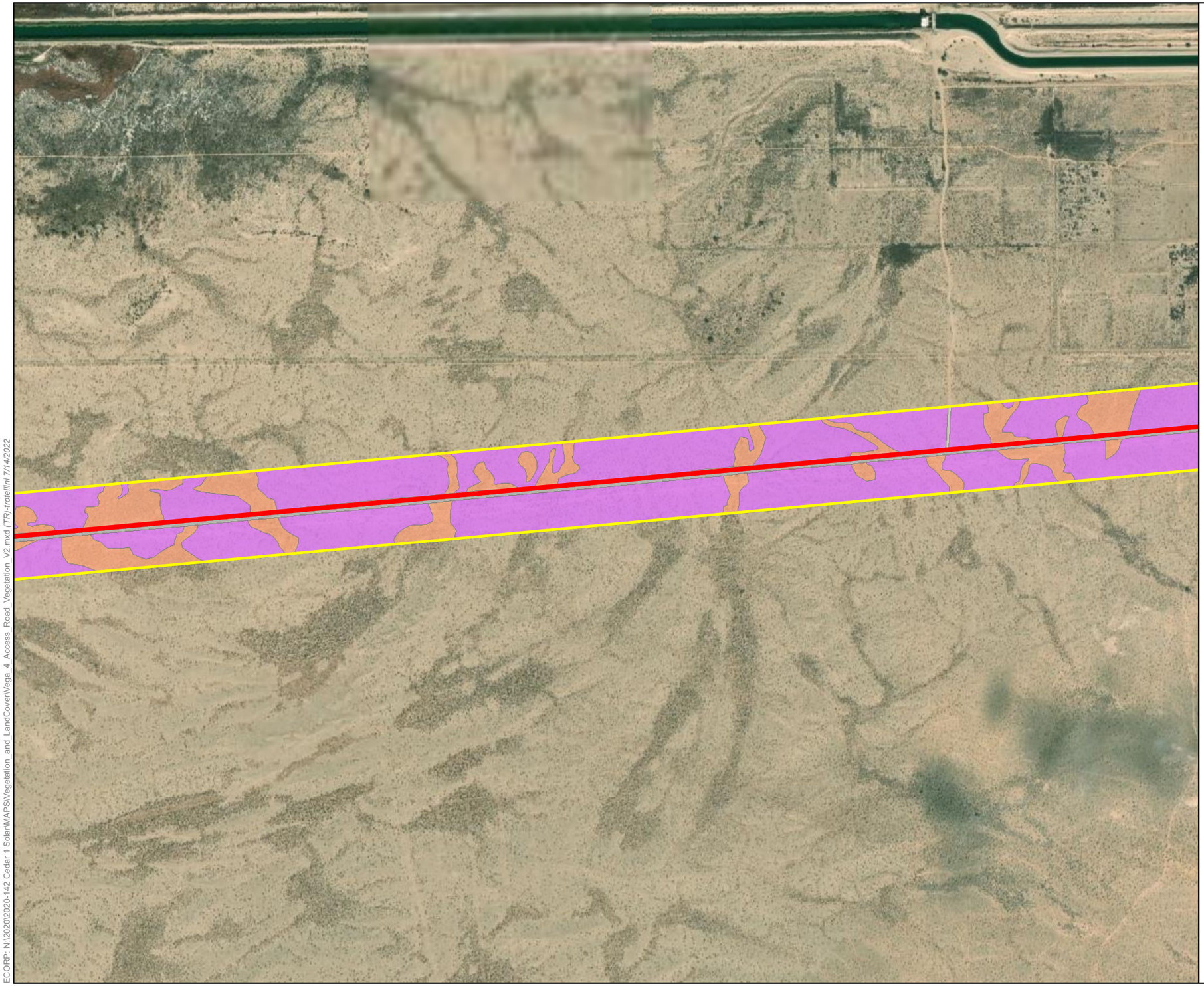
Figure 4. Vegetation Communities and Land Cover
Sheet 4 of 9
2020-142 Vega SES 4



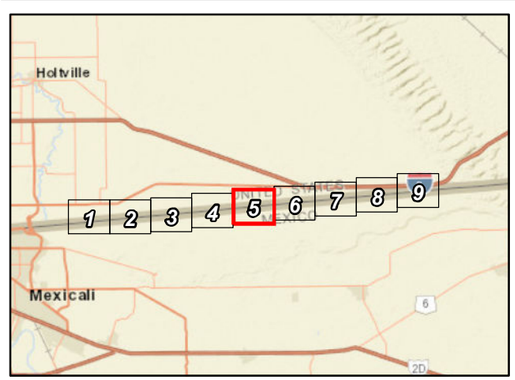
Map Features

- Access Road - 69.735 ac.
- 500' Buffer

Vegetation Communities and Land Cover Types

- Creosote Bush Scrub
- Creosote Bush -White Bursage Scrub
- Urban/Developed - Dirt Road

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



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Map Date: 7/6/2022

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Scale in Feet
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Figure 4. Vegetation Communities and Land Cover
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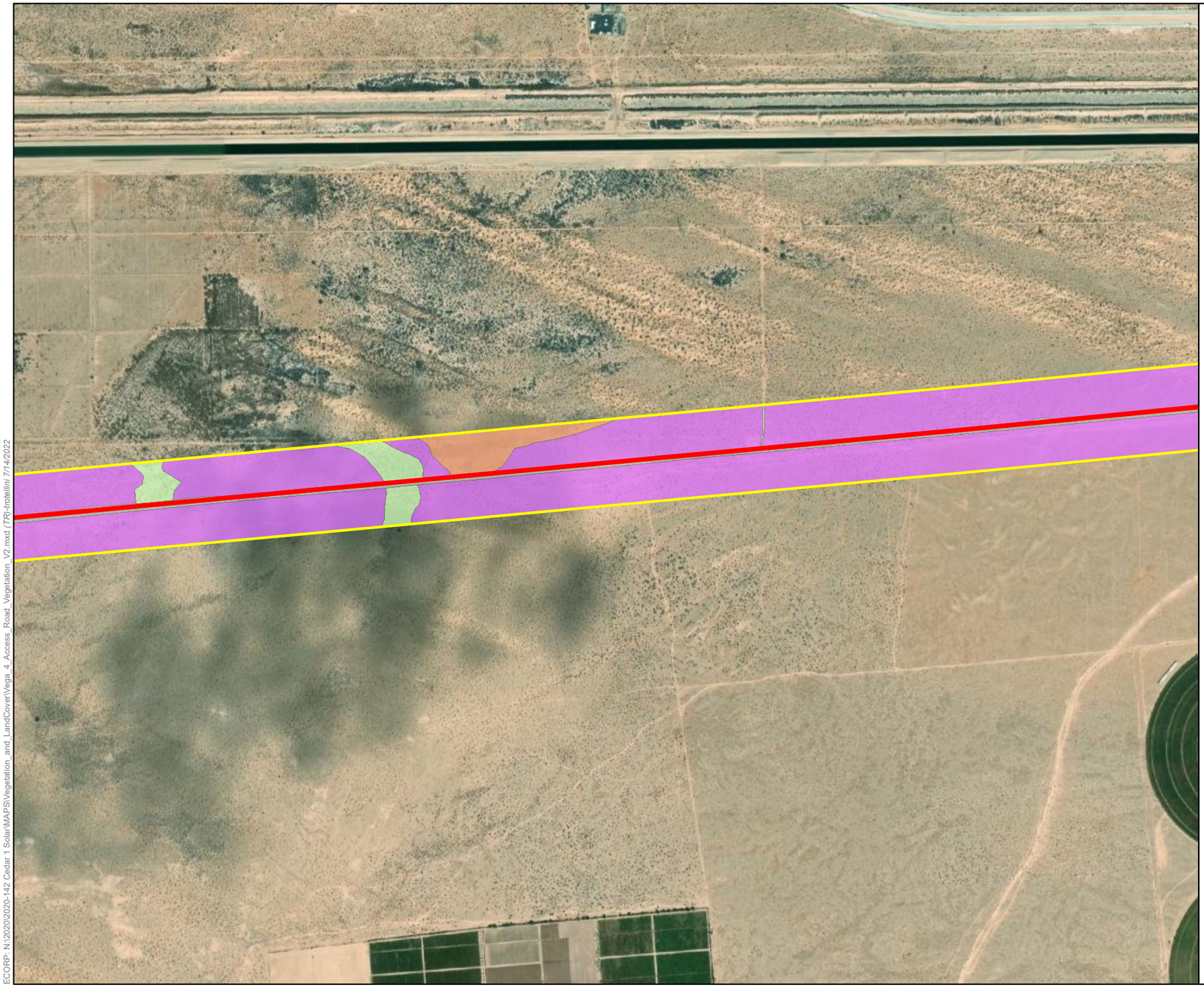
2020-142 Vega SES 4



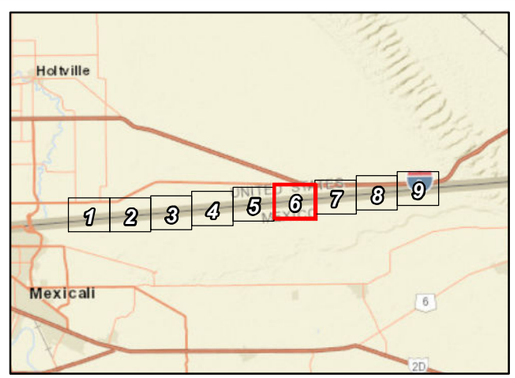
Map Features

- Access Road - 69.735 ac.
- 500' Buffer

Vegetation Communities and Land Cover Types

- Creosote Bush Scrub
- Creosote Bush -White Bursage Scrub
- Tamarisk Thickets
- Urban/Developed - Dirt Road

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



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Map Date: 7/6/2022

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Scale in Feet
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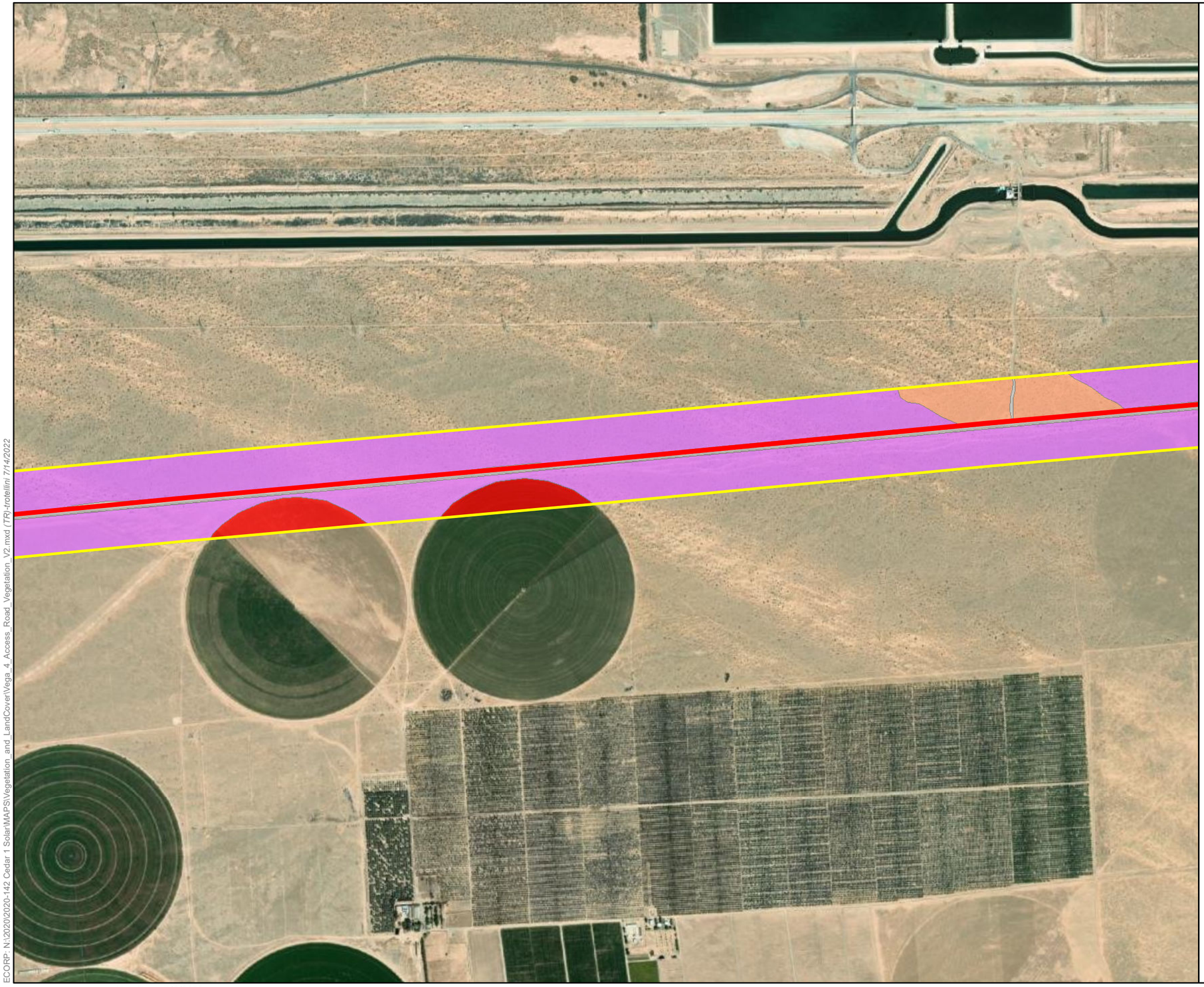
Figure 4. Vegetation Communities and Land Cover
Sheet 6 of 9
2020-142 Vega SES 4



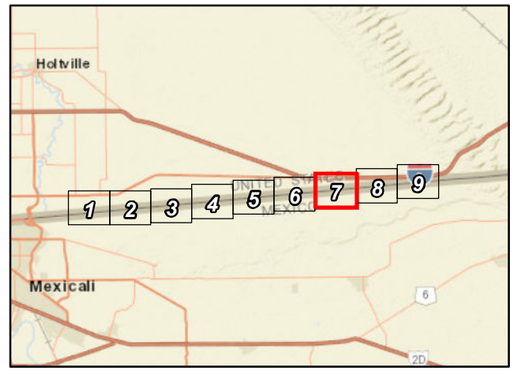
Map Features

- Access Road - 69.735 ac.
- 500' Buffer

Vegetation Communities and Land Cover Types

- Active Agriculture
- Creosote Bush Scrub
- Creosote Bush -White Bursage Scrub
- Urban/Developed - Dirt Road

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



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Map Date: 7/6/2022

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Scale in Feet
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Figure 4. Vegetation Communities and Land Cover
Sheet 7 of 9
2020-142 Vega SES 4

Map Features

- Access Road - 69.735 ac.
- 500' Buffer

Vegetation Communities and Land Cover Types

- Fallow Agriculture
- Creosote Bush Scrub
- Urban/Developed - Dirt Road

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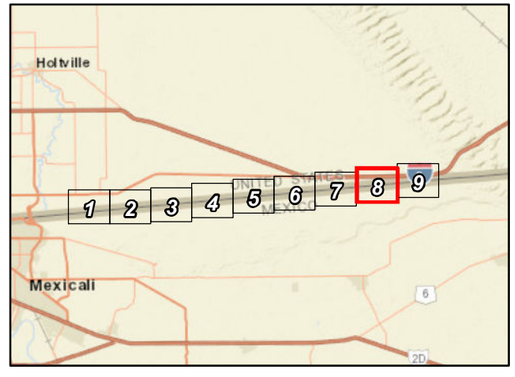

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Scale in Feet
0 1,200

Figure 4. Vegetation Communities and Land Cover
Sheet 8 of 9
2020-142 Vega SES 4

Map Features

- Access Road - 69.735 ac.
- 500' Buffer

Vegetation Communities and Land Cover Types

- Channel
- Creosote Bush Scrub
- Disturbed Creosote Bush Scrub
- Creosote Bush -White Bursage Scrub
- Disturbed
- Urban/Developed
- Urban/Developed - Dirt Road

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

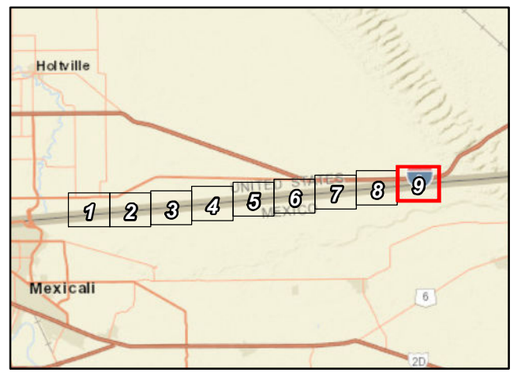

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Figure 4. Vegetation Communities and Land Cover
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Arrow Weed Thickets (Disturbed; *Pluchea sericea* Shrubland Alliance)

Arrow weed thickets are associated with moderate to dense scrub primarily dominated by arrow weed. Other species that occur as scattered individuals include tamarisk (*Tamarix* spp.), willow baccharis (*Baccharis salicina*), and big saltbush (*Atriplex lentiformis*). This vegetation community appears around springs, seeps, irrigation ditches, canyon bottoms, seasonally flooded washed, stream banks, and within stream beds and ditches. Disturbed arrow weed thickets are arrow weed thickets that have been previously altered. On this Project, this vegetation cover is characterized as sparser. Other plant species observed included alkali goldenbush (*Isocoma acradenia*).

Creosote Bush Scrub (*Larrea tridentata* Shrubland Alliance)

Creosote bush scrub is the most characteristic vegetation of the California desert and is found on alluvial fans, bajadas, upland slopes, and washes. Creosote bush scrub is dominated by a nearly monotypic stand of creosote bush with an open canopy and an herbaceous layer of seasonal annuals and perennials. Other species that occurred on the site included white bursage (*Ambrosia dumosa*), apricot mallow (*Sphaeralcea ambigua*), and fanleaf crinklemat (*Tiquilia plicata*).

Creosote Bush – White Bursage Scrub (Disturbed; *Larrea tridentata – Ambrosia dumosa* Shrubland Alliance)

Disturbed creosote bush – white bursage scrub is creosote bush – white bursage scrub that has been previously altered. Creosote and white bursage are co-dominant in the shrub canopy with an absent to intermittent herbaceous layer of seasonal annuals. Within the Project Area, this vegetation cover is characterized as sparser with a high percentage of non-native plant species including common Mediterranean grass (*Schismus barbatus*) and Saharan mustard (*Brassica tournefortii*). Other plant species include dyebush (*Psorothamnus emoryi*) and crinklemat.

Tamarisk Thickets (*Tamarix* spp. Shrubland Semi-Natural Alliance)

Tamarisk thickets are characterized by a weedy monoculture of tamarisk. This habitat is typically in ditches, washes, rivers, arroyo margins, lake margins, and other watercourses. Within the Project Area, tamarisk and arrow weed were often co-dominant in this vegetation community. Other plant species observed included cattails (*Typha* spp.), screw bean mesquite (*Prosopis pubescens*), and willow baccharis.

Other Land Cover Types

Disturbed

Disturbed land includes areas where the native vegetation community has been heavily influenced by human actions, such as grading, trash dumping, and OHV use, but lack development. Disturbed land is not a vegetation classification, but rather a land cover type and is not restricted by elevation. On this Project, the areas consisted primarily of bare ground and Mediterranean grass. Other plant species observed on site included dyebush and white bursage.

Urban/Developed

Urban/Developed areas do not constitute a vegetation classification, but rather a land cover type. Areas mapped as developed have been constructed upon or otherwise physically altered to an extent that natural vegetation communities are no longer supported. There may be irrigated, landscaped ornamental species present between the hardscape. Within the Project Area, this land cover was dominant and consisted primarily of compacted dirt roads, structures, and landscape trees including Mexican fan palm (*Washintonia robusta*) and Mexican palo verde (*Parkinsonia aculeata*). The entirety of the access road is this land cover type.

Vegetation Communities within Survey Area

Four additional vegetation communities were observed within the survey buffer, but not within the Project Area. These land covers are described in detail below. No impacts to these vegetation communities and land covers are expected as a result of Project-related activities.

Creosote Bush – White Bursage Scrub (Larrea tridentata – Ambrosia dumosa Shrubland Alliance)

Creosote bush – white bursage scrub consists of creosote and white bursage that are co-dominant in the shrub canopy with an absent to intermittent herbaceous layer of seasonal annuals. This community was observed adjacent to the access road. Other plant species observed within this community include ephedras (*Ephedra trifurca* and *Ephedra* sp.), alkali goldenbush, and scattered individuals of mesquite.

Creosote Bush Scrub (Disturbed; Larrea tridentata Shrubland Alliance)

Disturbed creosote bush scrub is creosote bush scrub that has been previously altered. This community was observed north of the bridge that spans the All-American Canal and had visible signs of disturbance such as tire tracks and trash. Vegetation within this community was sparser. Other plant species observed include ephedra and crinklemat.

Active Agriculture

Active agriculture includes planted, typically monotypic rows of crops of annual and perennial species with open space between rows. Species composition frequently changes by season and year. Active agriculture often occurs in upland areas with high soil quality, or floodplains and are almost always artificially irrigated. This land cover was observed in the western buffer areas and south of the access road within the country of Mexico.

Fallow Agriculture

Fallow agricultural lands include remnant signs of row crops with open space between rows. Agricultural lands often occur in upland areas with high soil quality, or floodplains, and are almost always artificially irrigated. This land cover was observed periodically to the south of the access road within the country of Mexico. Access to view these areas was obstructed by the U.S./Mexico border wall, but unvegetated row crops were observed from a distance.

4.2.3 Wildlife Observed

Wildlife species observed included zebra-tailed lizard (*Callisaurus draconoides*), great basin whiptail (*Aspidoscelis tigris tigris*), northern harrier (flyover; *Circus hudsonius*), western burrowing owl (*Athene cunicularia hypugaea*), loggerhead shrike (*Lanius ludovicianus*), black-tailed gnatcatcher (*Polioptila melanura*), yellow warbler (*Setophaga petechia*), great egret (*Ardea alba*), American kestrel (*Falco sparverius*), lesser nighthawk (*Chordeiles acutipennis*), ash-throated flycatcher (*Myiarchus cinerascens*), Gambel's quail (*Callipepla gambelii*), Abert's towhee (*Melozone aberti*), European starling (*Sturnus vulgaris*), killdeer (*Charadrius vociferus*), turkey vulture (*Cathartes aura*), verdin (*Auriparus flaviceps*), great-tailed grackle (*Quiscalus mexicanus*), horned lark (*Eremophila alpestris*), black-necked stilt (*Himantopus mexicanus*), mourning dove (*Zenaida macroura*), greater roadrunner (*Geococcyx californianus*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), house finch (*Haemorhous mexicanus*), white-crowned sparrow (*Zonotrichia leucophrys*), Anna's hummingbird (*Calypte anna*), great blue heron (*Ardea herodias*), lesser goldfinch (*Spinus psaltria*), cliff swallow (*Petrochelidon pyrrhonota*), common raven (*Corvus corax*), northern mockingbird (*Mimus polyglottos*), great egret (*Ardea alba*), mallard (*Anas platyrhynchos*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), and signs of coyote (*Canis latrans*), antelope ground squirrel (*Ammospermophilus leucurus*), raccoon (*Procyon lotor*) and bat (Order Chiroptera).

During the 2022 assessment of the access road, a bat roost was observed within the bridge at Gordon Wells Road that crosses the offline storage canal, north of the All-American Canal. This bridge is located at the furthest eastern extent of the access road. Several bats could be heard vocalizing within the bridge and a substantial amount of guano was observed beneath the bridge where surfaces were dry. Species determination and size of the colony would require further analysis via a combination of acoustic monitoring and nighttime emergence surveys. Due to the quantity of bats heard and the time of year of the observation, there is high likelihood that this is a maternity roost. Cliff swallows were also observed nesting along both sides of the aforementioned bridge. Cliff swallows are not a special-status species.

4.3 Special-Status Species Assessment

The literature review resulted in 14 special-status plant and 21 special-status wildlife species that have historically been recorded in the vicinity of the Project or that are highly associated with habitat that occurs within the Project Area. Special-status plants were evaluated for their potential to occur within the Project Area where impacts could occur. Special-status wildlife were evaluated for their potential to occur within the Survey Area, a broader area that includes the Project Area and buffer, where direct or indirect impacts could occur.

4.3.1 Plants

Numerous special-status plant species have been recorded within five miles of the Project Area, according to the CNDDB (CDFW 2022a), IPaC (USFWS 2022b), and CNPSEI (CNPS 2022). Of all available records, a total of 14 species were identified as those with the potential for occurrence within the vicinity of the Project Area. Descriptions of the CNPS designations are found in Table 4 and a list of the special-status plant species identified in the literature review is presented following Table 4.

Table 4. CNPS Status Designations

List Designation	Meaning
1A	Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
2A	Plants Presumed Extirpated in California, But Common Elsewhere
2B	Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3	Plants about which we need more information; a review list
4	Plants of limited distribution; a watch list
List 1B, 2, and 4 extension meanings:	
.1	Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
.2	Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)
.3	Not very threatened in California (less than 20 percent of occurrences threatened / low degree and immediacy of threat or no current threats known)

Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code (California Department of Fish and Game [CDFG] 1984). This interpretation is inconsistent with other definitions.

Plant Species with a Moderate Potential to Occur

Due to the presence of suitable habitat and several known occurrences within five miles of the Project Area, the following species was determined to have a moderate potential to occur:

- Abrams' spurge (*Euphorbia abramsiana*) is a CNPS Rare Plant Rank (CRPR) 2B.2 plant species. This species is known to occur at elevations between 50 and 100 meters (164 and 328 feet) and blooms between September – November. Abrams' spurge is known to occur in creosote scrub habitat within sandy flats including playas, fields, disturbed areas, and washes. One historic CNDDB record was located approximately three miles west of the Project Area near the Alamo River. Potential habitat occurs within the Project Area for this species in the creosote bush scrub and the disturbed creosote bush – white bursage scrub habitats.
- Wiggins' croton (*Croton wigginsii*) is a CRPR 2B.2 plant species. This species is known to occur at elevations between 50 and 100 meters (164 and 328 feet) and blooms between March and May. Wiggins' croton is known to occur in sandy Sonoran desert scrub habitat. Two historic CNDDB records were recorded with the closest being from 1993 located approximately 0.92 miles east of the Project Area. Potential habitat occurs within Project Area for this species in the sandy, creosote bush scrub and the disturbed creosote bush – white bursage scrub habitats.

- Sand food (*Pholisma sonorae*) is a CRPR 1B.2 plant species. This parasitic species attaches to the roots of host *Eriogonum*, *Tiquilia*, *Ambrosia*, and *Pluchea* species. Sand food is known to occur at elevations between sea level and 200 meters (sea level and 656 feet) and blooms between April and June. It is known to occur in sandy Sonoran desert scrub habitat. One historic CNDDB record from 1954 was recorded approximately 0.5 mile north of the Project Area. Potential habitat occurs within the Project Area for this species in the sandy, creosote bush scrub and the disturbed creosote bush – white bursage scrub habitats.

Plant Species with Low Potential to Occur

The following species were found to have a low potential to occur within the Project Area because of limited habitat for the species on the site and a known occurrence has been reported in the database, but not within five miles of the Project Area, or suitable habitat strongly associated with the species occurs within the Project Area, but no records were found in the database search:

- Watson's amaranth (*Amaranthus watsonii*), CRPR 4.3
- Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*), federally listed threatened, state-listed endangered, CRPR 1B.2
- gravel milk-vetch (*Astragalus sabulonum*), CRPR 2B.2
- Algodones Dunes sunflower (*Helianthus niveus* ssp. *tephrodes*), state-listed endangered, CRPR 1B.2
- California satintail (*Imperata brevifolia*), CRPR 2B.1
- ribbed cryptantha (*Johnstonella costata*), CRPR 4.3
- winged cryptantha (*Johnstonella holoptera*), CRPR 4.3
- hairy stickleaf (*Mentzelia hirsutissima*), CRPR 4.3
- Darlington's blazing star (*Mentzelia puberula*), CRPR 2B.2
- slender cottonheads (*Nemacaulis denudata* var. *gracilis*), CRPR 2B.2
- giant Spanish-needle (*Palafoxia arida* var. *gigantea*), CRPR 1B.3

4.3.2 Wildlife

The literature search documented 21 special-status wildlife species in the vicinity of the Project Area, two of which are federally and/or state-listed. Of the 21 special-status wildlife species identified in the literature review, five were present within the Project Area, two were found to have a high potential to occur, seven were found to have a moderate potential to occur and three were found to have a low potential to occur; the remaining three species are presumed absent from the Project Area. Descriptions of the federal and state wildlife designations are found in Table 5, and a brief natural history and

discussion of the special-status wildlife species found onsite that have a high or moderate potential to occur within the Project Area are provided below.

Table 5. Wildlife Status Designations

List Designation	Meaning
Federal Designation	**Jurisdiction under United States Fish and Wildlife Service (USFWS)**
END	Federally listed as Endangered
THR	Federally listed as Threatened
CAN	Federal Candidate Species
FSC	Federal Species of Concern
FPD	Federal Proposed for Delisting
BBC	Bird of Conservation Concern
State Designation	**Jurisdiction under California Fish and Wildlife Service (CDFW)**
END	State listed as Endangered
THR	State listed as Threatened
SSC	California Species of Special Concern
FP	Fully Protected Species
WL	Watch List

Special-Status Wildlife Species Present

The following species were observed on the site during the reconnaissance survey:

- Northern harrier is a CDFW SSC. This species is typically found in open habitats with dense ground cover including grasslands, agricultural fields, and marshes. Northern harriers nest on the ground, preferring wetland habitat for cover. One adult was observed scanning the landscape of the Project Area during the habitat assessment in 2020.
- Burrowing owl is a USFWS BCC, a CDFW SSC, and Imperial County species of conservation focus. It is typically found in dry open areas with few trees and short grasses; it is also found in vacant lots near human habitation. It uses uninhabited mammal burrows for roosts and nests, often in close proximity to California ground squirrel colonies. It primarily feeds on large insects and small mammals but will also eat birds and amphibians. Three burrowing owls were observed flushing from/to their burrows; two within the southern portion of the Project Area and one from a rubble pile of the northern portion of the Project Area in 2020 (Figure 5). One within the southern portion of the Project Area was occupying a burrow along the berm of the access road.

- Black-tailed gnatcatcher is a CDFW WL species. This species remains in pairs all year, defending permanent territories. Black-tailed gnatcatchers prefer dry washes or desert brush with varied growth of mesquite, acacias, and paloverdes, but are also known to inhabit tamarisk scrub. A pair of black-tailed gnatcatchers was observed foraging and calling within the tamarisk thicket to the west within the buffer of the Project Area in 2020. This species was observed again within the same area in 2022 (Figure 5).
- Yellow warbler is a USFWS BBC and CDFW SCC. This species prefers scrub and woodlands, particularly along waterways and wetlands. Typically, yellow warblers nest in willows, alders, and cottonwoods, but have been observed nesting in tamarisk thickets. Several adults were observed foraging in the tamarisk thicket within the buffer to the northwest of the Project Area in 2020 (Figure 5).
- Loggerhead shrike is a USFWS BCC and CDFW SSC. This species prefers open country with scattered shrubs and trees. They frequent agricultural fields, abandoned orchards, desert scrublands, and riparian areas. One individual was observed perching in the tamarisk thickets in the western section of the Project Area in 2020. An individual was also observed perched within the creosote bush scrub habitat to the north of the access road in 2022.

Special-Status Wildlife Species with a High Potential to Occur

Two species were found to have high potential to occur within the Project Area due to the presence of suitable habitat for the species on the site and because a known occurrence has been recorded within five miles of the site:

- Flat-tailed horned lizard (*Phrynosoma mcallii*) is a CDFW SSC and Imperial County Species of conservation focus. This species is most commonly found on sandy flats and valleys within desert scrub habitat with little or no windblown sand. They can also be found on salt flats and gravelly soils. The creosote bush scrub and salt flat habitats provide suitable habitat for the flat-tailed horned lizard. Four recent CNDDB records occur within five miles of the Project Area. The closest recorded occurrence is less than one mile north of the site from 2014.
- Yuma hispid cotton rat (*Sigmodon hispidus eremicus*) is a CDFW SSC. This species is generally associated with mesic habitats near drainage ditches, streams, and sloughs but also occurs in open fields or on the borders of open fields where there is dense grass habitat or agricultural fields. There is potential for this species to occur near the All-American Canal and nearby dense arrow weed thicket and tamarisk thicket habitats. Two recent CNDDB records occur less than one mile north of the access road for the site. This species was found in arrow weed scrub and freshwater marsh adjacent to the All-American Canal in 2007.

Map Features

- Vega 4 Project Area - 440.802
- 500' Buffer

Special-status Species Observations

- Black-tailed gnatcatchter (*Polioptila melanura*)
- Burrowing owl (*Athene cunicularia*)
- Loggerhead shrike (*Lanius ludovicianus*)
- Yellow warbler (*Setophaga petechia*)

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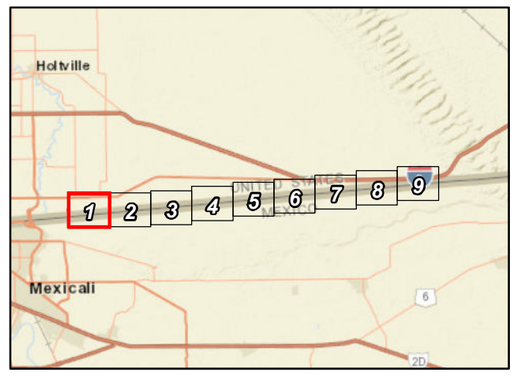

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Map Date: 7/6/2022

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Scale in Feet
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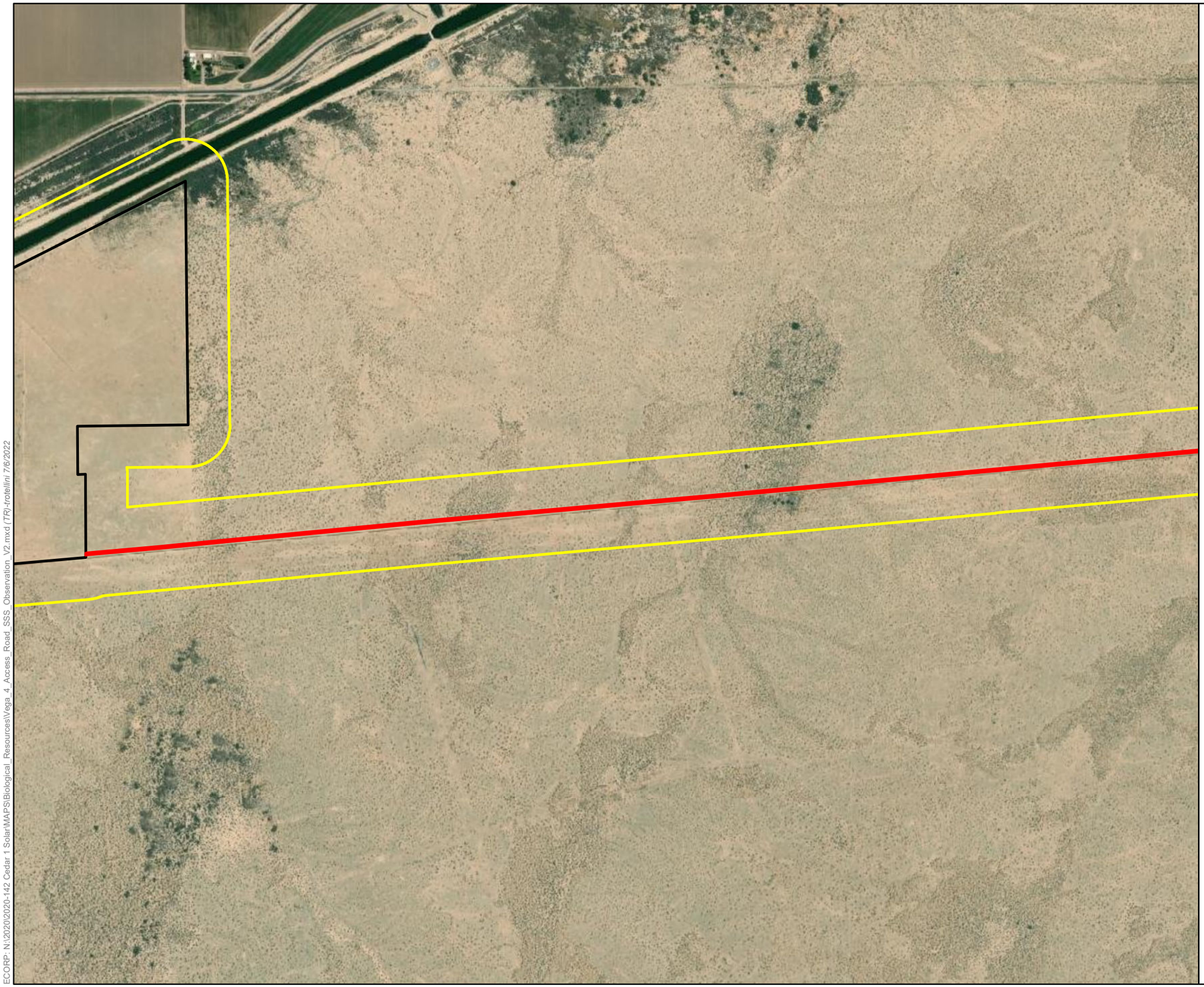
Figure 5. Special-status Species Observations
Sheet 1 of 9
2020-142 Vega SES 4



Map Features

- Vega 4 Project Area - 440.802
- Access Road - 69.735 ac.
- 500' Buffer

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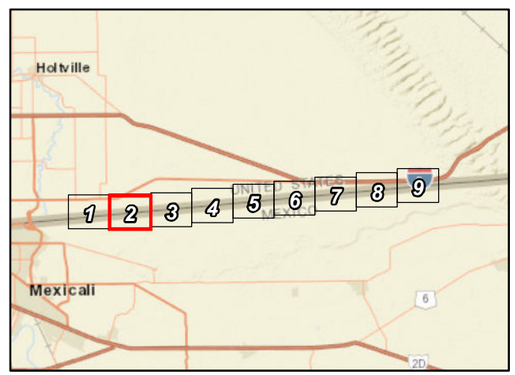

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Map Date: 7/6/2022

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Scale in Feet
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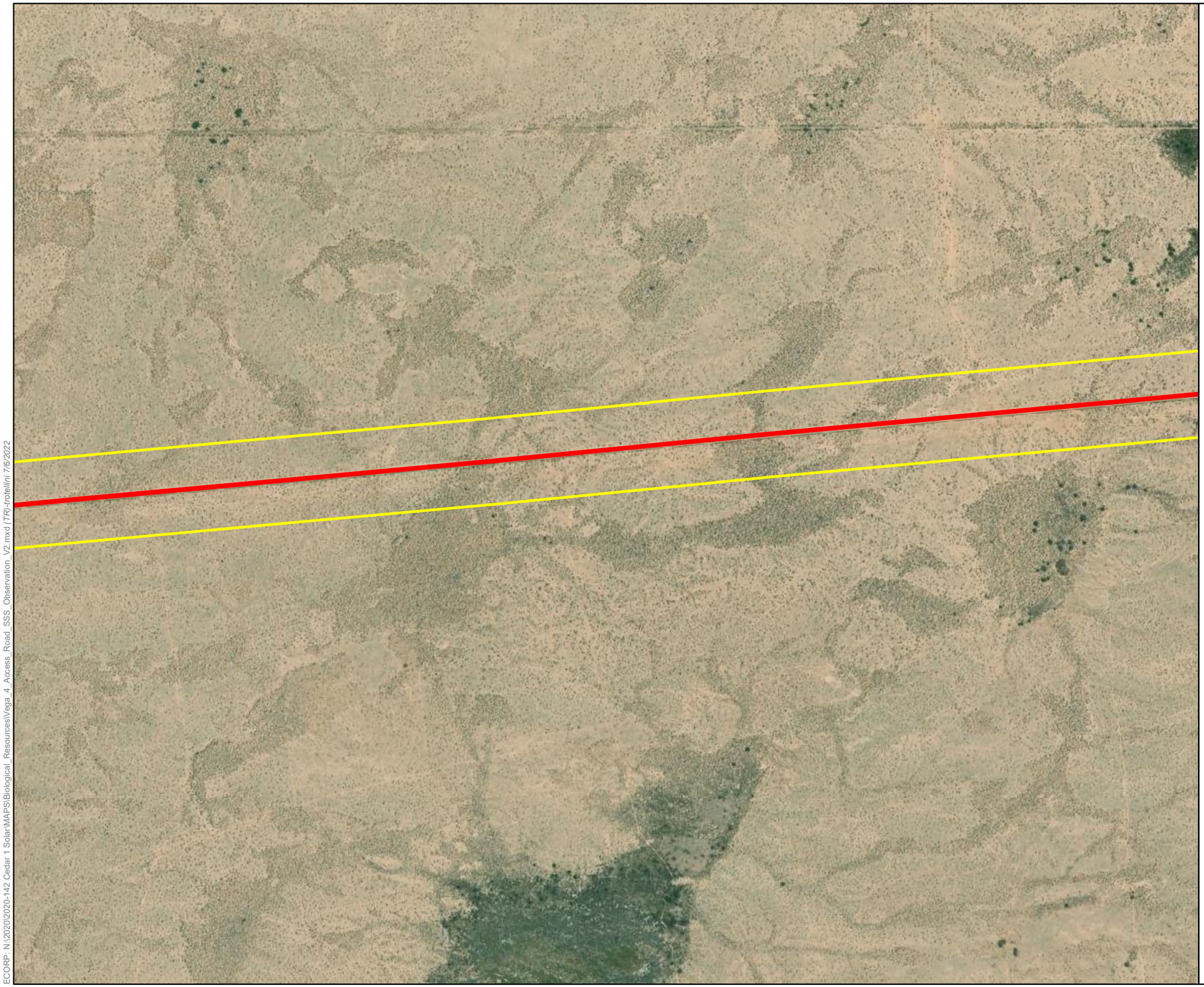
Figure 5. Special-status Species Observations
Sheet 2 of 9
2020-142 Vega SES 4



Map Features

- Access Road - 69.735 ac.
- 500' Buffer

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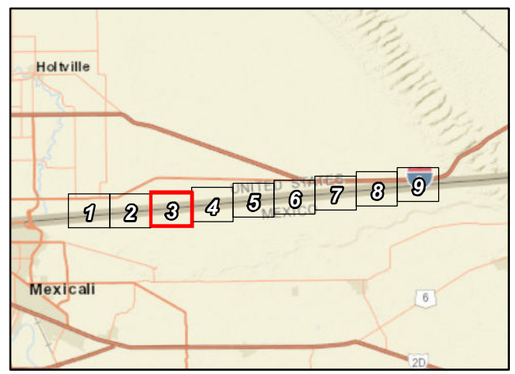

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Scale in Feet
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Figure 5. Special-status Species Observations
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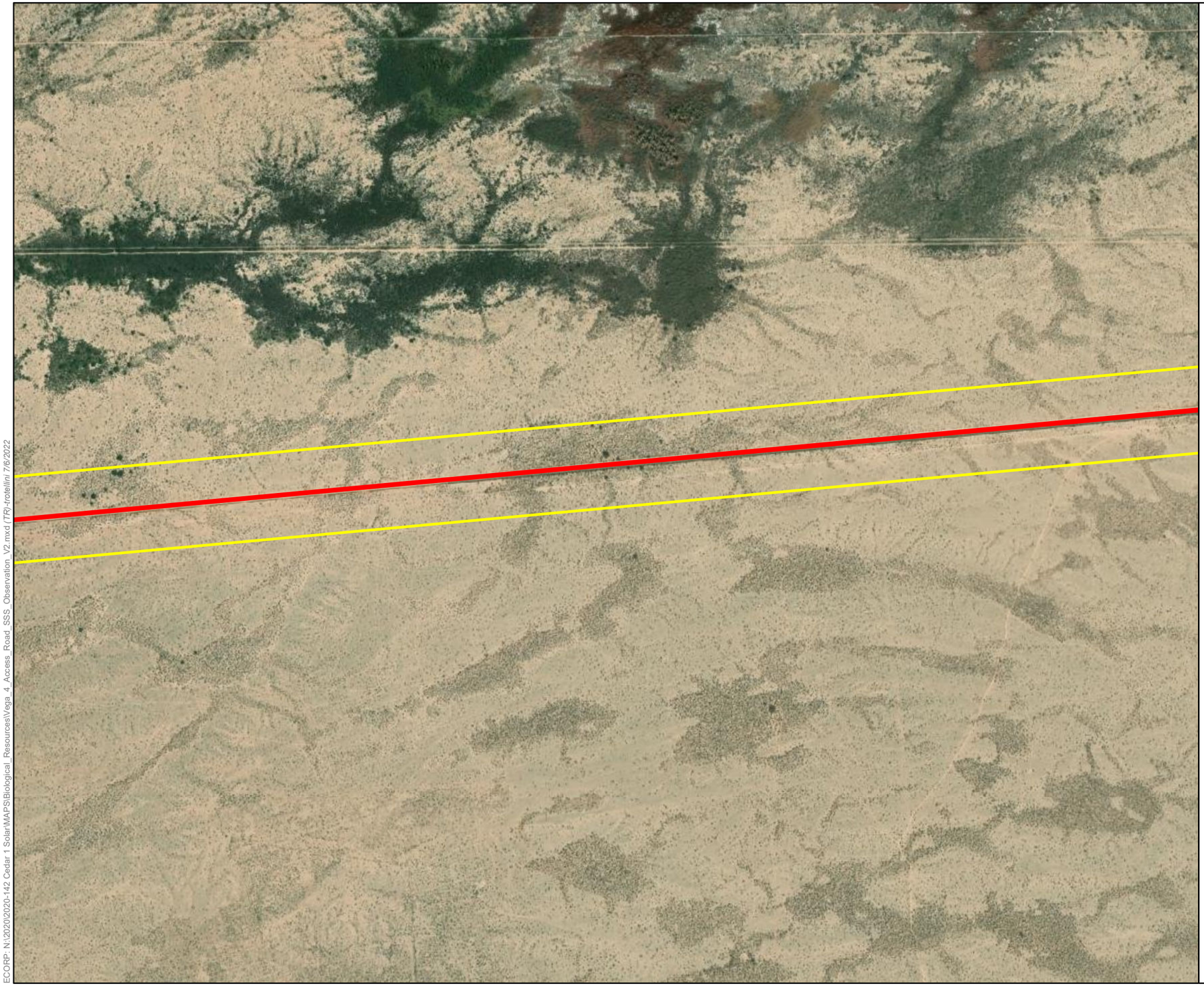
2020-142 Vega SES 4



Map Features

- Access Road - 69.735 ac.
- 500' Buffer

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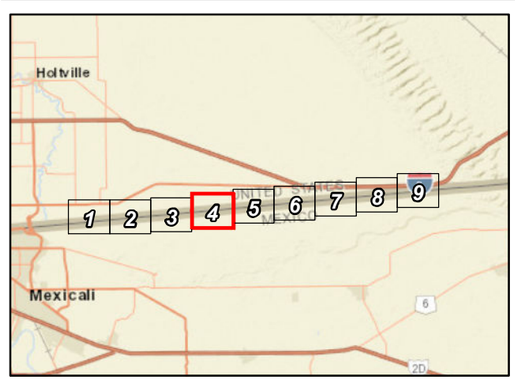

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Scale in Feet
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Figure 5. Special-status Species Observations
Sheet 4 of 9
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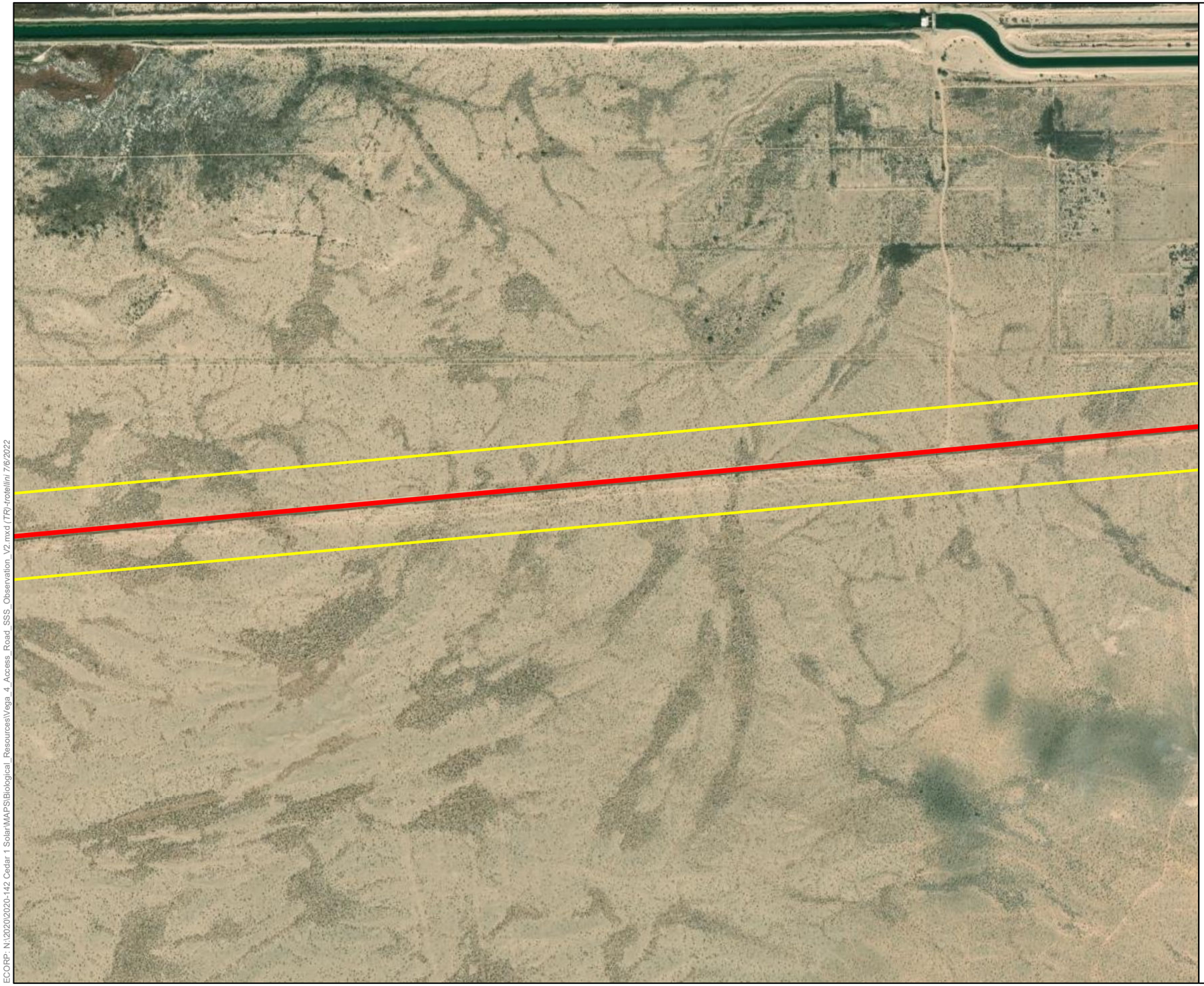

Map Features

- Access Road - 69.735 ac.
- 500' Buffer

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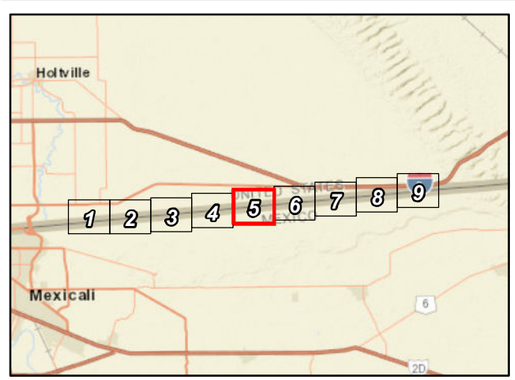

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Figure 5. Special-status Species Observations
Sheet 5 of 9
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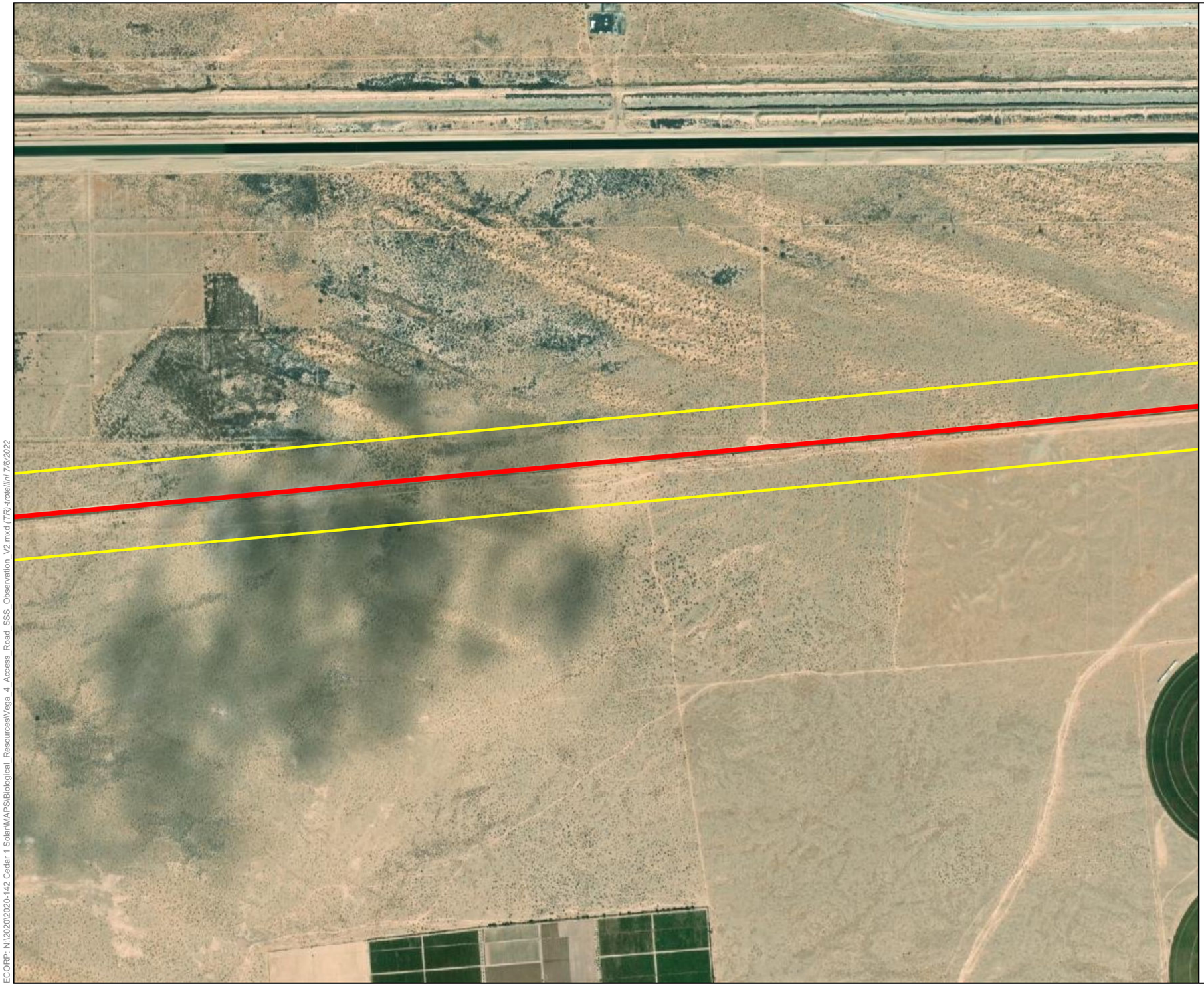

Map Features

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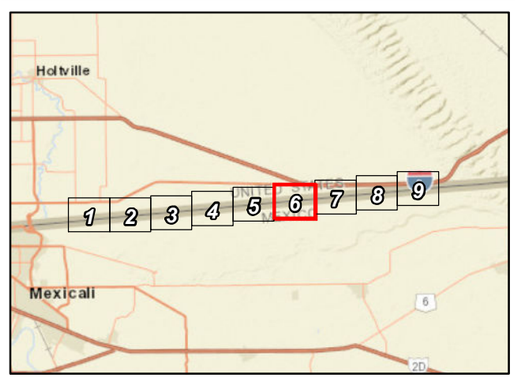

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Figure 5. Special-status Species Observations
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Map Features

- Access Road - 69.735 ac.
- 500' Buffer

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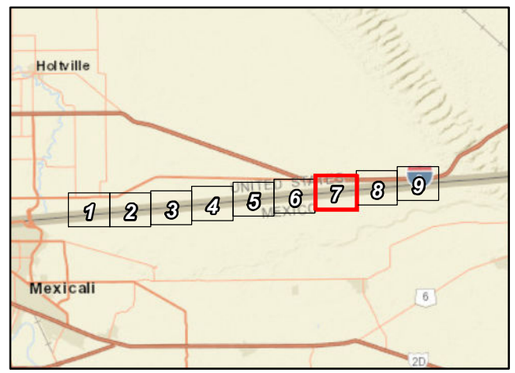

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Figure 5. Special-status Species Observations
Sheet 7 of 9
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Map Features

- Access Road - 69.735 ac.
- 500' Buffer

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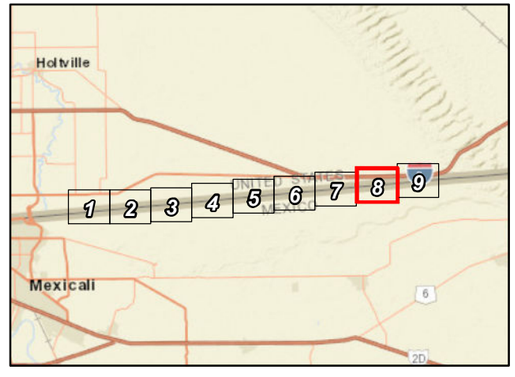

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Figure 5. Special-status Species Observations
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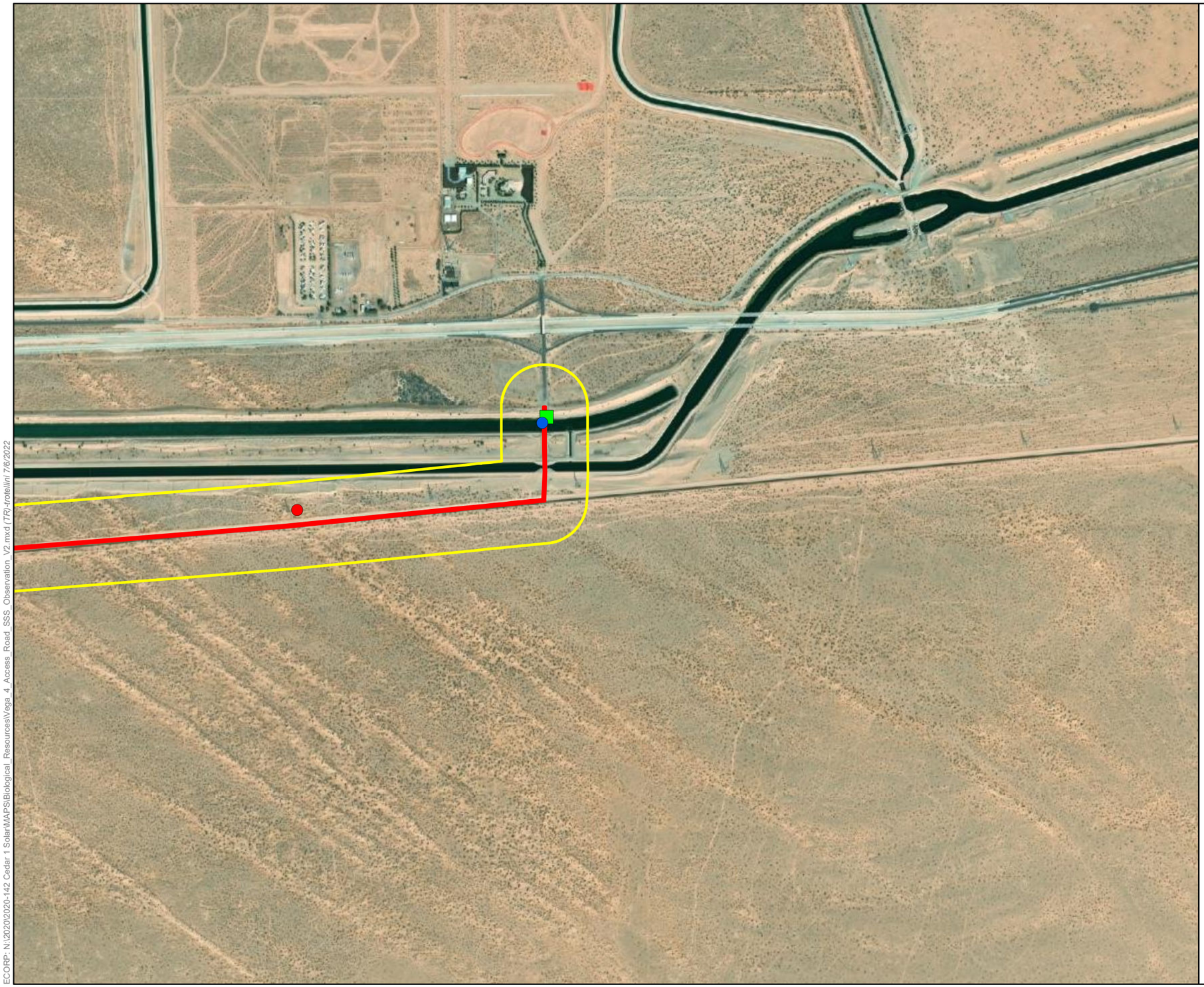

Map Features

- Access Road - 69.735 ac.
- 500' Buffer

Special-status Species Observations

- Cliff swallow (*Petrochelidon pyrrhonota*) Nesting Site
- Loggerhead shrike (*Lanius ludovicianus*)
- Bat Roosting Site

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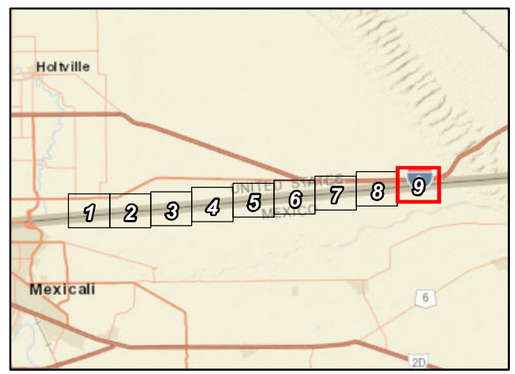

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Figure 5. Special-status Species Observations
Sheet 9 of 9
2020-142 Vega SES 4

Special-Status Wildlife Species with a Moderate Potential to Occur

Seven species were found to have moderate potential to occur within the Project Area because habitat (including soils and elevation factors) for the species occurs on the site and a known occurrence exists within the database search, but not within five miles of the site; or a known occurrence exists within five miles of the site and marginal or limited amounts of habitat occurs within the Project Area:

- Yuma Ridgway's rail (*Rallus obsoletus yumanensis*) is a federally listed endangered and state-listed threatened species. The Yuma Ridgway's rail prefers freshwater marshes composed of cattails and bulrushes. There is suitable habitat for this species within the wetlands nestled within the tamarisk and arrow weed scrub.
- California horned lark (*Eremophila alpestris* ssp. *actia*) is a CDFW WL species. It occurs in bare, open areas dominated by low vegetation or widely scattered shrubs, including prairies, deserts, and plowed fields. It nests in a hollow on the ground. The disturbed creosote scrub habitat onsite and in the buffer zones provides potential habitat. No CNDDB records occur within five miles of the Project Area.
- Yellow-breasted chat (*Icteria virens*) is a CDFW SSC. This species is commonly found in shrublands along rivers. There is potential for the yellow-breasted chat to occur within the arrow weed and tamarisk scrub in the eastern portion of the Project Area.
- Pallid bat (*Antrozous pallidus*) is a CDFW SSC. This species is commonly found in desert habitat and is known to roost in bridges. Potential roosting habitat for this species is present within the within the Gordon Wells Road bridge that crosses over the offline storage canal, north of the All-American Canal.
- Townsend's big-eared bat (*Corynorhinus townsendii*) is a CDFW SSC. The Project Area is within the known range of this species and this species is known to roost in bridges. Potential roosting habitat for this species is present within the within the Gordon Road Wells bridge that crosses over the offline storage canal, north of the All-American Canal.
- Western yellow bat (*Lasiurus xanthinus*) is a CDFW SSC. This species is commonly found in desert habitat and is known to roost in the skirts of untrimmed palm trees. Potential roosting habitat for this species is present within the palm trees of the northeastern portion of the Project Area.
- Arizona myotis (*Myotis occultus*) is a CDFW SSC. The Project Area is within the known range of this species and this species is known to roost in bridges. Potential roosting habitat for this species is present within the Gordon Wells Road bridge that crosses over the offline storage canal, north of the All-American Canal.

Wildlife Species with Low Potential to Occur

Three species were found to have a low potential to occur within the Project Area because limited habitat for the species occurs on the site and a known occurrence has been reported in the database, but not

within five miles of the site, or suitable habitat strongly associated with the species occurs on the site, but no records were found in the database search:

- southwestern willow flycatcher (*Empidonax traillii* ssp. *extimus*), federally listed endangered and state-listed endangered ,
- Sonoran desert toad (*Incilius alvarius*), CDFW SSC, and
- red-diamond rattlesnake (*Crotalus ruber)*, CDFW SSC.

Wildlife Species Presumed Absent

The following three species are presumed absent from the Project Area due to the lack of suitable habitat on the site:

- Gila woodpecker (*Melanerpes uropygialis*), USFWS BCC and CDFW END,
- western mastiff bat (*Eumops perotis* ssp. *californicus*), CDFW SSC, and
- big free-tailed bat (*Nyctinomops macrotis*), CDFW SSC.

4.4 Jurisdictional Aquatic Resources Assessment

An aquatic resources delineation was conducted by ECORP biologists during a separate survey effort, the results of which are presented under separate cover (ECORP 2022).

4.5 Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor is varied, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic land bridges, for example. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix, which connects two or more large blocks of habitat. Wildlife movement corridors are critical for the survivorship of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. Naturally, the nature of corridor use and wildlife movement patterns varies greatly among species.

The Project Area was assessed for its ability to function as a wildlife corridor. The Project Area has an extensive riparian corridor in the western corner of the site that provides cover for migrating and nesting birds. It also provides foraging habitat for raptors and small and large mammals, including rodents and canids. The desert washes located within the western corner of the Project boundaries are likely utilized by wildlife moving through the area; therefore, these features and associated riparian habitat would be considered necessary linkages between conserved natural habitat areas or critical for wildlife movement because of the nearby direct connectivity to wetlands to the south of the Project Area. The northern and

southern boundaries are restricted by the All-American Canal to the north and the U.S./Mexico border wall borders the southern buffer of the Project Area. Although the border wall inhibits large mammal movement, avian species and small mammals may fly over or cross through the wall.

The disturbed creosote bush scrub portion of the Project is sparse with low plant diversity, and therefore offers little shelter and foraging habitat. The Project Area is open with barriers to the north and south, leaving the terrain accessibility constrained for ground-truthing wildlife. The Project borders the western edge of expansive agricultural fields and is surrounded to the north, west, and south by agriculture. Thus, the creosote scrub habitat only currently provides wildlife movement opportunities to the east because it consists of open and relatively unimpeded land. In conclusion, the creosote bush scrub habitat portion of the Project would not be considered a wildlife movement corridor that would need to be preserved to allow wildlife to move between important natural habitat areas due to the lack of conserved natural lands in the vicinity and the Project's proximity to farming lands. The creosote bush scrub habitat within the Project boundaries is exposed and does not contain any major features that would be considered critical movement corridors for wildlife. Therefore, the creosote bush habitat acts as more of a buffer between agricultural lands and wildlands to the east, but not as a corridor for wildlife.

5.0 IMPACT ASSESSMENT

Implementation of the Project has potential to impact creosote bush scrub, disturbed arrow weed thickets, disturbed creosote-white bursage scrub, and tamarisk thickets. These communities may provide suitable nesting and foraging habitat for passerines, including Yuma's Ridgway rail, burrowing owl, yellow warbler, loggerhead shrike, black-tailed gnatcatcher, raptor foraging habitat, and rare plant habitat. Conceptual design of the Project has not been finalized; therefore, impacts and minimization measures cannot be confirmed at this time. The following recommendations would be required to determine if the Project would result in significant impacts to vegetation communities, special-status plant and wildlife species, jurisdictional waters, and wildlife movement corridors.

5.1.1 Special-Status Species

Special-Status Plants

The literature review identified 14 special-status plant species that have the potential to occur within the Project Area. However, 11 of these plant species have a low potential to occur due to the limited suitable habitat within the Project Area. These species include Watsons's amaranth, Peirson's milk-vetch, gravel milk-vetch, Algodones Dunes sunflower, California satintail, ribbed cryptantha, winged cryptantha, hairy stickleaf, Darlington's blazing star, slender cottonheads, and giant Spanish-needle.

There is moderate potential for three rare plant species, Abram's spurge (CRPR 2B.2), Wiggins' croton (CRPR 2B.2), and sand food (CRPR 1B.2), to be present within the Project Area. Suitable habitat for this species is present within the creosote bush scrub and disturbed creosote bush – white bursage scrub habitats. Impacts that may occur to the species includes loss of individuals, habitat, and seedbank. Depending on the size of the population, this impact may be significant. Implementation of BIO-1 and BIO-2 is recommended to reduce impacts to a less than significant level.

Special-Status Wildlife

The literature review identified 21 special-status wildlife species that have the potential to occur within the Project Area. However, six of these species have a low or no potential to occur due to the lack of suitable and/or limited habitat within the Project Area. Wildlife species that are presumed absent from the Project Area include Gila woodpecker, western mastiff bat, and big free-tailed bat. Wildlife species with a low potential to occur include Sonoran Desert toad, red-diamond rattlesnake, and southwestern willow flycatcher.

Five special-status wildlife species were observed on site during the habitat assessment. Black-tailed gnatcatcher, northern harrier, yellow warbler, and loggerhead shrike were observed in the tamarisk and arrow weed thickets in the western portion of the Project Area and buffer. Burrowing owl and their burrows were observed within the disturbed creosote-white bursage scrub in the western portion of the Project Area, within a berm adjacent to the access road, and in a concrete pile in the northeastern corner of the site. Direct impacts to these species that could occur include injury, mortality, nest failures, and loss of young. Indirect impacts include loss of nesting and foraging habitat, increase in anthropogenic effects (i.e., noise levels, introduction of invasive/nonnative species, increase in human activity, increase in dust). Impacts to these species could be considered significant; therefore, implementation of BIO-2, BIO-3, BIO-4, BIO-5, and BIO-7 is recommended.

Foraging habitat for a number of raptor species and breeding habitat for numerous passerine species that are protected by the MBTA occurs throughout the Project Area. The site provides nesting habitat for ground-nesting species as well as species that nest in riparian scrub habitat. Due to the lack of large trees within the Survey Area, there is no suitable nesting habitat for raptor species. However, northern harriers are ground nesters; therefore, the tamarisk thicket and disturbed arrow weed thicket habitats provide potential nesting habitat for this species. Direct impacts to nesting avian species include injury, mortality, loss of young, and nest failure. Indirect impacts include loss of foraging and nesting habitat for passerine and raptors species, increase in noise and human activities, and potential introduction of invasive/nonnative species. Implementation of BIO-4, BIO-5, and BIO-7 are recommended to mitigate for potential impacts.

The palm trees located within the Project Area may provide roosting habitats for bat species, particularly western yellow bat, a SSC species. These trees could function as maternity roost sites for this species. During the 2022 assessment of the access road, a bat roost was observed within the bridge at Gordon Wells Road that crosses the offline storage canal, north of the All-American Canal. Bat species in California are protected by Section 4150 (protection of non-game mammals from take) of the California Fish and Game Code. Section 4150 of the California Fish and Game Code prohibits the take of any naturally occurring mammals in California that are nongame mammals, which includes all species of the Order Chiroptera (bats). Based on the quantity of bats within the bridge and the timing of the observation of the colony, there is high likelihood that this is a maternity roost. The Gordon Wells Road bridge will be used for access to the solar field portion of the Project Area and no direct impacts are expected to occur to the bridge. There may be indirect impacts to the roost through noise and vibration, due to a temporary increase in traffic above the bridge. However, because the bridge currently functions as an active roadway, the colony would be expected to be accustomed to noise and vibrations associated with traffic and

indirect impacts would not be expected to be significant. The main Project Area is located approximately 22 miles west of the bridge and work is expected to occur within a 12-month period. An increase in truck traffic over the bridge to facilitate construction of the Project is not expected to have a significant impact on the bat colony and will be temporary in nature. Once completed, the bridge directly northeast of the Project (near where the East Highline Canal intersects the All-American Canal) will be used for site access instead of the Gordon Wells Road bridge. The bridge directly northeast of the Project is frequently used by U.S. Border Patrol and IID and was not assessed for bat occupation due to it being outside of the Project Area.

The Gordon Wells Road bridge and 22-mile access road will be used during the construction phase of the Project due to the use of heavier equipment. Bat acoustic surveys and monitoring should be implemented to determine if sensitive bat species occur within the Gordon Road Wells bridge or palm trees (if planned for removal). All bat species with potential for occurrence for the Project are SSC species and Project-related impacts to bat species and bat maternity roosts are potentially significant. Impacts to bat species are expected to be temporary in nature and individual bats are expected to be able to vacate the trees that are removed during construction without being subject to harm if a two-step palm tree removal process is conducted. The two-step removal process for palm trees involves the following:

- The uppermost live fronds (the top of the tree) should be removed entirely on the first day along with the upper 25 percent of the frond skirt. This method would allow for sufficient disturbance of the tree that would encourage any roosting bats within the frond skirt to abandon the tree during evening emergence without directly impacting roosting bats within the skirt. The remainder of the tree should be removed the following day.
- If bats emerge at any time during the tree trimming, trimming activities should cease at that individual tree for the remainder of the day to allow for any additional bats roosting in the tree to emerge during evening hours when it is safe and appropriate for them to do so. Trimming of the tree may resume the following morning.
- Tree trimming activities in the fall should be conducted on days when weather conditions are such that roosting bats are unlikely to be in torpor (predicted overnight lows on evenings before and after the tree trimming activities are above 45 degrees Fahrenheit) to the extent practicable.

Implementation of BIO-9 would reduce impacts to bat species and maternity roosts to a less than significant level.

5.1.2 Sensitive Natural Communities

The ±511-acre Project Area and accompanying access road is comprised of disturbed creosote-white bursage scrub, creosote bush scrub, disturbed arrow weed thickets, tamarisk thickets, and urban/ developed land, which would be directly impacted by the Project. Active agriculture, fallow agriculture, disturbed creosote bush scrub, and creosote bush – white bursage scrub occur within the Project buffer area. In-kind mitigation, up to 3:1 ratio, may be required by CDFW to offset impacts to disturbed arrow weed thickets and tamarisk thickets in order to reduce impacts to a less than significant level. Implementation of BIO-7 is recommended to reduce potential impacts.

5.1.3 State- and/or Federally Protected Wetlands and Waters

The results of the Aquatic Resources Delineation and discussion of potential impacts on State or federally protected wetlands or Waters of the U.S. are discussed in the Aquatic Resources Delineation Report (ECORP 2022), prepared under separate cover. Implementation of BIO-6 is recommended to mitigate for potential significant impacts.

5.1.4 Wildlife Corridors and Nursery Sites

The Project Area is located adjacent to areas containing existing disturbances (i.e., roads, border wall, and active agricultural land). The majority of the site does not contain suitable vegetation and/or cover to support wildlife movement and is nestled on the edge of agricultural and development; therefore, wildlife movement opportunities connecting the Project Area to large, undeveloped natural areas is extremely limited. However, the riparian habitat could act as a potential corridor and nursey site for migrating wildlife species. Therefore, implementation of BIO-2, BIO-4, BIO-5, BIO-6, and BIO-7 are recommended to mitigate for potential significant impacts.

5.1.5 Habitat and Conservation Plans and Natural Community Conservation

There is no Imperial County Plan or local plan at the time of this report; therefore, consultation with USFWS and CDFW would be required should listed plant and/or wildlife species be found to occur.

6.0 RECOMMENDATIONS AND MITIGATION MEASURES

The following recommendations have been developed in accordance with the CEQA impacts analysis for the Project (see Section 5) but should not be considered mitigation measures at this point in the Project planning process. These actions are recommended prior to Project implementation:

BIO-1 Rare Plant Surveys: Rare plant surveys should be conducted within suitable habitat within the Project Area during the appropriate blooming period for the Abrams' spurge (approximately September through November), Wiggins' croton (approximately March through May), and sand food (approximately April through June). The surveys should be conducted by a botanist or qualified biologist in accordance with the USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996); the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and the CNPS Botanical Survey Guidelines (CNPS 2001). If any special-status species are observed during the rare plant surveys, the location of the individual plant or population will be recorded with a submeter GPS device for mapping purposes. If Project-related impacts to rare plants within the Project Area are unavoidable, then consultation with CDFW may be required to develop a mitigation plan or additional avoidance and minimization measures. Mitigation measures that may be implemented if the species is observed include establishing a no-disturbance buffer around locations of individuals or a population, salvage or seed collection, and additional monitoring requirements.

BIO-2 Biological Monitoring: A qualified biologist should be present to monitor all ground-disturbing and vegetation-clearing activities conducted for the Project. During each monitoring day, the biological

monitor should perform clearance survey "sweeps" at the start of each work day that vegetation clearing takes place to minimize impacts on special-status species with potential to occur (including, but not limited to, special-status and/or nesting bird species and flat-tailed horned lizard). The monitor will be responsible for ensuring that impacts to special-status species, nesting birds, and active nests will be avoided to the greatest extent possible. Biological monitoring should take place until the Project Area has been completely cleared of any vegetation. If an active nest is identified, the biological monitor should establish an appropriate disturbance limit buffer around the nest using flagging or staking. Construction activities should not occur within any disturbance limit buffer zones until the nest is deemed no longer active by the biologist. If special-status wildlife species are detected during biological monitoring activities, then consultation with the USFWS and/or CDFW should be conducted and a mitigation plan should be developed to avoid and offset impacts to these species. Mitigation measures may consist of work restrictions or additional biological monitoring activities after ground-disturbing activities are complete.

BIO-3 Pre-Construction Surveys for Burrowing Owl: Pre-construction surveys for burrowing owl should be conducted within the Project Area and adjacent areas prior to the start of ground-disturbing activities. The surveys should follow the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Two surveys should be conducted, with the first survey being conducted between 30 and 14 days before initial ground disturbance (grading, grubbing, and construction), and the second survey being conducted no more than 24 hours prior to initial ground disturbance. If burrowing owls and/or suitable burrowing owl burrows with sign (e.g., whitewash, pellets, feathers, prey remains) are identified within the Project Area during the survey and impacts to those features are unavoidable, consultation with the CDFW should be conducted and the methods described in the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) for avoidance and/or passive relocation should be followed.

BIO-4 Pre-Construction Nesting Bird Survey: If construction or other Project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and March 15 through August 31 for the majority of migratory bird species), a pre-construction nesting-bird survey should be conducted by a qualified avian biologist to ensure that active bird nests, including those for the black-tailed gnatcatcher, northern harrier, yellow warbler, burrowing owl, and loggerhead strike, will not be disturbed or destroyed. The survey should be completed no more than three days prior to initial ground disturbance. The nesting-bird survey should include the Project Area and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly due to construction activity or noise. If an active nest is identified, the biologist should establish an appropriately sized disturbance-limit buffer around the nest using flagging or staking. Construction activities should not occur within any disturbance-limit buffer zones until the nest is deemed inactive by the qualified biologist. If construction activities cease for a period of greater than three days during the bird breeding season, a pre-construction nesting bird survey should be conducted prior to the commencement of activities.

BIO-5 Pre-Construction Survey for Special-Status Species: A pre-construction survey should be conducted for special-status wildlife species within all areas of potential permanent and temporary disturbance. The pre-construction survey should take place no more than 14 days prior to the start of ground-disturbing activities. The pre-construction surveys should take place regardless of breeding

season timing and should focus on identifying the presence of special-status wildlife species present within the Project Area or that were identified as having a high potential to occur on the site. These species include, but are not limited to, flat-tailed horned lizard, burrowing owl, norther harrier, black-tailed gnatcatcher, and yellow warbler. Should any special-status species be identified during the pre-construction survey, consultation to develop suitable avoidance and minimization measures with the appropriate agency (USFWS, CDFW) may need to be undertaken.

BIO-6 Aquatic Resources Regulatory Permitting: If Project-related impacts occur to the riparian areas that may also fall under the jurisdiction of the USACE, CDFW, RWQCB a regulatory permit with those agencies is needed prior to the impact occurring. Refer to the ECORP Jurisdiction Delineation Report (2022) for preliminary determination of regulatory limits that areas that may be regulated by USACE, CDFW, or SWRCB. Permitting includes preparation and submittal of a Pre-Construction Notification under Section 404 of the federal CWA, an Application for Water Quality Certification under Section 401 of the federal CWA and a Notification of Lake or Streambed Alteration under Section 1600 of the California Fish and Game Code. Other items such as finalized project plans, quantities of fill material, supporting technical studies, etc., are also submitted along with the applications. As a part of this process, the project must also identify and approve mitigation through the respective agencies. Mitigation can include onsite or offsite options or could include payment of an in-lieu fee to a conservation organization. Types of mitigation can include restoration, creation, rehabilitation, enhancement, or other types of habitat improvement. Typically, the type of mitigation and acreage of mitigation is negotiated with the regulatory agencies during the permitting process.

BIO-7 Wetland/Riparian Habitat Avoidance: To the greatest extent possible, plans should avoid impacts to arrow weed thicket (disturbed) and tamarisk thicket habitats to minimize potential impacts to special-status species. Excluding these habitats from the Project should also minimize mitigation and permitting requirements to meet the less-than-significance threshold.

BIO-8 Minimization of Impacts to Wetland/Riparian Habitat: Solar panels, structures, and new access roads should not be placed within 50 feet of wetland and riparian habitat boundaries. A construction buffer of 300 feet should be established around the wetlands and riparian habitat during bird breading season (February 1 – August 31). Prior to construction, fencing should be installed approximately 10 feet from the wetland and riparian habitat boundaries within 50 feet of the Project. Fencing should be easily visible to construction.

The following best management practices are not mitigation measures pursuant to CEQA but are recommended to further reduce impacts to special-status species that have potential to occur on the property:

- Confine all work activities to a pre-determined work area.
- To prevent inadvertent entrapment of wildlife during the construction phase of the Project, all excavated, steep-walled holes or trenches more than two feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen fill or

wooden planks should be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals.

- Wildlife are often attracted to burrow- or den-like structures such as pipes, and may enter stored pipes and become trapped or injured. To prevent wildlife use of these structures, all construction pipes, culverts, or similar structures with a diameter of four inches or greater should be capped while stored onsite.
- All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or Project Area.
- Use of rodenticides and herbicides within the Project Area should be restricted. This is necessary to prevent primary or secondary poisoning of wildlife, including burrowing owl and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other state and federal legislation. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to burrowing owl.

BIO-9 Compliance with Section 4150 of California Fish and Game Code: To avoid impacts to bat species, a qualified bat biologist should conduct an appropriate combination of sampling, exit counts, and acoustic surveys to determine if bats are using the palm tree resources in the Project Area. If Project-related impacts to bat species are unavoidable, additional measures may need to be implemented to reduce or eliminate impacts to bat species, including maternity roosts, such as tree removal occurring outside of bat breeding season (October through February) or two-step, two-day removal of palm trees under supervision of a qualified bat biologist.

7.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this assessment was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or the applicant's representative and that I have no financial interest in the project.

Signed: _____ Date: July14, 2022

Caroline Garcia
Associate Biologist

Signed: _____ Date: July 14, 2022

Christina Torres
Associate Biologist

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LIST OF ATTACHMENTS

ATTACHMENT A

Representative Site Photographs

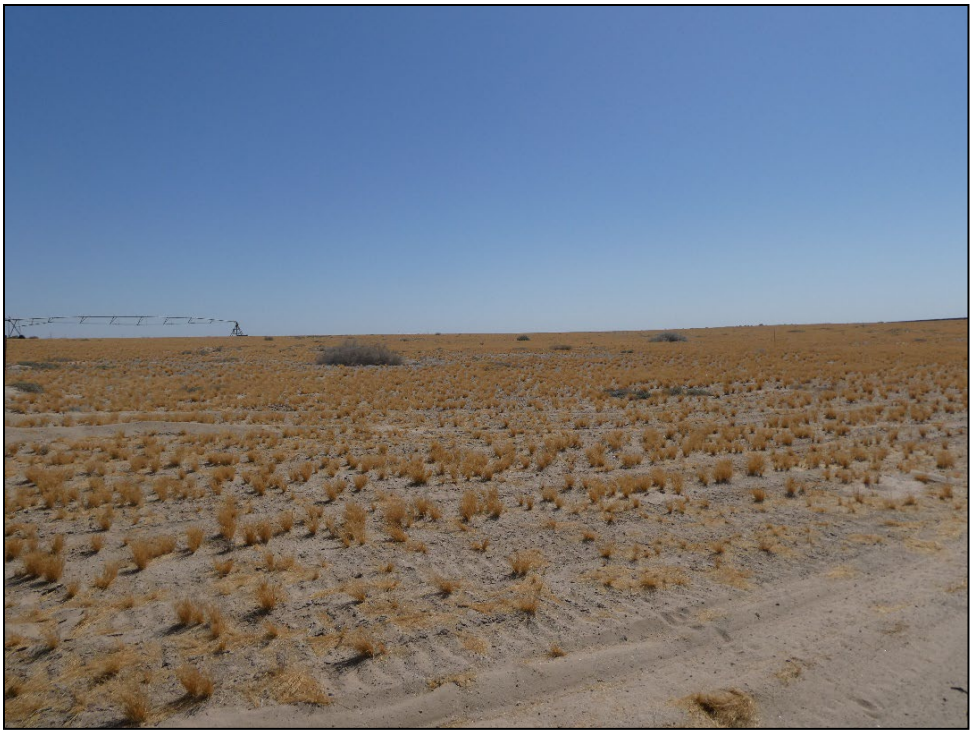

Photo 1. Southeastern section of the Project Area in disturbed lands, facing northeast.

Photo 2. Northeastern section of the Project Area in disturbed creosote bush – white bursage scrub habitat, facing west.

Photo 3. Disturbed arrow weed scrub with tamarisk thickets in the background (circled in red) of the Project Area facing west.

Photo 4. Edge of tamarisk thickets in Project Area, facing west.

Photo 5. View of creosote bush scrub in the western section of the Project Area, facing west.

Photo 6. Close-up view of active burrowing owl burrow with whitewash and pellets near entrance, located in the southwestern section of the Project Area, facing southwest.

Photo 7. View of All-American Canal (within the northern buffer of the Project Area) lined with riparian vegetation, including arrow weed and tamarisk thickets, facing northwest.

Photo 8. View of U.S. Mexico border wall lining the southern perimeter of the Project Area, facing south.

Photo 9. View of creosote bush – white bursage scrub north of the access road, facing northwest.

Photo10. View of disturbed creosote bush scrub north of the bridge that crosses the All-American Canal that connects to the access road, facing west.

Photo 11. View of active cliff swallow mud nests on the Gordon Wells Road bridge crossing the offline storage canal for the All-American Canal, facing southeast.

Photo 12. View of the crevice housing a bat colony within the Gordon Wells Road bridge crossing the offline storage canal for the All-American Canal.

Photo 13. View of tamarisk thickets adjacent to the access road, facing northwest.

Photo 14. View of the access road, facing northeast.

ATTACHMENT B

Special-Status Plant Potential For Occurrence

Special-Status Plant Species Potential For Occurrence				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project site**
Amaranthus watsonii Watson's amaranth	**USFWS**: None **CDFW**: None **CRPR**: 4.3	Apr-Sep (20 - 1700)	Mojavean desert scrub Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project site. No CNDDB records occur within 5 miles of the site.
Astragalus magdalenae var. *peirsonii* Peirson's milk-vetch	**USFWS**: Threatened **CDFW**: Endangered **CRPR**: 1B.2	Dec-Apr (60 - 225)	Desert dunes	**Low:** No habitat occurs within the Project site. One recent (2018) CNDDB record occurs to the northeast, but not within 5 miles of the site.
Astragalus sabulonum gravel milk-vetch	**USFWS**: None **CDFW**: None **CRPR**: 2B.2	Feb-Jun (-60 - 930)	Desert dunes Mojavean desert scrub Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project site. No CNDDB records occur within 5 miles of the site.
Croton wigginsii Wiggins' croton	**USFWS**: None **CDFW**: Rare **CRPR**: 2B.2	Mar-May (50 - 100)	Desert dunes Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site. One recent CNDDB record occurs from 2019 but is not within 5 miles of the site. Two historic CNDDB records occur within 5 miles; the closest is located 0.92 miles east of the site from 1993.
Euphorbia abramsiana Abrams' spurge	**USFWS**: None **CDFW**: None **CRPR**: 2B.2	Sep-Nov (-5 - 1310)	Mojavean desert scrub Sonoran desert scrub	**Moderate:** Habitat for the species occurs within the Project site and a historic CNDDB record (2010) occurs approximately three miles west of the site.
Helianthus niveus ssp. *tephrodes* Algodones Dunes sunflower	**USFWS**: None **CDFW**: Endangered **CRPR**: 1B.2	Sep-May (50 - 100)	Desert dunes	**Low:** No habitat occurs within the Project site. One recent observation of this species has occurred within approximately two miles of the Project site in 2018.
Imperata brevifolia California satintail	**USFWS**: None **CDFW**: None **CRPR**: 2B.1	Sep-May (0 - 1215)	Chaparral Coastal scrub Mojavean desert scrub Meadows and seeps Riparian scrub	**Low:** Habitat for this species occurs within the Project site. No CNDDB records occur within 5 miles of the site.
Johnstonella costata ribbed cryptantha	**USFWS**: None **CDFW**: None **CRPR**: 4.3	Feb-May (-60 - 500)	Desert dunes Mojavean desert scrub Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project site. No CNDDB records occur within 5 miles of the site.

Special-Status Plant Species Potential For Occurrence				
Scientific Name **Common Name**	**Status**	**Blooming Period/ Elevation Range (meters)**	**Habitat**	**Potential to Occur in the Project site**
Johnstonella holoptera winged cryptantha	**USFWS**: None **CDFW**: None **CRPR**: 4.3	Mar-Apr (100 - 1690)	Mojavean desert scrub Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project site. No CNDDB records occur within 5 miles of the site.
Mentzelia hirsutissima hairy stickleaf	**USFWS**: None **CDFW**: None **CRPR**: 4.3	Mar-May (0 - 700)	Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project site. No CNDDB records occur within 5 miles of the site.
Mentzelia puberula Darlington's blazing star	**USFWS**: None **CDFW**: None **CRPR**: 2B.2	Mar-May (90 - 1280)	Mojavean desert scrub Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project site. No CNDDB records occur within 5 miles of the site.
Nemacaulis denudata var. *gracilis* slender cottonheads	**USFWS**: None **CDFW**: None **CRPR**: 2B.2	Apr-May (-50 - 400)	Coastal dunes Desert dunes Sonoran desert scrub	**Low:** Habitat for this species occurs within the Project site. No CNDDB records occur within 5 miles of the site.
Palafoxia arida var. *gigantea* giant Spanish-needle	**USFWS**: None **CDFW**: None **CRPR**: 1B.3	Feb-May (15 - 100)	Desert dunes	**Low:** No habitat occurs within the Project site. One recent CNDDB record occurs from 2013 but is not within 5 miles of the site.Two historic CNDDB records occur within 5 miles of the site; the closest record is 0.4 miles north of the site from 1938 within sand dunes.
Pholisma sonorae sand food	**USFWS**: None **CDFW**: None **CRPR**: 1B.2	Apr-Jun (0 - 200)	Desert dunes Sonoran desert scrub	**Moderate:** Habitat for this species occurs within the Project site. One recent CNDDB record occurs from 2018 but is not within 5 miles of the site. One historic CNDDB record occurs within 5 miles of the Project site located 0.5 miles north of the site from 1954.

California Native Plant Society (CNPS) Rare Plant Ranks:
1B: Plants rare, threatened, and endangered in California and elsewhere.
2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
4: Plants of limited distribution; a watch list.

CNPS Threat Ranks:
0.1: Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2: Fairly threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat)
0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Sources:
California Natural Diversity Data Base (CNDDB) (CDFW 2022)
CNPS Rare and Endangered Plant Inventory (CNPS 2022)
Calflora Information on California Plants (Calflora 2022)
IPaC (USFWS 2022)

ATTACHMENT C

Special-Status Wildlife Potential For Occurrence

Special-Status Wildlife Species Potential For Occurrence				
Scientific Name Common Name	**Status**		**Habitat Requirements**	**Potential for Occurrence**
AMPHIBIANS				
BUFONIDAE (true toads)				
Incilius alvarius Sonoran Desert toad	USFWS: CDFW:	none SSC	Creosote bush desert scrub, grasslands up into oak-pine woodlands, thorn scrub and tropical deciduous forest in Mexico.	**Low.** Limited suitable habitat within the buffer adjacent to the canal. No CNDDB records occur within 5 miles of the site.
REPTILES				
PHRYNOSOMATIDAE (spiny lizards)				
Phrynosoma mcallii flat-tailed horned lizard	USFWS: CDFW:	none SSC	Desert scrub on sandy flats and valleys with little or no windblown sand, salt flats, and areas with gravelly soils.	**High.** Suitable habitat on the Project site. Four recent CNDDB records occur within 5 miles of the site. The closest recorded occurrence is less than 1 mile north of the site from 2014.
VIPERIIDAE (vipers)				
Crotalus ruber red-diamond rattlesnake	USFWS: CDFW:	none SSC	Found in coastal chaparral, arid scrub, rocky grassland, oak and pine woodlands, desert mountain slopes and rocky desert flats.	**Low.** Marginally suitable habitat on the Project site. No CNDDB records occur within 5 miles of the site.
BIRDS				
ACCIPITRIDAE (hawks, kites, harriers, and eagles)				
Circus hudsonius northern harrier	USFWS: CDFW:	none SSC	Undisturbed tracts of grasslands and wetlands with low, thick vegetation. Prefers to breed in dry upland habitats, old fields, grazed meadows, drained marshlands, and high-desert shrubsteppe. Also found in pasturelands, croplands, and open floodplains.	**Present.** There was one sighting of northern harrier within the Project site. No CNDDB records occur within 5 miles of the site.
ALAUDIDAE (larks)				
Eremophila alpestris* ssp. *actia California horned lark	USFWS: CDFW:	none WL	Bare open areas dominated by low vegetation or widely scattered shrubs, includes prairies, deserts, and plowed fields. Nests in a hollow on the ground.	**Moderate.** The open areas of the Project site and within the buffer provide suitable habitat. No CNDDB records occur within 5 miles of the site.
LANIIDAE (shrikes)				
Lanius ludovicianus loggerhead shrike (nesting)	USFWS: CDFW:	BCC SSC	Open country, with scattered shrubs and trees or other perches for hunting; includes agricultural fields, deserts, grasslands, savanna, and chaparral. Nests 2.5 to 4 feet off ground in thorny vegetation.	**Present.** This species was observed within the tamarisk thickets in the western section of the Project site and within the creosote bush scrub adjacent to the access road. There is suitable nesting habitat within the Project site.

PARULIDAE (new world warblers)				
Icteria virens yellow-breasted chat	USFWS: CDFW:	none SSC	Riparian and upland thickets, and dry overgrown pastures. Prefers to nest in dense scrub along streams or at the edges of ponds or swamps.	**Moderate.** The dense arrow weed and tamarisk thickets within the Project site provide suitable nesting and foraging habitat for this species. No CNDDB records occur within 5 miles of the site.
Setophaga petechia yellow warbler	USFWS: CDFW:	BCC SSC	Riparian woodlands especially with willows, open scrub, gardens, and thickets often near water.	**Present.** This species was observed within the tamarisk thickets in the western buffer of the Project site. This habitat provides suitable foraging and nesting areas for this species. No CNDDB records occur within 5 miles of the site.
PICIDAE (woodpeckers)				
Melanerpes uropygialis Gila woodpecker	USFWS: CDFW:	none **END**	Arid environments, especially deserts and dry forests of the southwestern U.S. and adjacent Mexico, usually below elevations of 3,300 feet. Most common in low swales and arroyos, including riparian corridors with cottonwood, willow, and mesquite. Nests in cacti and other tree species.	**Presumed Absent.** Unlikely to occur onsite due to absence of suitable nesting cavity locations, i.e. large trees and/or cacti. No recent CNDDB records occur within 5 miles of the site.
POLIOPTILIDAE (gnatcatchers)				
Polioptila melanura black-tailed gnatcatcher	USFWS: CDFW:	none WL	Semiarid and desert thorn scrub habitats. This species is well adapted to dry habitats and tend to be most common in areas with less than 8 inches of annual rainfall. They often live far from streams and other bodies of water.	**Present.** A pair was observed in the tamarisk thickets in the southwestern buffer of the Project. Tamarisk thickets are suitable foraging and nesting habitat for this species. No CNDDB records occur within 5 miles of the site.
RALLIDAE (rails)				
Laterallus jamaicensis* ssp. *coturniculus California black rail	USFWS: CDFW:	BCC **THR,** FP	Riparian marshes, coastal prairies, saltmarshes, and impounded wetlands. All of its habitats have stable shallow water, usually just 1.2 inches deep at most.	**Moderate.** Moderately suitable nesting and foraging habitat for this species is present within the buffer of the Project site adjacent to the canal. One recent CNDDB record occurs approximately 1 mile northeast of the site, directly north of the access road where individuals were detected within emergent wetland vegetation adjacent to the All-American Canal in 2008. Emergent wetland vegetation included seep wetlands characterized by bulrush, cattails, common reed, and scattered willows. A wetland enhancement project is underway in the area.

Rallus obsoletus* ssp. *yumanensis Yuma Ridgway's rail	USFWS: CDFW:	**END** **THR,** FP	Consistently found in freshwater marshes that are composed of cattail and bulrush. This emergent vegetation averages greater than 6 feet tall. Water depth tends to be around 3.5 inches deep. Range extends from Nevada, California, and Arizona to Baja California and Sonora Mexico.	**Moderate.** Presence of cattail dominated wetland habitat within the tamarisk and arrow weed thickets on the Project site are suitable foraging habitats for this species, however area lack consistent water The All-American Canal within the buffer of the Project site provides suitable habitat. Three CNDDB records occur within 5 miles of the site. The most recent record occurs approximately 1 mile northeast of the site, directly north of the access road from 2008. The species was found within the All-American Canal.
TYRANNIDAE (tyrant flycatchers)				
Empidonax traillii* ssp. *extimus southwestern willow flycatcher	USFWS: CDFW:	**END** **END**	Riparian woodlands particularly with willow thickets. Nests in densest areas of shrubs and trees with low-density canopies.	**Low.** Suitable tamarisk and arrow weed riparian woodland habitat on the Project site but no presence of willows. No CNDDB records within 5 miles of the site.
STRIGIDAE (owls)				
Athene cunicularia burrowing owl	USFWS: CDFW:	none SSC	Open grasslands including prairies, plains, and savannah, or vacant lots and airports. Nests in abandoned dirt burrows.	**Present.** A burrowing owl and two active satellite burrows were observed during the habitat assessment. Eight CNDDB records within 5 miles of the site; two historic records and six recent records with the closest being 1.7 miles away in 2007.
MAMMALS				
MOLOSSIDAE (free-tailed bats)				
Eumops perotis* ssp. *californicus western mastiff bat	USFWS: CDFW:	none SSC	Roosts high above ground in rock and cliff crevices, shallow caves, and rarely in buildings. Occurs in arid and semiarid regions including rocky canyon habitats.	**Presumed Absent.** No suitable roosting habitat within site or in buffer. No CNDDB records within 5 miles of the site.
Nyctinomops macrotis big free-tailed bat	USFWS: CDFW:	none SSC	Roosts in cliff crevices, and less often in buildings, caves, and tree cavities. Occurs in rocky areas of rugged and hilly country including woodlands, evergreen forests, river floodplain-arroyo habitats, and desert scrub.	**Presumed Absent.** No suitable roosting habitat within site or in buffer. No CNDDB records within 5 miles of the site.
VESPERTILIONIDAE (evening bats)				
Antrozous pallidus pallid bat	USFWS: CDFW:	none SSC	Roosts in rock crevices, caves, mines, buildings, bridges, and in trees. Generally, in mountainous areas, lowland desert scrub, arid grasslands near water and rocky outcrops, and open woodlands.	**Moderate.** Suitable roosting habitat is present within the access road bridge over the offline storage reservoir, north of the All-American Canal. Additionally, desert scrub provides suitable foraging habitat. No CNDDB records within 5 miles of the site.

Corynorhinus townsendii Townsend's big-eared bat	USFWS: CDFW:	none SSC	Roosts in mines, caves, buildings, or other crevices, sometimes trees. Usually requires large crevices. Most common in moist areas or those with access to water.	**Moderate.** Suitable roosting habitat is present within the access road bridge over the offline storage reservoir, north of the All-American Canal, additionally, desert scrub provides suitable foraging habitat. No CNDDB records within 5 miles of the site.
Lasiurus xanthinus western yellow bat	USFWS: CDFW:	none SSC	Roosts in trees, particularly palms, in desert wash, desert riparian, valley foothill riparian, and palm oasis habitats.	**Moderate.** Suitable roosting habitat is present within the palm trees of the Project site. This species has a strong association with roosting under dead palm frond skirts. No CNDDB records within 5 miles of the site.
Myotis occultus Arizona myotis	USFWS: CDFW:	none SSC	Roosts in bridges, buildings, tree snags. Most commonly found in high elevation conifer forests however maternity sites have been found at lower elevations within bridges and buildings	**Moderate.** Suitable roosting habitat is present within the access road over the offline storage reservoir, north of the All-American Canal. No CNDDB records within 5 miles of the site.
CRICETIDAE (New World rats and mice)				
Sigmodon hispidus* ssp. *eremicus Yuma hispid cotton rat	USFWS: CDFW:	none SSC	Inhabits a variety of habitats, but generally associated with drainage ditches, canals, and seeps vegetated with plants such as arrow weed, saltgrass, common reed, cattails, sedges, tamarisk, heliotrope, and annual grasses. They utilize runways through dense herbaceous growth and nests are built of woven grass. Noted presence in moist agricultural fields.	**High.** There is suitable habitat in the arrow weed and tamarisk thickets within the Project site. Two recent CNDDB records occur less than 1 mile north of the access road for the site. This species was found in arrow weed scrub and freshwater marsh adjacent to the All-American Canal in 2007.

Federal Designations:
(Federal Endangered Species Act, USFWS)

END: Federally-listed, Endangered
THR: Federally-listed, Threatened
CAN: Federal Candidate Species
FSC: Federal Species of Concern
FPD: Federal Proposed for Delisting
BCC: Bird of Conservation Concern

State Designations:
(California Endangered Species Act, CDFW)

END: State-listed, Endangered
THR: State-listed, Threatened
CAN: State Candidate Species
SSC: California Species of Special Concern
FP: Fully Protected Species
WL: Watch List