Appendix C

Biological Resources Technical Memorandum

MEMORANDUM

To:	Michael Haberkorn, Gatzke Dillon & Ballance
From:	Callie Amoaku, Zarina Pringle, Dudek
Subject:	SDSU Brawley Sciences Building – Biological Resources Technical Memo
Date:	August 22, 2023
cc:	Sarah Lozano, Alexandra Martini, Dudek
Attachment(s):	A – Figures 1–4
	B – Site Photographs
	C – Vascular Plant Species Compendium
	D – Wildlife Species Compendium
	E – Special-Status Plant Species Potential to Occur
	F – Special-Status Wildlife Species Potential to Occur

Dudek has conducted an evaluation pursuant to the requirements of the California Environmental Quality Act (CEQA), California Public Resources Code 21000, et seq., to determine the presence and potential impacts related to biological resources associated with the proposed California State University/San Diego State University (CSU/SDSU) Imperial Valley Campus Brawley Sciences Building Project (project or proposed project), located east of Brawley, California. This technical memorandum provides the results of the biological resources investigation.

1 Project Location and Setting

The project is located at 560 California State Route (SR) 78 (also referred to as Ben Hulse Highway) in Imperial County, east of the city of Brawley (see Figure 1, Regional/Campus Location). Regional access to the campus is provided by SR 111 and SR 86 to the west and northwest, respectively, and SR 115 to the east. The 1.5-acre project site boundary plus an additional 100-foot survey buffer (study area), totaling 7.5 acres, was assessed in this technical memo. The project is surrounded by agricultural uses to the north, south, and west; undeveloped land and a solar farm are located directly east of the proposed project site. The proposed sciences building would be constructed northeast of existing campus Building 101 and associated parking lot (see Figure 2). Project construction staging areas would be located southeast of the project site and north of SR 78 (see Figure 2).

2 Project Description

In September 2003, CSU certified an environmental impact report and approved a Campus Master Plan for development of the SDSU Brawley Campus (Brawley campus or campus), which would serve as an extension of the existing SDSU Imperial Valley Campus (IVC) located in Imperial County. The IVC is an extension of SDSU's main campus located in San Diego and furthers the university's regional educational mission to provide additional educational opportunities to the outlying communities of Imperial County. The approved Campus Master Plan and certified environmental impact report (EIR) provided sufficient environmental analysis and authorization necessary for enrollment of up to 850 full-time equivalent (FTE) students and corresponding faculty and staff, and a framework for development of the facilities necessary to serve the approved campus enrollment.

The Brawley campus is approximately 200 acres in size and is located east of the city of Brawley (city). Currently, the campus has been partially built out with educational and support facilities, although much of the campus remains undeveloped or used for active agriculture. As noted above, the environmental impacts associated with development of the Brawley campus, including a student enrollment up to 850 FTE, were evaluated at a program level of review in the previously certified 2003 SDSU Imperial Valley Campus Master Plan Project EIR (2003 EIR) (SCH 200251010). In CSU's effort to build out the IVC consistent with the previously approved Campus Master Plan, SDSU now proposes construction and operation of a sciences building that would be located on the Brawley campus.

The proposed project involves the construction and operation of a STEM building (science, technology, engineering, and mathematics) that would house teaching labs, lecture spaces, faculty/administration offices, research spaces, and conference rooms, as well as mechanical, electrical, and telecom support spaces. The proposed project does not include/propose any increase in the previously authorized and approved maximum student enrollment of 850 FTE.

The proposed project site is approximately 3.2-acres in size and the construction staging areas would occupy approximately 1-acre in the area of campus located southeast of the site and north of SR 78. The project includes 61,119 sf of on-site landscaping, including the construction of bio-retention areas to capture stormwater runoff from stormwater drainages systems that will be located throughout the project site. Hardscape improvements will include 41,297 sf of sidewalks and pedestrian walkways, which will connect the project site to existing campus buildings and parking lot.

Additionally, the project will require new points of connection to domestic water, fire water, and sewer lines from existing utility lines to serve the new building, as well as new domestic water line infrastructure. Potable water will be provided by the city of Brawley, as well as sewer and wastewater collection services. New utility infrastructure will also be required to support electrical services for the building, as well as a back-up diesel operated generator.

The proposed project building would have an area of 36,900 gross sf and would be approximately 35 feet in height. The project is projected to be built over the course of 19 months, with construction estimated to begin in January 2024. Construction and equipment staging would require 1-acre of space within the campus, directly east of the existing building (Building 101) and parking lot. The project would involve site preparation, grading, and excavation associated with project construction. Excavation depths are anticipated to be 2 to 5 feet. Waste (i.e., excavated gravel/soil) generated during project construction would be balanced within the site.

3 Analysis Methodology

The analysis presented here considers the potential environmental impacts of the proposed project relative to existing conditions. Establishment of the project site's existing biological resource conditions has been prepared using information contained in the previously certified 2003 SDSU Imperial Valley Campus Master Plan EIR (SDSU 2003), in addition to the following methods, described below.

3.1 Literature Review

For this biological resources assessment, "special-status" species are those that are (1) listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act; (2) listed or candidates for listing as threatened or endangered under the California Endangered Species Act; (3) a state fully protected species; (4) a California Department of Fish and Wildlife Species of Special Concern; (5) a United States Fish and Wildlife Service Bird of Conservation Concern; or (6) a species listed on the California Native Plant Society Inventory of Rare and Endangered Plants with a California Rare Plant Rank of 1B or 2B.

Other special-status biological resources considered include sensitive vegetation communities. Sensitive vegetation communities are those communities identified as high priority for inventory in the List of Vegetation Alliances and Associations (CDFW 2023a) by a state rarity rank of S1, S2, or S3.

Special-status biological resources potentially present in the work area were identified through a literature search using the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CDFW 2023b), the California Native Plant Society Rare Plant Inventory (CNPS 2023), and the CDFW Information for Planning and Consultation (IPaC 2023). The National Wetlands Inventory (USFWS 2023b), the National Hydrology Database (USGS 2023), and the NRCS's Web Soil Survey databases (USDA 2023b) were also referenced to determine the presence of potential wetlands or other aquatic features on-site. Searches were completed for the Alamorio USGS 7.5-minute quadrangle, within which the project is located, and the eight surrounding quadrangles.

3.2 Field Reconnaissance

Dudek Biologist, Zarina Pringle, conducted a general biological reconnaissance survey and examined the project site and study area for the presence of potential jurisdictional features on February 16, 2023, from 11am to 4pm (see Attachment B, Site Photographs). The survey was conducted when cloud cover was 20% to 30%, wind was 1-4 miles per hour, and temperatures ranged from 60°F to 66°F. The biological survey was conducted on foot.

All native and naturalized plant species encountered within the survey area were identified and recorded. The potential for special-status plant and wildlife species to occur within the project was evaluated based on the observed vegetation communities, soils present, elevation, and surrounding landscape features. Vegetation communities and land covers were mapped directly in the field. An informal examination of jurisdictional features was conducted to evaluate potential jurisdictional waters regulated under the federal Clean Water Act, California Fish and Game Code, and Porter-Cologne Water Quality Act, and is discussed in the results section of this report.

Latin and common names for plant species with a California Rare Plant Rank follow the California Native Plant Society's Inventory of Rare and Endangered Plants (CNPS 2023). For plant species without a California Rare Plant Rank, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2023), and common names follow the U.S. Department of Agriculture's Natural Resources Conservation Service Plants Database (USDA 2023a). Vegetation mapping was conducted in accordance with the 2010 CDFG List of Vegetation Alliances and Associations (or Natural Communities List). The list is based on Sawyer et al.'s 2009 Manual of California Vegetation, which is the California expression of the National Vegetation Classification system. Latin and common names of animals follow Crother (2017) for reptiles and amphibians, the American Ornithologists' Union (AOU 2021) for birds, the Mammal Diversity Database (ASM

2021) for mammals, the North American Butterfly Association (NABA 2001) for butterflies, and Moyle (2002) for fish.

Dudek used geographic information system (ArcGIS) software to map biological resources and prepare associated illustrative figures.

3.3 Survey Limitations

Vegetation mapping was conducted during the day and during months of the year when most perennials would have been evident or identifiable.

Notes were taken for incidental wildlife observations made during the survey to establish a general baseline of wildlife diversity within the study area.

The current survey effort provides an accurate representation of the potential for special-status species to occur in the study area. The on-site investigation was thorough and comprehensive, and the results of the study contained herein provide a reasonable, accurate assessment of the study area.

4 Biological Resources

4.1 Existing Conditions

The proposed project site consists of developed land, disturbed habitat, and general agriculture areas. Developed areas are characterized by existing campus structures and parking lot, agriculture infrastructure, storage, irrigation ditches, and a shaded seating area. Disturbed habitat consists of graded areas adjacent to structures and a dirt road in the northern portion of the site. Additionally, a portion of an active agriculture field lies in the northern portion of the project site.

4.2 Soils

The Imperial soil series is the only soil series present within the study area (Figure 3, Soils Map) and is described in detail below.

Imperial soils are found on level to gently sloping flood plains and in old lakebeds at elevations of 235 feet below sea level to 300 feet above mean sea level. These soils formed in calcareous alluvium from mixed sources. The climate is arid with hot dry summers and cool dry winters. Average annual precipitation is less than 4 inches. Imperial soils are used for irrigated agriculture and unirrigated native desert plants. Irrigated common crops are cotton, sugar beets, barley, annual ryegrass, and where salinity is not too high, alfalfa, sorghums, flax, safflower, and winter vegetables. Vegetation on uncultivated areas consists of sparse growth of saltbush, creosote bush, *Sueda* sp., and *Allenrolfea* sp.; mesquite and *Tamarix* sp. grow where their roots can reach ground water. Imperial silty clay, was mapped within the study area (USDA 2023b).

4.3 Vegetation Communities and Land Covers

The following vegetation communities and land cover types were observed within the study area: disturbed habitat, and urban/developed land, and general agriculture. These were identified and mapped within the study area based on general characteristics. Figure 4, Biological Resources Map, illustrates the distribution of vegetation communities and land covers, and Table 1 provides a summary of each land cover's extent within the study area.

Table 1. Vegetation Communities/Land Covers in the Study Area

Vegetation Communities and Land Cover Types	Acreage
Disturbed Habitat	3.39
Urban/Developed Land	2.55
General Agriculture	1.57
Total	**7.51**

* Totals may not add due to rounding.

4.3.1 Disturbed Habitat

Disturbed habitats are areas that have been physically disturbed and are no longer recognizable as a native or naturalized vegetation association. These areas may continue to retain soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Examples of these areas may include graded landscapes or areas, graded firebreaks, graded construction pads, temporary construction staging areas, off-road-vehicle trails, areas repeatedly cleared for fuel management, or areas that are repeatedly used in ways that prevent revegetation (e.g., parking lots, trails that have persisted for years).

Disturbed habitat occurs throughout the study area, comprising dirt roads and areas adjacent to structures and the paved parking lot. Ruderal vegetation species were observed growing in patches primarily in the eastern portion of the study area during the time of the survey, interspersed among patches of exposed soils. However, the majority of disturbed habitat within the study area consisted of bare soil recently cleared of vegetation.

4.3.2 Urban/Developed Land

Urban/developed land refers to areas that have been constructed on or disturbed so severely that native vegetation is no longer supported. Urban/developed lands includes areas with permanent or semi-permanent structures, pavement or hardscape, landscaped areas, and areas with a large amount of debris or other materials.

Urban/developed lands within the study area consist of existing SDSU buildings and the paved parking lot in the western portion of the study area, and agriculture related infrastructure, irrigation ditches, and storage in the eastern and northern portions.

4.3.3 General Agriculture

Agricultural lands are an anthropogenic land cover and are not described in CDFW (2023) or CNPS (2023). Within the study area, agricultural lands consist of an active alfalfa field. On-site farming practices include soil plowing, mowing, and regular anthropogenic maintenance and disturbance associated with ongoing management actions.

General agriculture area makes up a large area in the northern portion of the study area.

4.4 Floral Diversity

A total of 9 species of vascular plants (2 natives and 7 non-natives) were recorded within the study area. The low plant diversity reflects the study area's small size and its proximity to surrounding agricultural development. Plant species observed within the study areas are listed in Attachment C, Vascular Plant Species Compendium.

4.5 Wildlife Diversity

A total of 8 bird species were detected within the study area including vermillion flycatcher (*Pyrocephalus rubinus*), savannah sparrow (*Passerculus sandwichensis*), killdeer (*Charadrius vociferus*), and black phoebe (*Sayornis nigricans*). No bird nests were observed within the study area. Two nests which appeared to be inactive were observed in ornamental trees in a parking lot outside of the study area. No reptile, mammal, or amphibian species were observed. Wildlife species observed within the study areas are listed in Attachment D, Wildlife Species Compendium.

4.6 Special-Status Plants

No plant species listed or proposed for listing as rare, threatened, or endangered by either CDFW or the U.S. Fish and Wildlife Service were detected within the study area. The study area is not within any designated federally designated Critical Habitat for any special-status plant species (USFWS 2023a).

Based on the results of the literature review and database searches, 8 special-status plant species have been documented within the region. All of these species were evaluated for potential to occur within the study areas, see Attachment E, Special-Status Plant Species Potential to Occur. Criteria used include soils, current disturbance levels, vegetation communities present, elevation ranges, and previous known locations based on the California Natural Diversity Database (CDFW 2023b), California Native Plant Society (CNPS 2023), and Consortium of California Herbaria (Calflora 2023) records.

There are no federally or state-listed as endangered plant species with potential to occur in the study area. Due to the limited size of the study area, elevation range, and prevalence of disturbed and non-native cover, as well as absence of suitable habitat, all non-listed special status plant species are not expected to occur within the study area.

4.7 Special Status Wildlife

No wildlife species listed or proposed for listing as rare, threatened, or endangered by either CDFW or the U.S. Fish and Wildlife Service were detected within the study area. The study area is not within any federally designated Critical Habitat for any special-status wildlife species (USFWS 2023a).

Based on the results of the literature review and database searches, 18 special-status species have been documented within the region, see Attachment F, Special-Status Wildlife Species Potential to Occur. For each species listed, a determination was made regarding potential use of the study area based on information gathered during the field reconnaissance, known habitat preferences, and knowledge of the species' relative distributions in the area.

Vermillion flycatcher, a Species of Special Concern, was observed on site during the February 2023 biological reconnaissance survey. The mountain plover (*Charadrius montanus)* has a high potential to occur within the study area; the burrowing owl (*Athene cunicularia*) has a moderate potential to occur within the study area. American badger (*Taxidea taxus*) has a low potential to occur within the study area. Due to the limited size of the study area, location in an agriculturally developed setting, prevalence of disturbed and developed areas, and absence of suitable habitat within the study area, all other special-status wildlife species were not expected to occur within the study area.

Besides those species listed or proposed for listing as rare, threatened, or endangered, the study area has the potential to support nesting bird species which are protected under the Migratory Bird Treaty Act.

4.8 Jurisdictional Waters

During the general biological reconnaissance survey conducted in February 2023, two irrigation ditches associated with local agriculture were documented within the study area. These ditches are excavated, upland-cut features dug solely for the purpose of draining surrounding lands and/or facilitating irrigation activities; as such they would not be federally regulated by the USACE. These features may be considered waters of the state, under the jurisdiction of the CDFW and RWQCB.

Additionally, no areas potentially supporting vernal pools, ephemeral ponds, or wetlands were observed during the survey.

5 Impact Analysis and Conclusions

5.1 Thresholds of Significance

The thresholds of significance used to evaluate the impacts of the proposed project related to biological resources are based on Appendix G of the CEQA Guidelines (Cal. Code Regs., Title 14, Chptr. 3, sections 15000-15387.). A significant impact under CEQA would occur if the proposed project would:

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

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

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

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

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

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

5.2 Impact Analysis

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Potential impacts of the Campus Master Plan related to species listed as candidate, sensitive, or special status were evaluated in Section 3.4, Biological Resources, of the certified 2003 EIR. Chapter 11 of the EIR includes a mitigation measure in the MMRP which addresses the need to adhere to recommended mitigation protocols for the burrowing owl (*Athene cunicularia*), a migratory bird protected under the MBTA (page 11-2)[1]. The mitigation includes prescriptions for relocation prior to construction and subsequent monitoring activities. The EIR concluded impacts would be less than significant with the mitigation.

Based on the current analysis, the study area contains trees, shrubs, and bare ground that would potentially be used by migratory birds for breeding. Direct impacts to migratory nesting birds must be avoided to comply with the MBTA and California Fish and Game Code. Indirect impacts to nesting birds from short-term, construction-related noise could result in decreased reproductive success or abandonment of an area as nesting habitat if construction were conducted during the breeding/nesting season (i.e., January through August). Therefore, direct and indirect impacts to nesting birds would be significant absent mitigation. Implementation of recommended mitigation measure BIO-1 (see below) would ensure nesting

[1] **3.4 Biological Resources Mitigation Measure** included on Page 11-2 of the 2003 EIR: (1) The following recommended mitigation protocol, taken from the CDFG Staff Report on Burrowing Owl Mitigation, shall be followed if passive relocation with one-way doors is chosen: "Owls should be excluded from burrows in the immediate impact zone and within a 50-meter (approximately 160 feet) buffer zone by installing one-way doors in burrow entrances. One-way doors (e.g., modified dryer vents) should be left in place 48 hours to insure owls have left the burrow before excavation. Two natural or artificial burrows should be provided for each burrow in the project area that will be rendered biologically unsuitable. The project area should be monitored daily for one week to confirm owl use of burrows before excavating burrow in the immediate impact zone. Whenever possible; burrows should be excavated by hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe should be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow." If burrowing owls are encountered. CDFG will be consulted to ensure the appropriate measures are taken.

birds would not be impacted by project construction activities during nesting season. As such, impacts to nesting birds would be **less than significant**.

In addition, Burrowing owl is a Species of Special Concern and has a moderate potential to occur in the study area. As such, project implementation could result in direct impacts on burrowing owl in the form of habitat destruction, and potential death, injury, or harassment of nesting birds, their eggs, and their young. Injury or mortality occurs most frequently during the vegetation clearing stage of construction and affects eggs, nestlings, and recently fledged young that cannot safely avoid equipment. Indirect impacts to burrowing owl include vibration, excess noise, chemical pollution, fugitive dust, and increased human presence. Direct and indirect impacts to burrowing owl specific to construction of the proposed project therefore would be potentially significant, absent additional mitigation beyond the general mitigation previously adopted as part of the 2003 EIR. However, these impacts would be avoided and minimized through implementation of recommended mitigation measure BIO-2 (see below). This mitigation measure requires pre-construction surveys, establishment of exclusion buffers around occupied burrows or burrow complexes (buffer width is dependent upon breeding versus non-breeding season), and burrowing owl specific monitoring throughout construction to ensure full avoidance of owls. Should it be determined that full avoidance of occupied burrowing owl burrows or burrow complexes is not possible, mitigation measure BIO-2 requires preparation of a Burrowing Owl Relocation and Mitigation Plan that would include methods for passive relocation; description of surrounding suitable habitat conditions; monitoring and management requirements for replacement burrow sites in coordination with CDFW; reporting requirements; and compensatory mitigation, if required by CDFW. With implementation of mitigation measure BIO-2, impacts to burrowing owl would be **less than significant**.

> BIO-1: Pre-Construction Nesting Bird Survey. If ground disturbance and/or vegetation clearance activities are scheduled to occur during the avian nesting season (February 15th to August 30th), SDSU, or its designee, shall retain a biologist to conduct a pre-construction nesting bird survey within the area to be disturbed and a 500-foot-buffer. Surveys should be conducted within 3 days prior to initiation of activity between dawn and noon.
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> If construction begins outside the nesting bird season (i.e., between August 31st and February 14th), work may procced without a nesting bird survey. If construction begins outside the nesting season, but crosses into the nesting season (i.e., start in January but work until March), construction activities may proceed without a nesting bird survey. However, anytime construction must pause for more than 72-hours during the nesting season, an updated nesting bird survey should be conducted prior to the resumption of construction activities.
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> If an active nest is detected during the nesting bird survey, avoidance buffers shall be implemented as determined by a biologist retained by SDSU. The buffer should be of sufficient distance to ensure avoidance of adverse effects to the nesting bird by accounting for topography, ambient conditions, species, nest location, and activity type. All nests shall be monitored as determined by the biologist until nestlings have fledged and dispersed, or it is confirmed that the nest has been unsuccessful or abandoned.
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> BIO-2: Burrowing Owl Avoidance and Relocation. Prior to the initiation of construction activities, SDSU, or its designee, shall retain a biologist to conduct a pre-construction survey for

burrowing owl to determine the presence/absence of the species. SDSU shall submit at least one burrowing owl pre-construction survey report to the satisfaction of CDFW to document compliance with this mitigation measure. For the purposes of this mitigation measure, "qualified biologist" is a biologist who meets the requirements set forth in the California Department of Fish & Wildlife (CDFW) Staff Report on Burrowing Owl Mitigation (CDFW 2012).

The survey shall be conducted within 30 days of site disturbance in accordance with the most current and applicable CDFW protocol. If burrowing owls are not detected during the survey, no additional surveys or mitigation is required. Preconstruction surveys shall observe suitable burrowing owl habitat within the Project footprint and within 500 feet of the Project footprint (or within an appropriate buffer as required in the most recent guidelines and where legal access to conduct the survey exists).

Nesting Season Observation

If burrowing owl is located during the survey, occupied burrowing owl burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a biologist approved by CDFW verifies through non-invasive methods that either the birds have not begun egg laying and incubation, or that juveniles from the occupied burrows are foraging independently and capable of independent survival. If occupied burrows are present during the nesting season, construction activities may commence, or resume as applicable, after non-disturbance buffers are implemented by a biologist in accordance with the recommendations included in the Staff Report on Burrowing Owl Mitigation (CDFW 2012). If burrows are present, the biologist shall be contracted to perform monitoring during all construction activities approximately every other day. However, the definitive frequency and duration of monitoring shall be dependent on whether it is the breeding versus non-breeding season and the efficacy of the disturbance buffers, as determined by the biologist and in coordination with CDFW.

Non-Breeding/Non-Nesting Observation

If burrowing owl is detected during the non-breeding/non-nesting season (September 1 through January 31) or if confirmed to not be nesting, a non-disturbance buffer between the project activities and the occupied burrow shall be installed by a qualified biologist in accordance with the recommendations included in the Staff Report on Burrowing Owl Mitigation (CDFW 2012). However, under these circumstances, monitoring by the biologist is not required.

Avoidance Not Possible Through Non-Disturbance Buffers

If avoidance is not possible through the installation of non-disturbance buffers, SDSU, or its designee, shall prepare a Burrowing Owl Relocation and Mitigation Plan for submittal and approval by CDFW. Once approved, the Plan would be implemented to relocate burrowing owls from the Project site.

b) *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

The 2003 Initial Study (IS) prepared for the Campus Master Plan EIR determined that no impact related to adverse effects on riparian habitat or other sensitive natural communities would occur.

The study area does not contain riparian vegetation communities or any vegetation communities identified as sensitive according to CDFW. As a result, **no impacts** to sensitive communities are expected to occur.

c) *Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

The IS prepared for the Campus Master Plan 2003 EIR determined that no impact related to adverse effects on wetlands would occur.

The project site does not contain wetland waters of the United States or State. The study area contains potential non-wetland waters of the United States and non-wetland waters of the State; however, all features are located outside of the project footprint and direct impacts would be avoided. Indirect short-term impacts to jurisdictional waters include changes to hydrology, erosion, chemical pollution, and fugitive dust, and substantial long-term impacts include hydrology alterations and chemical pollution. Indirect impacts to jurisdictional waters would be significant without mitigation. Mitigation measure-BIO-3 requires that the work limits are appropriately flagged, and that equipment and spoil sites are placed in uplands within the proposed development area. Implementation of mitigation measure BIO-3 would reduce potential indirect impacts to jurisdictional waters outside of the project footprint to a **less-than-significant** level.

> BIO-3: General Avoidance and Minimization Measures. SDSU, or its designee, shall implement the following measures during project construction activities to avoid indirect impacts to aquatic resources:
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> - Construction limits should be clearly flagged so that adjacent native vegetation is avoided.
> - Construction work and operations and maintenance areas should be kept clean of debris, such as trash and construction materials. Fully covered trash receptacles that are animal-proof should be installed and used during construction to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles should be removed from the work area at least once a week.
> - Staging and storage areas for spoils, equipment, materials, fuels, lubricants, and solvents should be located within the designated impact area or adjacent developed areas.
> - Best management practices should be implemented to ensure water quality in existing drainages would not be affected during project activities.

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

The IS prepared for the Campus Master Plan 2003 EIR determined that no impact related to wildlife movement or migration would occur.

The project site is not located within an area that functions as a wildlife movement or migration corridor. As such, the proposed project would not constrain natural wildlife movement in its vicinity and **no impact** would occur.

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

The IS prepared for the Campus Master Plan 2003 EIR determined that no impact related to conflicts with local biological resources policies or ordinances would occur.

As proposed, the project would not conflict with any local policies or ordinances protecting biological resources. Therefore, **no impact** would occur to any biological resources protected by a local ordinance.

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

The IS prepared for the Campus Master Plan 2003 EIR determined that no impact related to conflicts with local biological resources policies or ordinances would occur.

There are no habitat conservation or natural community plans that have been implemented for the project area. The Imperial Irrigation District developed a planning agreement in 2006 for a regional HCP, however that plan is still in development and has not been implemented. As such, the project would not conflict with any applicable plans and **no impact** would occur.

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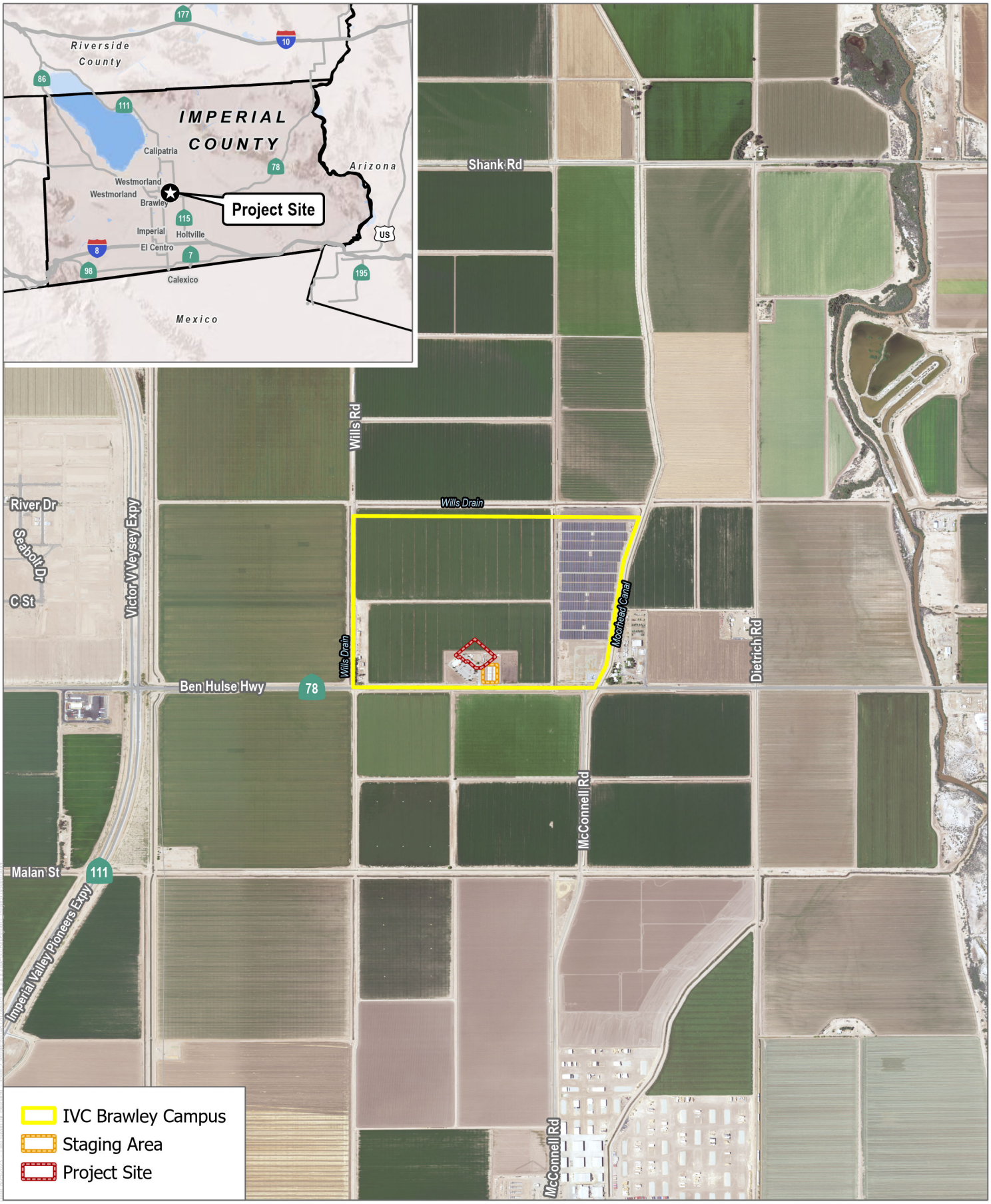
Attachment A
Figures 1-4



SOURCE: NAIP 2020, Open Streets Map 2019

DUDEK

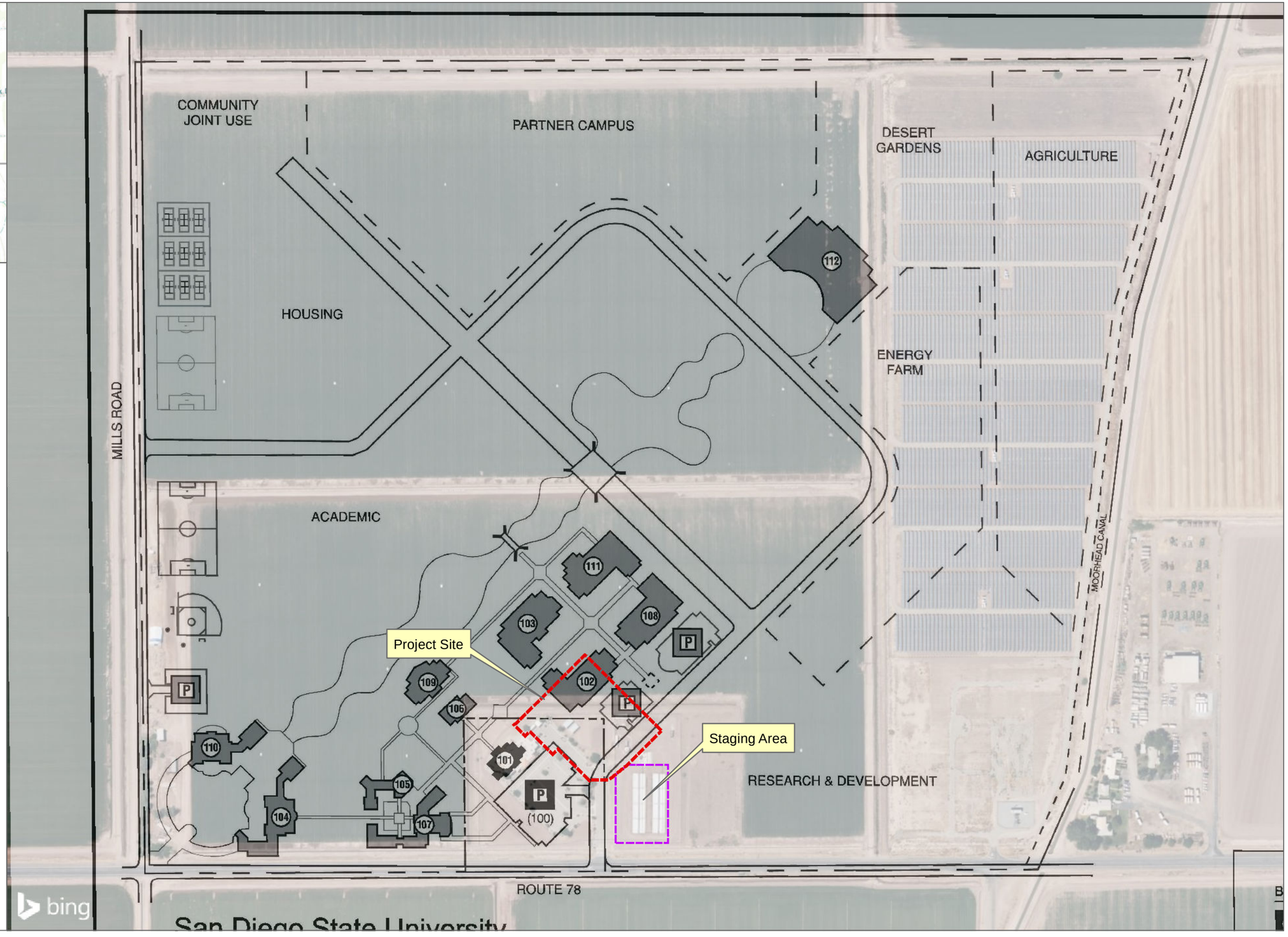
0 1,000 2,000 Feet

FIGURE 1

Project Location

SDSU Brawley Sciences Building Project

Project Site
Staging Area



SOURCE: AERIAL-BING MAPPING SERVICE 2022; CAMPUS MASTER PLAN 2003

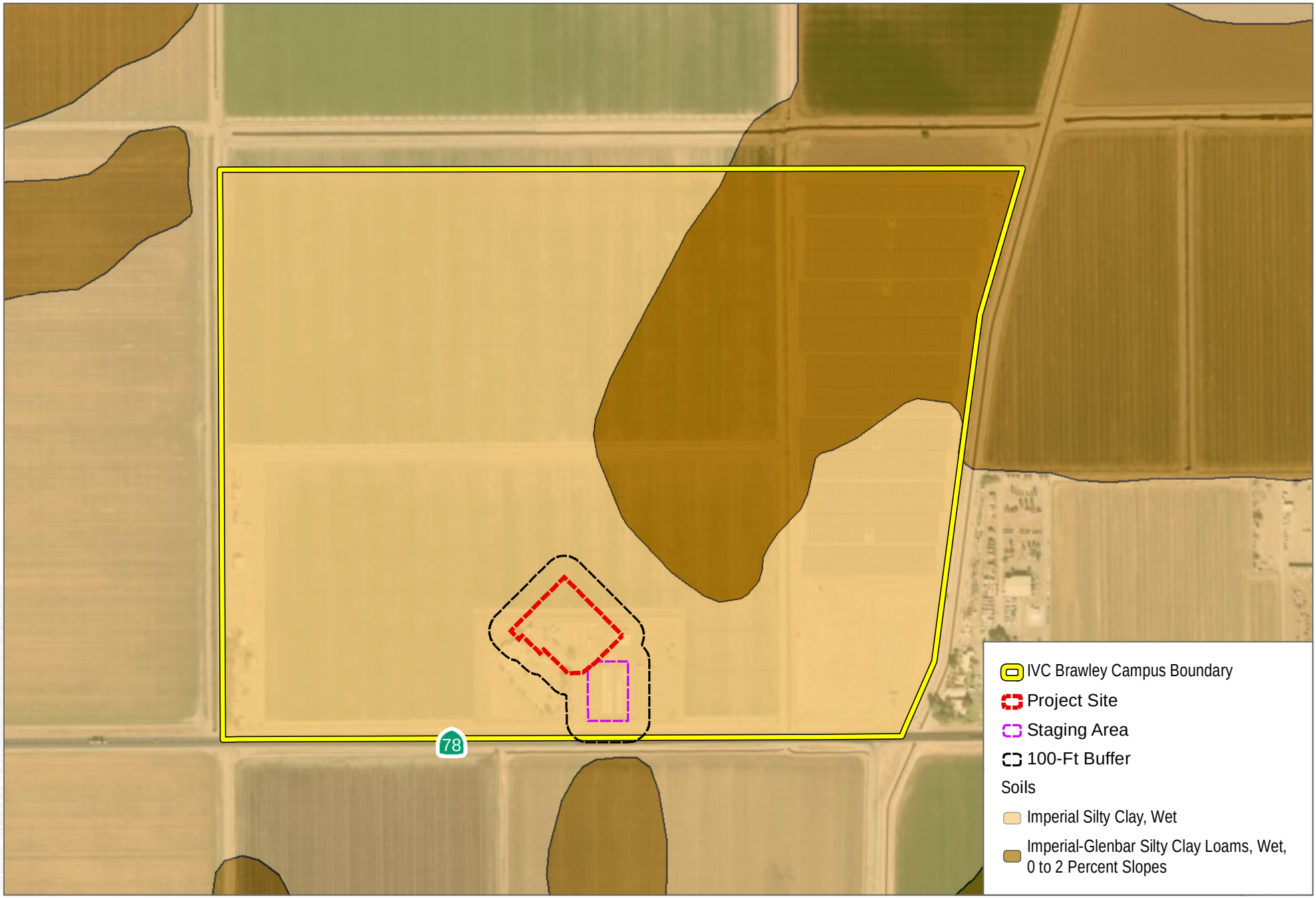
DUDEK

0 175 350 Feet

FIGURE 2

SDSU Brawley Project Site and Staging Area

SDSU Brawley Sciences Building Project



SOURCE: AERIAL-ESRI IMAGERY SERVICE 2022; SOILS- USDA

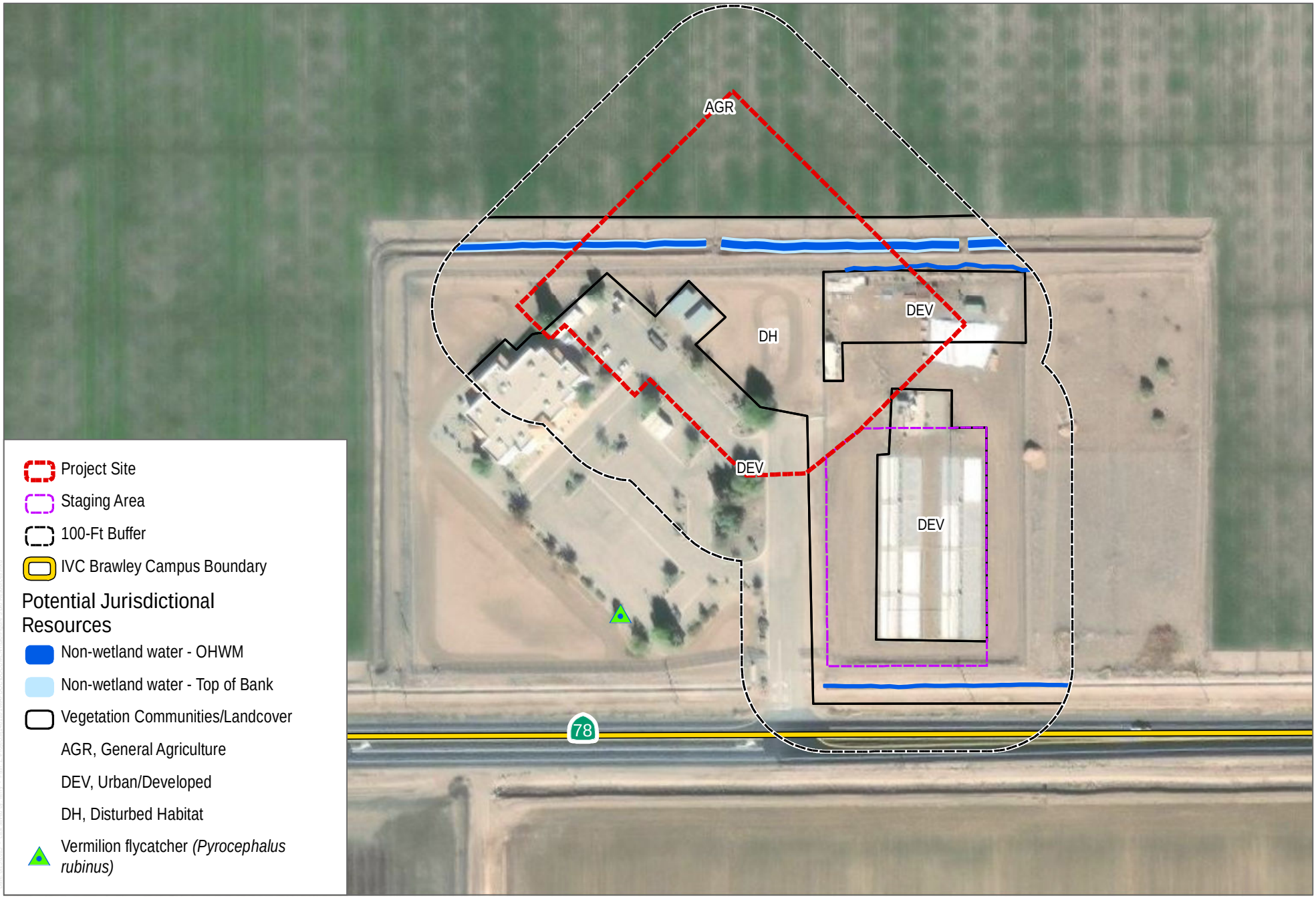
DUDEK

0 305 610 Feet

FIGURE 3

Soils Map

SDSU Brawley Sciences Building Project



SOURCE: AERIAL-ESRI IMAGERY SERVICE 2021; SOILS- USDA

DUDEK

0 75 150 Feet

FIGURE 4

Biological Resources Map

SDSU Brawley Sciences Building Project

Attachment B
Site Photographs

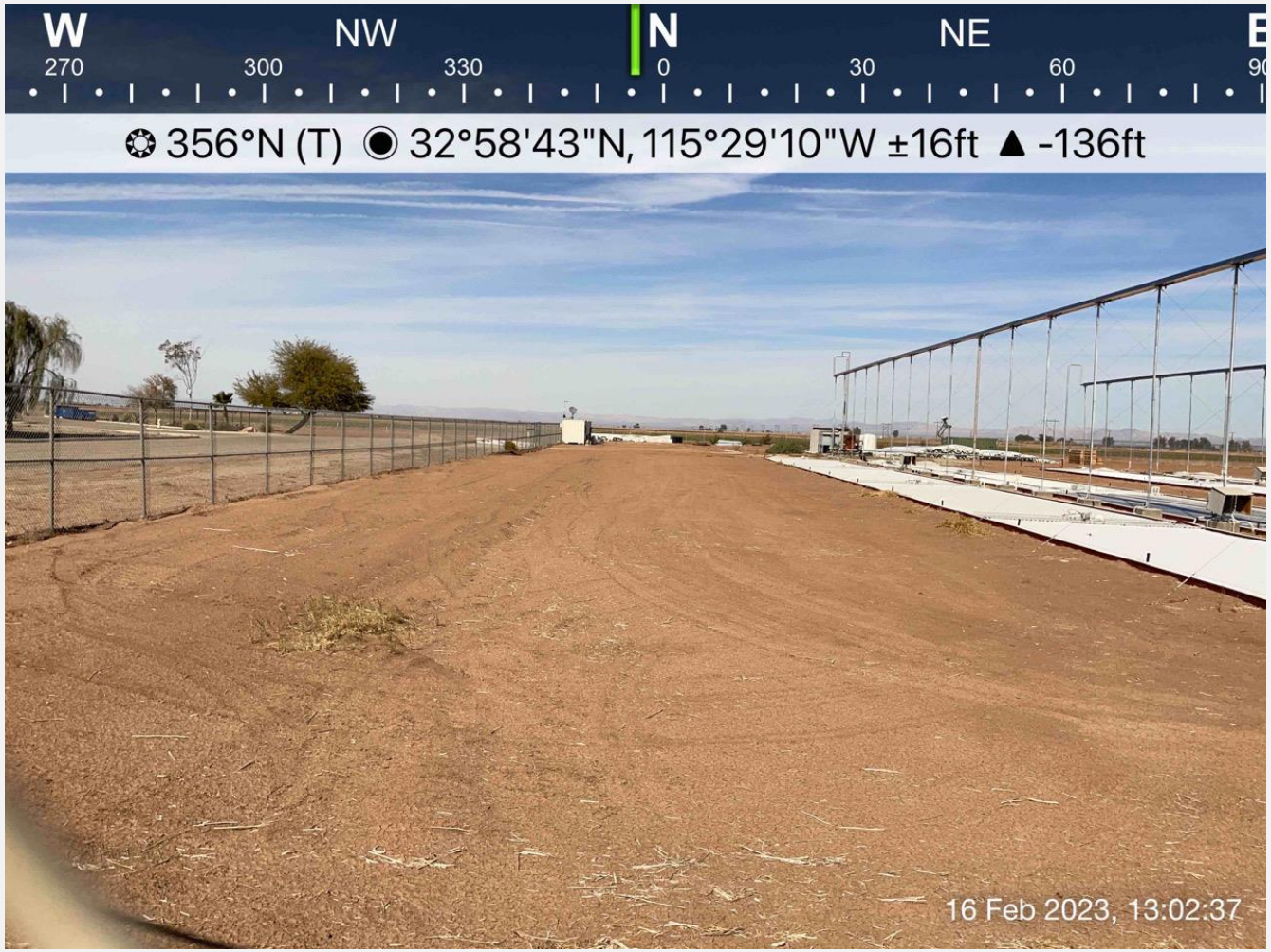


Photo 1: View of disturbed habitat in the project equipment staging area in the southeastern portion of the study area, facing north.

Photo 2: View of dirt road and disturbed habitat in the eastern portion of the study area, facing south.

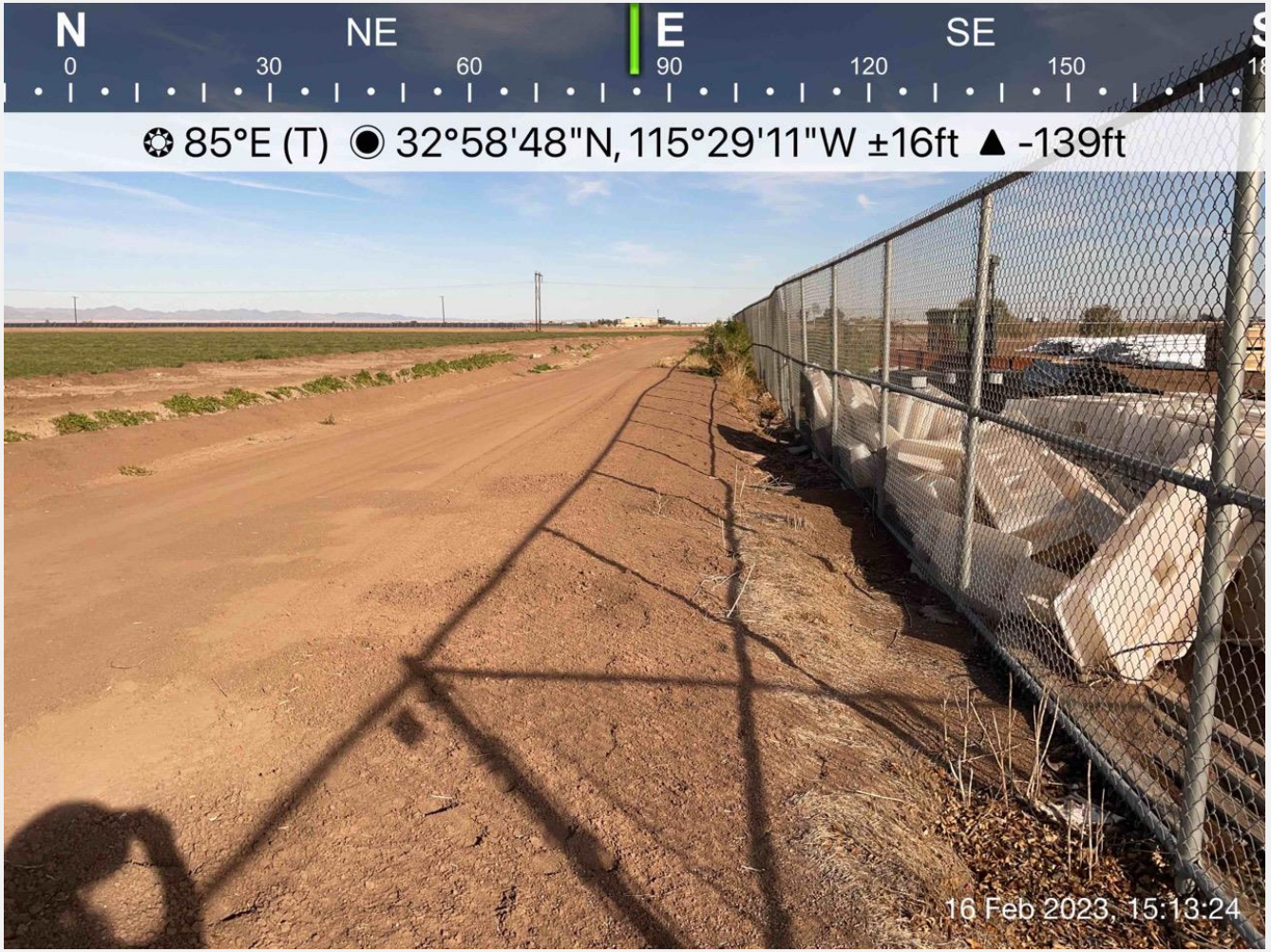


Photo 3: View of dirt road, chain link fence, and storage area in the northwestern portion of the study area, facing east.

Photo 4: View of shaded seating area and disturbed habitat in the central portion of the study area.

Photo 5: View of mowed agriculture field in the northern portion of the study area.

Photo 6: View of agriculture in the northern portion of the study area, facing south.

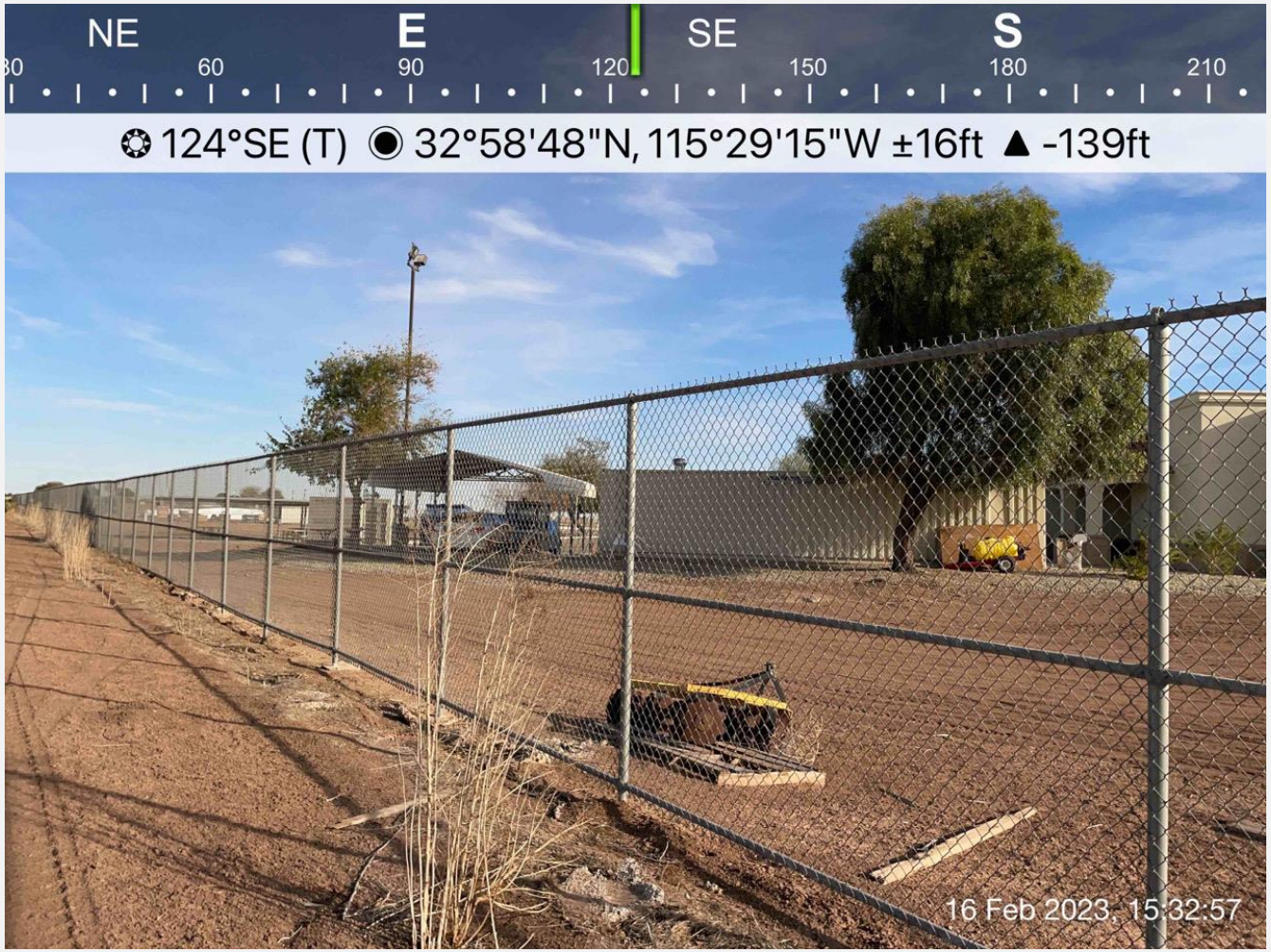


Photo 7: View of disturbed habitat and ornamental trees in the northern portion of the study area, facing southeast.

Photo 8: View of earthen irrigation ditch in the northern portion of the study area, facing west.

Photo 9: View of cement irrigation ditch in the southern portion of the study area, facing west.

Attachment C

Vascular Plant Species Compendium

Plant Species

Angiosperms (Dicots)

ASTERACEAE—SUNFLOWER FAMILY

Lactuca serriola—prickly lettuce*

Sonchus oleraceus—common sowthistle*

CHENOPODIACEAE—GOOSEFOOT FAMILY

Atriplex lentiformis—quailbush

MALVACEAE—MALLOW FAMILY

Malva parviflora—cheeseweed mallow*

POLYGONACEAE—BUCKWHEAT FAMILY

Polygonum aviculare—prostrate knotweed*

TAMARICACEAE—TAMARISK FAMILY

Tamarix ramosissima—tamarisk*

MONOCOTS

POACEAE—GRASS FAMILY

*Avena fatua—wild oat**

Cynodon dactylon—Bermudagrass*

TYPHACEAE—CATTAIL FAMILY

Typha domingensis—southern cattail

* signifies introduced (non-native) species

Attachment D
Wildlife Species Compendium

Wildlife Species – Vertebrates

BIRDS

FRINGILLIDAE—FRINGILLINE & CARDUELINE FINCHES & ALLIES

Haemorhous mexicanus—house finch

TYRANNIDAE—TYRANT FLYCATCHERS

Pyrocephalus rubinus—vermilion flycatcher

Sayornis nigricans—black phoebe

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

PASSERIDAE—OLD WORLD SPARROWS

Passer domesticus—house sparrow*

COLUMBIDAE—PIGEONS & DOVES

Zenaida macroura—mourning dove

CHARADRIIDAE—LAPWINGS & PLOVERS

Charadrius vociferus—killdeer

PASSERELLIDAE—NEW WORLD SPARROWS

Passerculus sandwichensis—savannah sparrow

* signifies introduced (non-native) species

Attachment E

Special-Status Plant Species Potential to Occur

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Astragalus magdalenae var. *peirsonii*	Peirson's milk-vetch	FT/SE/1B.2	Desert dunes/perennial herb/Dec–Apr/195–740	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable desert dune habitat present to support this species.
Croton wigginsii	Wiggins' croton	None/SR/2B.2	Desert dunes, Sonoran desert scrub/perennial shrub/Mar–May/165–330	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable desert dune habitat or Sonoran Desert scrub vegetation present to support this species.
Euphorbia abramsiana	Abrams' spurge	None/None/2B.2	Mojavean desert scrub, Sonoran desert scrub; Sandy/annual herb/(Aug)Sep–Nov/-15–4,295	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable vegetation present to support this species.
Helianthus niveus ssp. *tephrodes*	Algodones Dunes sunflower	None/SE/1B.2	Desert dunes/perennial herb/Sep–May/165–330	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable desert dune habitat present to support this species.
Nemacaulis denudata var. *gracilis*	slender cottonheads	None/None/2B.2	Coastal dunes, Desert dunes, Sonoran desert scrub/annual herb/(Mar)Apr–May/-,165–1,310	**Not expected to occur.** While the study area is within the species known elevation range, there is no suitable desert dune habitat or vegetation present to support this species.
Palafoxia arida var. *gigantea*	giant spanish-needle	None/None/1B.3	Desert dunes/annual/perennial herb/Feb–May/50–330	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable desert dune habitat present to support this species.
Panicum hirticaule ssp. hirticaule	roughstalk witch grass	None/None/2B.1	Desert dunes, Joshua tree "woodland", Mojavean desert scrub, Sonoran desert scrub; Sandy, Silt/annual herb/Aug–Dec/150–4,310	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable desert dune habitat or vegetation present to support this species.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Pholisma sonorae	sand food	None/None/1B.2	Desert dunes, Sonoran desert scrub/perennial herb (parasitic)/(Mar)Apr–June/0–655	**Not expected to occur.** The study area is outside of the species' known elevation range and there is no suitable desert dune habitat or vegetation present to support this species.

Known to occur: the species has been documented on the project site by a reliable source.

High potential to occur: the species has not been documented on the project site but is known to recently occur in the vicinity and suitable habitat is present.

Moderate potential to occur: the species has not been documented on the project site or in the vicinity, but the site is within the known range of the species and suitable habitat for the species is present.

Low potential to occur: the species has not been documented on the project site or in the vicinity, but the site is within the known range of the species; however, suitable habitat for the species onsite is of low quality.

Not expected to occur: the project site is outside the known geographic or elevational range of the species and/or the site does not contain suitable habitat for the species.

Status Legend:

FT: Federally listed as threatened
SE: State listed as endangered
SR: State Rare
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
CRPR 2B: Plants rare, threatened, or endangered in California but more common elsewhere
.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Moderately threatened in California (20–80% occurrences threatened / moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
CBR: Considered but Rejected

References:

CDFW. 2023. RareFind, Version 5.0 (commercial subscription). California Natural Diversity Database (CNDDB). Sacramento, California: CDFW, Biogeographic Branch. Accessed february 2023. http://www.dfg.ca.gov/biogeodata/cnddb/rarefind.asp.

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Attachment F

Special-Status Wildlife Species Potential to Occur

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Amphibians				
Incilius alvarius	Sonoran Desert toad	None/SSC	Desert and semi-arid habitats including desert scrub, semi-arid grasslands and woodlands; usually associated with large permanent streams	**Not expected to occur**. The study area lacks desert scrub vegetation and permanent streams necessary to support this species.
Lithobates pipiens (native populations only)	northern leopard frog	None/SSC	Adjacent to permanent and semi-permanent water in a range of habitats	**Not expected to occur.** The study area lacks permanent or semi-permanent water features. Additionally, the only record of this species within the 9 USGS quadrangles containing the site is a historical record from 1929 (CDFW 2023).
Birds				
Asio flammeus (nesting)	short-eared owl	BCC/SSC	Grassland, prairies, dunes, meadows, irrigated lands, and saline and freshwater emergent wetlands; nest on the ground amid grasses and low plants	**Not expected to occur.** While the study area contains irrigated agricultural areas, it lacks nesting habitat. The nearest mapped CNDDB record is approximately 8 miles northwest of the study area and is a historical record from 1956 (CDFW 2023).
Athene cunicularia (burrow sites & some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	**Moderate potential to occur**. While the study area contains agriculture areas, no suitable ground squirrel burrows were observed within the study area during the spring 2023 biological reconnaissance survey. Additionally, the agricultural field is active and regularly mowed. The nearest mapped CNDDB record is approximately 1 mile west of the study area near Brawley (CDFW 2023).
Charadrius montanus (wintering)	mountain plover	BCC/SSC	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts	**High potential to occur**. The study area contains plowed fields which may provide suitable wintering habitat. The nearest mapped CNDDB record is approximately 0.5 miles southeast of the study area (CDFW 2023).

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	**Not expected to occur**. The study area lacks tidal marsh, freshwater margin, wet meadow, or flooded grassy habitat necessary to support this species.
Melanerpes uropygialis	Gila woodpecker	BCC/SE	Nests and forages in Saguaro cacti, riparian woodland, and residential areas	**Not expected to occur**. There is no suitable saguaro cacti or riparian woodland nesting habitat present to support this species.
Pyrocephalus rubinus (nesting)	vermilion flycatcher	None/SSC	Nests in riparian woodlands, riparian scrub, and freshwater marshes; typical desert riparian with cottonwood, willow, mesquite adjacent to irrigated fields, ditches, or pastures	**Present.** A vermillion flycatcher was observed by a Dudek biologist during the biological reconnaissance survey in February 2023. However, the study area lacks riparian woodlands, riparian scrub, freshwater marsh, or desert riparian habitat typically utilized by this species for nesting. Therefore, this species is not expected to nest within the study area.
Rallus obsoletus yumanensis	Yuma Ridgway's rail	FE/FP, ST	Freshwater marsh dominated by Typha spp., Scirpus spp., Schoenoplectus spp., and Bolboschoenus spp.; mix of riparian tree and shrub species along the marsh edge; many occupied areas are now man-made, such as managed ponds or effluent-supported marshes	**Not expected to occur**. The study area lacks freshwater marsh habitat necessary to support this species.
Toxostoma crissale	Crissal thrasher	None/SSC	Nests and forages in desert riparian and desert wash; dense thickets of sagebrush and other shrubs such as mesquite, iron catclaw acacia, and arrowweed willow within juniper and pinyon–juniper woodlands	**Not expected to occur**. The study area lacks desert riparian, desert wash or shrub habitat necessary for nesting or foraging.
Fishes				
Xyrauchen texanus	razorback sucker	FE/FP, SE	Found in the Colorado River bordering California	**Not expected to occur**. The study area lacks surface water features necessary to support this species.
Invertebrates				

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Bombus crotchii	Crotch bumble bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources.	**Not expected to occur**. The study area lacks open grassland and scrub communities which could support suitable floral resources.
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	**Not expected to occur**. The study area lacks wind-protected tree groves with nectar sources and nearby water sources. Additionally, most records of overwintering populations are located within proximity to the ocean, where temperatures are more moderate.
Mammals				
Dasypterus xanthinus	western yellow bat	None/SSC	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	**Not expected to occur**. The study area lacks valley–foothill riparian, desert riparian, desert wash, or palm oasis habitats necessary to support this species.
Nyctinomops macrotis	big free-tailed bat	None/SSC	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	**Not expected to occur**. The study area lacks rocky areas, caves, or cliffs for roosting. Additionally, there are no nearby open water sources necessary for foraging.
Sigmodon hispidus eremicus	Yuma hispid cotton rat	None/SSC	Backwater sloughs, marshy areas adjacent to Colorado River	**Not expected to occur**. The study area lacks backwater sloughs or marshy areas.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	**Low potential to occur**. While the study area contains agriculture areas that may be suitable to this species, soils in the area are mapped as Imperial Silty Clay Wet (USDA 2023), which is a soil series that is not described as friable. Additionally, no burrows were observed on site during the spring 2023 biological reconnaissance survey. The nearest

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
				mapped CNDDB record is approximately 16 miles southwest of the study area (CDFW 2023).
Reptiles				
Phrynosoma mcallii	flat-tailed horned lizard	None/SSC	Desert washes and flats with sparse low-diversity vegetation cover and sandy soils	**Not expected to occur**. The study area lacks desert wash and sandy soils. The nearest mapped CNDDB record is approximately 3 miles east of the study area in Brawley, however, this is a historical record from 1971 and is possibly extirpated (CDFW 2023).

Known to occur: the species has been documented on the project site by a reliable source.

High potential to occur: the species has not been documented on the project site but is known to recently occur in the vicinity and suitable habitat is present.

Moderate potential to occur: the species has not been documented on the project site or in the vicinity, but the site is within the known range of the species and suitable habitat for the species is present.

Low potential to occur: the species has not been documented on the project site or in the vicinity, but the site is within the known range of the species; however, suitable habitat for the species onsite is of low quality.

Not expected to occur: the project site is outside the known geographic or elevational range of the species and/or the site does not contain suitable habitat for the species.

Status Abbreviations
FE: Federally listed as endangered
FT: Federally listed as threatened
FPE: Federally proposed for listing as endangered
PFT: Federally proposed for listing as threatened

FC: Federal candidate species (former Category 1 candidates)
FPD: Federally proposed for delisting
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
BLM: Bureau of Land Management Sensitive Species
USFS: U.S. Forest Service Sensitive Species
SSC: California Species of Special Concern
FP: California Fully Protected Species
WL: California Watch List Species
SE: State listed as endangered
ST: State listed as threatened
SC: State candidate for listing as threatened or endangered
SCE: State candidate for listing as endangered
SCT: State candidate for listing as threatened
SCD: State candidate for delisting
CDF: California Department of Forestry Sensitive Species

References:

CDFW. 2023. RareFind, Version 5.0 (commercial subscription). California Natural Diversity Database (CNDDB). Sacramento, California: CDFW, Biogeographic Branch. Accessed february 2023. http://www.dfg.ca.gov/biogeodata/cnddb/rarefind.asp.

USDA. 2023. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey Staff. Accessed February 2023. http://websoilsurvey.nrcs.usda.gov/.