

November 1, 2024

David Wang
Senior Project Manager
Pacific Anchor Holdings, LLC
9680 Flair Drive, Suite 101
El Monte, CA 91731

Subject: Biological Resources Assessment for the Brawley Mixed-Use Master Plan Project in Brawley, Imperial County, California

Dear Mr. Wang,

Michael Baker International, Inc. (Michael Baker) is pleased to submit this technical letter report documenting the results of a biological resources assessment for the proposed Brawley Mixed-Use Master Plan Project (project) located in the City of Brawley, Imperial County, California. The project proposes an amendment to the previously approved Gateway Specific Plan to allow future multifamily residential and commercial uses on the subject property. This report is intended to satisfy the requirements of the California Environmental Quality Act (CEQA).

1.0 PROJECT LOCATION

The approximately 66-acre project site is located in the southern portion of the City of Brawley (City) in south-central Imperial County, California. The Cities of Imperial and El Centro lie approximately 9 miles and 13 miles, respectively, to the southwest. The international United States/Mexico border is approximately 22 miles to the south. Regional access to the project vicinity is provided via Interstate 8, located approximately 14 miles to the south. Specifically, the project site is south of (future) Legion Road, east of Brawley Avenue/State Route 86 (SR-86), and north of Rockwood Canal (Attachment A, Figure 1, Regional Vicinity Map). The project site occurs on County Assessor Parcel Number (APN) 048-440-001 and is within Section 05, Township 14 South, Range 14 East of the *Brawley, California* 7.5-minute US Geological Survey (USGS) topographic quadrangle map (Attachment A, Figure 2, Site Vicinity Map).

2.0 PROJECT DESCRIPTION

The project proposes to subdivide the western portion of the project site into 12 lots for future commercial development, with primary access planned from Brawley Avenue/SR-86 to the west and (future) Legion Road to the north. The eastern portion of the project site (approximately 29 acres) would be subdivided to allow development of 408 multifamily residential units having varying floor plans, with an estimated

836 parking spaces (via two-car garages and surface parking stalls). The residential area would offer community amenities including a dog park, clubhouse, pool, and fire pit as well as several community parks and green space for resident use. Primary access is planned from (future) Legion Road to the north, with secondary access from a future road along the eastern boundary. Future access from the south into the proposed commercial area would require the construction of a new roadway over the existing canal (Rockwood Canal) along the extent of the southern project boundary. Construction would occur in coordination with the Imperial Irrigation District, which owns and operates the canal. Such improvements would be undertaken consistent with Imperial Irrigation District requirements and appropriate approvals. However, specific roadway design details are not available at this time. The project as proposed will require City approval of a Specific Plan Amendment, zone change, and tentative tract map (Attachment A, Figure 3, Project Site Map).

3.0 EXISTING SITE CONDITIONS

The project site is located within the Imperial Valley, in an agricultural area that is immediately southwest of Brawley. The project site consists primarily of an active agricultural field, with a compacted dirt lot along the northern boundary, agricultural canals within the eastern and southern boundaries, and a stand of ornamental palms along the western boundary. The site is bounded by West Legion Road to the north, SR-86 to the west, and agricultural fields to the east and west. Elevations on-site range from approximately 100 feet above mean sea level (amsl) in the northwest along West Legion Road and SR-86 and 106 feet amsl in the southeast of the site. Refer to Attachment B for representative photographs taken throughout the project site.

4.0 METHODS

4.1 Literature Review

Prior to conducting the field survey, Michael Baker conducted a thorough literature review and records search to characterize existing site conditions and assess the potential for special-status biological resources that might pose a constraint on the proposed project. A query of the California Natural Diversity Database (CNDDDB; CNDDDB 2024a) and California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS 2024) was conducted to obtain a list of special-status plant and wildlife species occurrence records within the USGS Brawley, California 7.5-minute quadrangle map and surrounding eight quadrangles (*Brawley Northwest*, *Seeley*, *El Centro*, *Holtville West*, *Alamorio*, *Wiest*, *Westmoreland*, and *Calipatria Southwest*). The US Fish and Wildlife Service (USFWS) IPaC online database was also reviewed to identify special-status species and other resources, such as Critical Habitat, known or expected to occur on the project site or within the immediate vicinity (USFWS 2024b). Due to the results listed in the IPaC report, the USFWS Critical Habitat for Threatened & Endangered Species mapping tool (USFWS 2024a) was accessed to determine the location of designated Critical Habitat in relation to the project site. Other sources of information about the project site and surrounding area include the US Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA

NRCS 2024) and the USFWS National Wetlands Inventory (USFWS 2024c). All the information obtained informed the understanding of the project site and assisted with the field survey and subsequent analysis. The results presented in this report provide a detailed assessment of the suitability of the habitat on-site to support special-status plant and wildlife species and other sensitive natural resources.

4.2 *Habitat Assessment/Field Survey*

Michael Baker biologists John Parent and Samantha Martinez conducted a general biological resources survey and habitat assessment on August 20, 2024, between 0800 and 0900 hours to document existing conditions; determine habitat suitability for special-status plant and wildlife species; and determine the presence of sensitive natural communities or aquatic resources within the project site. Weather conditions were sunny and temperatures ranged from 89 to 93 degrees Fahrenheit with wind speeds ranging from 3 to 10 miles per hour. Classification of the on-site vegetation communities and other land uses is based on the descriptions of terrestrial vegetation classification systems described in *A Manual of California Vegetation* (Sawyer et al. 2009). In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, condition of on-site vegetation communities, and the presence of potentially regulated jurisdictional features were noted. A formal aquatic resources delineation was not conducted. Michael Baker used Geographic Information Systems (GIS) ArcView software to digitize the mapped vegetation communities and overlaid the data onto an aerial photograph to further analyze existing conditions and quantify the acreages of each vegetation community on-site.

All plant and wildlife species observed during the field survey were recorded in a field notebook. Plant species observed were identified by visual characteristics and morphology in the field while unusual and less familiar plant species were photographed and later identified using taxonomic guides. Plant species nomenclature and taxonomy follow *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012) and scientific names are provided immediately following common names of plant species (first reference only). Wildlife detections were made through aural and visual detection, as well as observation of sign including scat, trails, tracks, burrows, and nests. Field guides used to assist with identification of species during the field survey included *The Sibley Guide to Birds* (Sibley 2014) for birds, *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2003) for herpetofauna, and *A Field Guide to Mammals of North America* (Reid 2006) for mammals. Wildlife species taxonomy follows the North American Butterfly Association (NABA; NABA 2024) for butterflies, the Society for the Study of Amphibians and Reptiles (Crother et al. 2017) for herpetofauna, the American Ornithological Society for birds (Chesser et al. 2023), and Wilson and Reeder (2005) for mammals. Scientific names are provided immediately following common names of wildlife species (first reference only).

5.0 RESULTS

5.1 *Vegetation Communities and Land Covers*

The project site supports the following land cover types: agricultural, disturbed, non-native ornamental, quailbush scrub, and other land uses. Table 1, Vegetation Communities and Land Cover Types, summarizes

the extent of each land cover type on the project site. Attachment A, Figure 5, Vegetation Communities and Other Land Uses, illustrates the extent of each vegetation community and land cover on the project site. The surrounding area consists of agricultural, disturbed, and developed land uses. A total of eight species of native or naturalized plants, three native (38%) and five non-native (63%), were recorded on the site. Attachment C, Species Compendiums, contains a list of observed plant species.

TABLE 1. VEGETATION COMMUNITIES AND LAND COVER TYPES

Vegetation Community/Land Cover	Project Site (Acres)
Agricultural	49.71
Disturbed	14.87
Non-Native Ornamental	1.29
Quailbush Scrub	0.43
TOTAL	66.3

Agricultural

Agricultural fields comprise approximately 49.71 acres, the majority of the project site and consist primarily of agricultural crops. Located across the site, these areas have been physically disturbed by anthropogenic activities (e.g., discing, tilling, planting, etc.) and are no longer recognized as a native vegetation community. Vegetation within the site consists of an evenly spaced monoculture.

Disturbed

Disturbed habitat areas comprise approximately 14.87 acres of the project site and consist primarily of bare ground. Located primarily along the northern portion of the site and surrounding the entire perimeter, these areas have been physically disturbed by anthropogenic activities (e.g., compaction, driving of vehicles, recreational land uses) and are no longer recognized as a native vegetation community. Surface soils within these areas are heavily compacted and eroded. Vegetation that is present is sparse and consists of ruderal/weedy plant species including ripgut brome (*Bromus diandrus*) and cheeseweed mallow (*Malva parviflora*).

Non-Native Ornamental

Non-native ornamental habitat areas comprise approximately 1.29 acres of the project site and consist of a row of Mexican fan palms (*Washingtonia robusta*) near the western border of the project site. The palms generally run from northeast to southwest from West Legion Road in the north to the Rockwood Canal in the south. Homeless encampments were observed within the bottoms of some of the stands of palms.

Quailbush Scrub- *Atriplex lentiformis* Shrubland Alliance

Quailbush scrub-*Atriplex lentiformis* shrubland alliance, the only natural vegetation community on-site, makes up approximately 0.43 acre of the project site and consists of several small patches of quailbush (*Atriplex lentiformis*) located in the northern portion of the project site and within the disturbed habitat along West Legion Road.

5.2 General Floral Inventory

A total of eight plant species were observed during the field survey, three native (38%) and five non-native (63%): quailbush, cheeseweed mallow, silverleaf nightshade (*Solanum elaeagnifolium*), tamarisk (*Tamarix ramosissima*), mesquite mistletoe (*Phoradendron californicum*), Mexican fan palm, ripgut brome, and salt grass (*Distichlis spicata*). Attachment C, Species Compendiums, contains a list of observed plant species.

5.3 General Wildlife Inventory

A total of 10 wildlife species were observed during the field survey, 8 native (80%) and 2 non-native (20%): great-tailed grackle (*Quiscalus mexicanus*), American crow (*Corvus brachyrhynchos*), great blue heron (*Ardea herodias*), cattle egret (*Bubulcus ibis*), turkey vulture (*Cathartes aura*), killdeer (*Charadrius vociferus*), Eurasian collared-dove (*Streptopelia decaocto*), mourning dove (*Zenaida macroura*), black phoebe (*Sayornis nigricans*), and American bullfrog (*Lithobates catesbeianus*). Attachment C, Species Compendiums, contains a list of observed wildlife species.

5.4 Special-Status Biological Resources

Sensitive Natural Communities

There are no natural communities considered sensitive by the California Department of Fish and Wildlife (CDFW) as reported in the CNDDDB database search (CNDDDB 2024a) for the regional vicinity.

There are no sensitive natural communities present on-site.

Special-Status Plant Species

Seven special-status plant species have been previously recorded in the USGS *Brawley, Brawley Northwest, Seeley, El Centro, Holtville West, Alamo, Wiest, Westmoreland, and Calipatria Southwest, California* 7.5-minute quadrangles by the CNDDDB, CNPS Online Inventory of Rare and Endangered Plants of California, and IPaC online database for the project site. After a review of specific habitat preferences, known distributions, and elevation ranges, none of the potentially occurring special-status plant species registered to the CNPS Inventory of Rare Plants are expected to occur due to a lack of suitable habitat and site disturbances. Additionally, historical imagery shows the project site has been an agricultural field for more than 50 years (HistoricAerials.com 2024; Google Earth 2024) and is unlikely to have supported

special-habitat species in recent history. Attachment D contains a summary of the special-status species with their potential to occur on the project site.

Special-Status Wildlife Species

Twenty-nine special-status wildlife species have been previously recorded in the USGS *Brawley, Brawley Northwest, Seeley, El Centro, Holtville West, Alamo, Wiest, Westmoreland, and Calipatria, California* 7.5-minute quadrangles by the CNDDDB and IPaC online database for the project site. Biologists reviewed the specific habitat preferences, known distributions, and elevation ranges for the 29 special-status species.

Mexican fan palms along the western boundary of the project site may be used as a maternity or roosting site for special-status bats, such as yellow bat (*Lasiurus xanthinus*; state species of special concern) and other common bat species.

Although no suitable burrow habitat or burrowing owl (*Athene cunicularia*; state candidate threatened) were observed during the site visit, Imperial County contains the largest population of breeding burrowing owl in California. There is a potential for the species to forage on the project site and breed in the project vicinity. Since this species is highly mobile, there is a potential for the species to be present prior to construction.

No other special-status species are expected to occur and no special-status wildlife species were observed during the field survey. Attachment D contains a summary of the special-status species with their potential to occur on the project site.

Critical Habitat

Under the US Endangered Species Act (ESA), Critical Habitat is designated at the time of listing of a species. Critical Habitat refers to specific areas within the geographical range of a species at the time it is listed that include the physical or biological features that are essential to the survival and eventual recovery of that species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals or the species are present or not. In the event that a project may result in take or adverse modification to a listed species' designated Critical Habitat, a project proponent may be required to engage in suitable mitigation. However, consultation for impacts to Critical Habitat is only required when a project has a federal nexus. This may include projects that occur on federal lands, require federal permits (e.g., Clean Water Act [CWA] Section 404 permit), or receive any federal oversight or funding. If there is a federal nexus, then the federal agency that is responsible for providing funds or permits would be required to consult with the USFWS under the ESA.

The project site and adjacent areas do not occur within a Critical Habitat area.

State and Federal Jurisdictional Aquatic Features

There are three agencies that regulate activities within streams, wetlands, and riparian areas in California. The US Army Corps of Engineers (USACE) Regulatory Branch regulates discharge of dredged or fill material into “waters of the U.S.” pursuant to the CWA Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. Of the state agencies, the Regional Water Quality Control Board (RWQCB) regulates discharges to surface waters pursuant to Section 401 of the CWA and Section 13263 of the California Porter-Cologne Water Quality Control Act, and the CDFW regulates alterations to streambed and associated riparian habitat under Section 1600 et seq. of the California Fish and Game Code (CFGF).

Based on a review of aerial photographs, USGS 7.5-minute quadrangle maps, USFWS National Wetland Inventory maps, and observations made during the field survey, there are several drainage features within and in the immediate vicinity of the project site that could potentially be jurisdictional. Imperial Valley drains occur in two segments, one segment each along the western and southern edges of the project site along with two unnamed agricultural channels. The National Wetlands Inventory map shows a riverine feature along the southern edge of the project site (Rockwood Canal).

The Web Soil Survey shows that the project site supports two soil types (Attachment A, Figure 4, USDA Soils Map):

- 110: Holtville silty clay, wet
- 115: Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes

The site visit confirmed the presence of three aquatic features, all of which may be subject to the jurisdiction of the USACE, RWQCB, or CDFW. A formal aquatic resources delineation is recommended.

5.5 Wildlife Corridors and Habitat Linkages

Wildlife corridors link areas of suitable habitat that are otherwise separated by areas of non-suitable habitat such as rugged terrain, changes in vegetation, or human disturbance. Wildlife corridors are essential to the regional ecology of a species because they provide avenues of genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities. Fragmentation of open space areas by urbanization creates “islands” of wildlife habitat that are more or less isolated from each other. Corridors mitigate the effects of this fragmentation by (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) that could lead to local extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and shelter. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as “habitat or landscape linkages”) can provide both transitory and resident habitat for a variety of species. Although it

is commonly used as a synonym for wildlife corridor, a habitat linkage refers to a more substantial, or wider, land connection between two habitat areas. Habitat linkages allow for the periodic exchange of animals between habitat areas, which is essential to maintain adequate gene pools.

The project site is considered to have limited connectivity opportunity due to the broad agricultural uses within the Imperial Valley and development in the city of Brawley. Off-site and to the west lies the New River, which provides potential riparian wildlife connectivity due to presence of riparian habitats and is likely a significant travel route for many wildlife species in the area. Because the project site is within a large landscape of developed and agricultural land, it does not serve as a habitat linkage or wildlife corridor.

6.0 IMPACT ANALYSIS

The following discussion examines the impacts to biological resources that may occur as a result of the proposed project. The determination of impacts is based on both the features of the proposed project and the biological values of the habitat and sensitivity of plant and wildlife species potentially affected. A project description was supplied by Pacific Anchor Holdings. Michael Baker interpreted the project description and hand-digitized the study area into ArcGIS Pro.

Impacts to biological resources are assessed using impact significance threshold criteria, which mirror the policy statement contained in CEQA Section 21001(c) of the California Public Resources Code. The questions below model those included in the checklist of questions listed in Appendix G of the CEQA guidelines and which are used to determine if the project would have significant impacts to biological resources.

6.1 Impacts to Special-Status Species

- 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 Game or U.S. Fish and Wildlife Service?*

Less than significant impact with mitigation incorporated. The project site primarily supports active agricultural and disturbed areas which do not generally support suitable habitat for special-status plant or wildlife species. The patch of quailbush scrub at the northwestern corner would not support any special-status species. Based on a review of the special-status species which occur regionally, the project site provides suitable roosting habitat for yellow bat and suitable foraging habitat for burrowing owl. No suitable burrow habitat was observed during the site visit; therefore, no breeding burrowing owls are expected. However, there is a potential for burrowing owl to occupy areas adjacent to the project site prior to construction. Any direct or indirect impacts to yellow bat maternity roost or burrowing owl would constitute a significant impact. Any impacts to burrowing owl, would also require acquisition of an incidental take permit from CDFW. Implementation of **Mitigation Measures BIO-1** and **BIO-2**, described

in Section 7.0, would ensure impacts to these species are fully avoided and/or minimized so that impacts are less than significant.

6.2 Impacts to Sensitive Natural Communities

- 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 Game or U.S. Fish and Wildlife Service?*

No impact. The project site supports agriculture, disturbed, and ornamental landscaping. Quailbush scrub is not a sensitive natural vegetation community, nor is it associated with riparian habitats. There are no riparian habitats or other sensitive natural communities present within the project site boundaries. Therefore, the project would have no impact on riparian habitats or other sensitive natural communities.

6.3 Impacts to State or Federal Wetlands

- 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?*

No impact. The project site does not contain any state or federally protected wetlands. There are several canals adjacent to the project site, including an agricultural ditch north of the agricultural field and Rockwood Canal just south of the project site. Although these canals provide the hydrological conditions, there is no hydrophytic vegetation or soils present that would indicate state or federally protected wetlands are present. Therefore, there would be no impact to state or federally protected wetlands.

6.4 Impacts to Wildlife Movement or Wildlife Corridors

- 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?*

Less than significant impact with mitigation incorporated. The project site is developed and highly disturbed, and surrounded on all sides by existing development and disturbance. The project site has no connectivity to any natural habitats that would serve as migration corridors, nor do adjacent areas. There would be no impact to native wildlife movement or wildlife corridors. Nesting birds are protected pursuant to the Federal Migratory Bird Treaty Act (MBTA) of 1918 and the CFGC.¹ To maintain compliance with the MBTA and CFGC, clearance surveys are typically required during the breeding season (generally February

¹ Section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by CFGC or any regulation made pursuant thereto; Section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey); and Section 3513 makes it unlawful to take or possess any migratory non-game bird except as provided by the rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA, as amended (16 U.S.C. § 703 et seq.).

1 to August 31 but as early as January 1 for raptors) prior to any ground disturbance or vegetation removal activities to avoid direct and indirect impacts to active bird nests and/or nesting birds. Consequently, if an active bird nest is destroyed or if project activities result in indirect impacts to nesting birds (e.g., nest abandonment, loss of reproductive effort), it is considered “take” and is potentially punishable by fines and/or imprisonment. The vegetation within and adjacent to the project site provides suitable nesting opportunities for a variety of bird species. However, no nests were observed during the survey.

The project site has the potential to support nesting songbirds and raptors within the agricultural and ornamental landscaped areas. Nesting activity typically occurs from February to August. Disturbing or destroying active nests is a violation of the MBTA. In addition, nests and eggs are protected under CFGC Section 3503. The removal of vegetation during the breeding season is considered a potentially significant impact. Mitigation Measure **BIO-3**, provided below, would reduce this impact to a less than significant level.

Bat maternity roosts are protected pursuant to CGFC 4150. The project site has the potential to support maternity roosting bats in the Mexican palm trees along the western boundary of the project site. Maternity roosts provide a safe environment for pregnant female bats and their pups and if these trees are occupied by bats during the maternity season, this would be a potentially significant impact. Implementation of Mitigation Measure **BIO-2** would ensure no tree removal occurs prior to establishing the use by bats and would reduce this impact to less than significant.

6.5 Conflicts with Local Policies or Ordinances

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

No Impact. Due to existing conditions on-site and the project design as proposed, the proposed improvements to the subject site are not anticipated to conflict with any local policies or ordinances. No impact would occur.

6.6 Conflicts with Adopted Habitat Conservation Plan

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?

No impact. The project site is not within any known or proposed Habitat Conservation Plan/Natural Community Conservation Plan reserve areas. No impact would occur in this regard.

7.0 MITIGATION MEASURES

BIO-1: Burrowing Owl Focused Survey. A focused survey for burrowing will be required during the species breeding season (February 15 – July 15) prior to construction activities following the CDFW Staff Guidelines on Burrowing Owl Mitigation (2012) to determine if the species is present within 500-feet of the project site. If the species is present, consultation with CDFW will be necessary and an incidental take permit may be required prior to project implementation. Avoidance and minimization measures will be necessary to reduce impacts on this species and will be finalized during consultation with the California Department of Fish and Wildlife (CDFW).

If burrowing owl are present within the 500 feet of the project site, a Burrowing Owl Plan will be prepared for the project. The Burrowing Owl Plan will describe the actions that will be necessary prior to the start of construction activities such the preconstruction surveys, timing of activities, avoidance buffer zones, monitoring requirements, and any other mitigation requirements based on coordination and guidance with the CDFW. The Burrowing Owl Plan must be approved by CDFW prior to construction activities.

BIO-2: Tree Removal. Tree trimming/removal activities shall be performed outside the bat maternity season (April 1–August 31) to avoid direct impacts to non-volant (flightless) young that may roost in trees within the project site. This period also coincides with the typical bird nesting season. If trimming or removal of trees during the bat maternity season cannot be avoided, a qualified biologist shall monitor tree trimming and removal activities.

BIO-3: Preconstruction Nesting Bird Survey. Within 30 days of ground-disturbing activities associated with project implementation that would occur during the nesting/breeding season of native bird species potentially nesting on the site (typically February through August in the project region, or as determined by a qualified biologist), the applicant shall have weekly surveys conducted by a qualified biologist to determine if active nests of bird species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code are present on the project site. The surveys shall continue on a weekly basis, with the last survey being conducted no more than seven days prior to initiation of disturbance work. If ground-disturbing activities are delayed, then additional pre-disturbance surveys shall be conducted such that no more than seven days will have elapsed between the survey and ground-disturbing activities.

If active nests are found, clearing and construction within 300 feet of the nest (500 feet for raptors) shall be postponed or halted, at the discretion of the biologist in consultation with CDFW, until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting.

8.0 SUMMARY OF FINDINGS

With inclusion of the three mitigation measures outlined above, the proposed project would not result in any significant adverse impacts to biological resources. Please feel free to contact me at (949) 472-3432 or at john.parent@mbakerintl.com with any questions you may have regarding the results and/or conclusions of this report.

Sincerely,

John R. Parent

John Parent
Senior Biologist

Attachments

- A. *Figures*
- B. *Site Photographs*
- C. *Species Compendium*
- D. *Special-Status Species Potential to Occur Tables*

REFERENCES

- Baldwin, Bruce G., Douglas Goldman, David J Keil, eds. 2012. *The Jepson Manual: Vascular Plants of California, Thoroughly Revised and Expanded*, 2nd ed.
- Chesser, R. T., S. M. Billerman, K. J. Burns, C. Cicero, J. L. Dunn, B. E. Hernández-Baños, et al. 2023. Checklist of North American Birds (online). American Ornithological Society. <https://checklist.americanornithology.org/taxa/>.
- CNDDDB (California Natural Diversity Database). 2024a. RareFind 5 [Internet]. California Department of Fish and Wildlife [August 12, 2024].
- CNPS (California Native Plant Society). 2024. Rare Plant Program. Rare Plant Inventory (online edition, v9.5). Accessed August 12, 2024. <https://www.rareplants.cnps.org>.
- Crother, B. I., ed. 2017. "Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in Our Understanding." Herpetological Circular, no. 43. 8th ed. Shoreview, Minnesota: Society for the Study of Amphibians and Reptiles. <https://ssarherps.org/wp-content/uploads/2017/10/8th-Ed-2017-Scientific-and-Standard-English-Names.pdf>.
- Google (Google, Inc.). 2024. Google Earth Pro, version 7.3.6.9345. Historical aerial imagery from 1985 to 2024.
- HistoricAerials.com. 2024. Historic aerial image from 1962. <http://www.historicaerials.com>.
- NABA (North American Butterfly Association). 2024. *Checklist of North American Butterflies, Butterflies Occurring North of Mexico, Edition 2.3*. Accessed August 12, 2024. <https://naba.org/butterfly-names-checklist/>.
- Reid, F. A. 2006. *A Field Guide to Mammals of North America*, 4th ed. Houghton Mifflin Company.
- Sawyer, J.O., T. Keeler-Wolf, and J. Evens. 2009. *A Manual of California Vegetation*, 2nd ed. California Native Plant Society.
- Sibley, D.A. 2014. *The Sibley Guide to Birds*, 2nd ed. Alfred A. Knopf, Inc.
- Stebbins, R.C. 2003. *A Field Guide to Western Reptiles and Amphibians*, 3rd ed. Houghton Mifflin Company.
- USDA NRCS (US Department of Agriculture, Natural Resources Conservation Service). 2024. Web Soil Survey. Accessed August 12, 2024. <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.
- USFWS (US Fish and Wildlife Service). 2024a. Critical Habitat for Threatened & Endangered Species. Accessed August 12, 2024. <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>.

USFWS (US Fish and Wildlife Service). 2024b. Information for Planning and Consultation (IPaC). Accessed August 12, 2024. <https://ipac.ecosphere.fws.gov/location/index>.

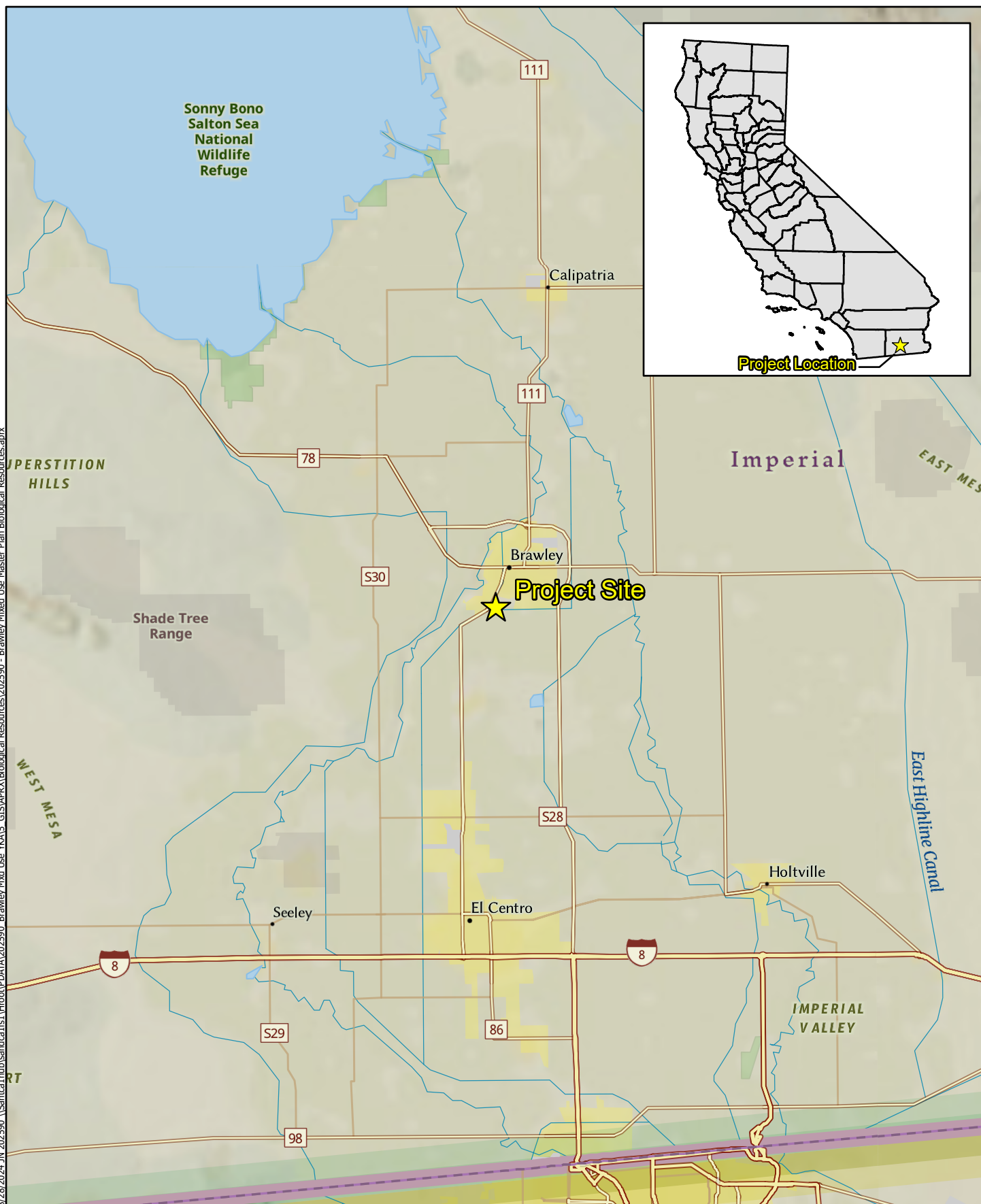
USFWS (US Fish and Wildlife Service). 2024c. National Wetlands Inventory. Accessed August 12, 2024. <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>.

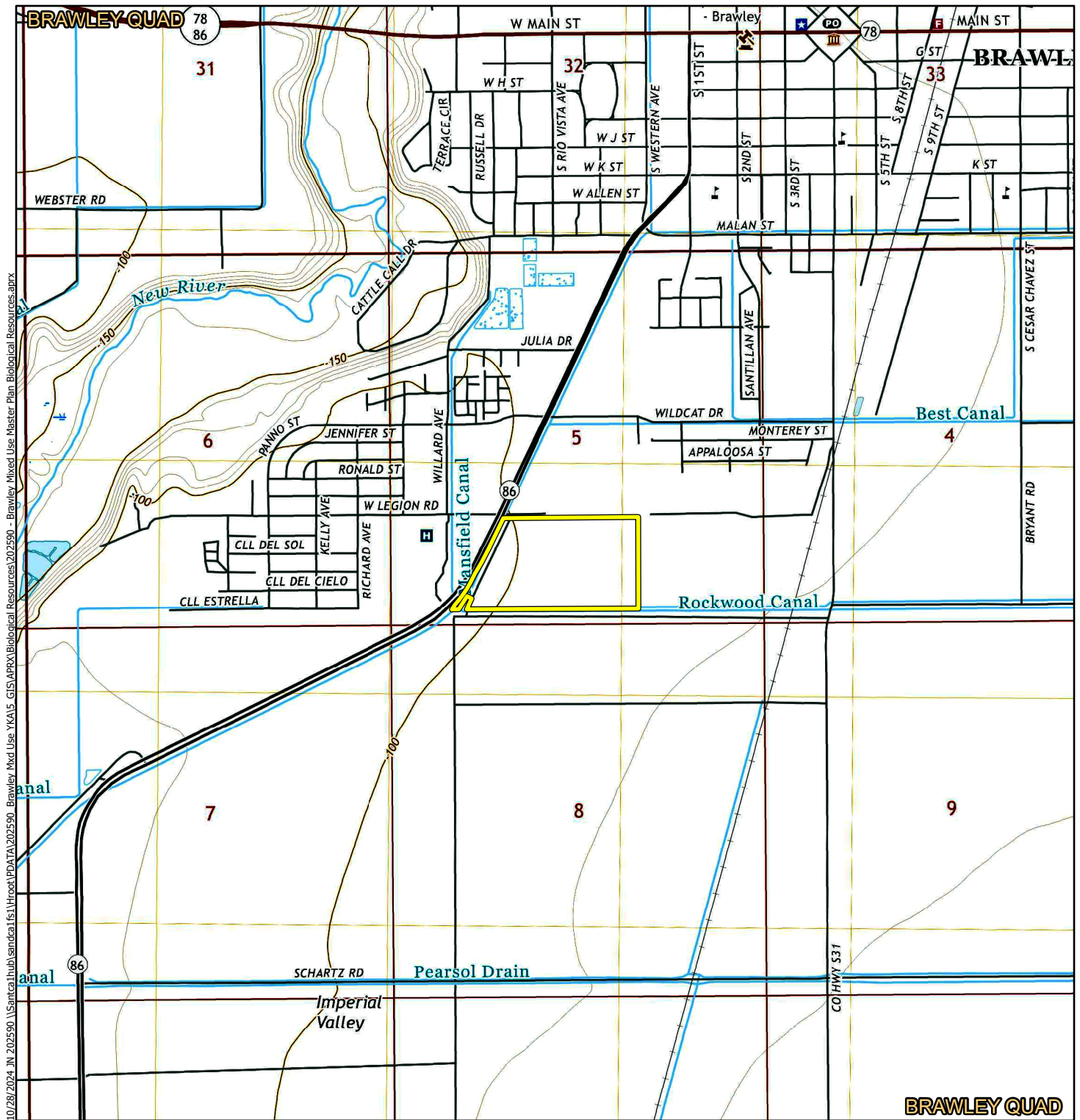
Wilson, D. E., and D. M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*, 3rd ed. Online version. Johns Hopkins University Press.
<http://www.bucknell.edu/msw3/>.

ATTACHMENT A

Figures

8/28/2024 10:20:59 AM \\santca\hubsandca\fs1\hroot\PDATA\202590 - Brawley Mxd Use YKA15 GIS\APRX\Biological Resources\202590 - Brawley Mixed Use Master Plan Biological Resources.aprx





Legend

 Project Site

BRAWLEY MIXED USE MASTER PLAN PROJECT
BIOLOGICAL RESOURCES ASSESSMENT

Site Vicinity

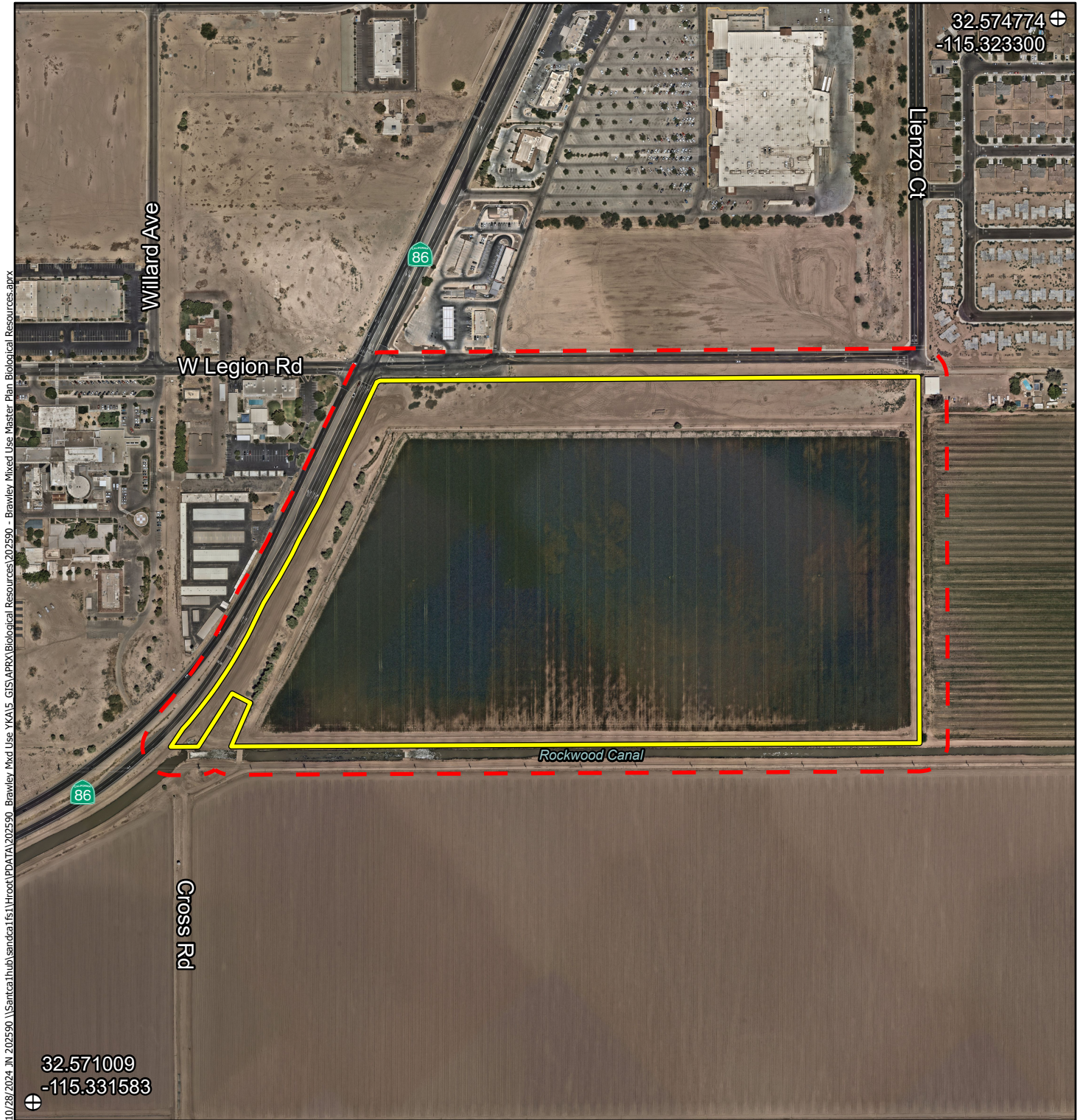
Michael Baker
INTERNATIONAL



0 1,000 2,000
US Feet

Source: USGS 7.5-Minute topographic quadrangle maps: Brawley, California (2021)

Figure 2



Legend

- ⊕ Reference Point
- Project Site (66.3 Acres)
- Study Area (100-ft)

BRAWLEY MIXED USE MASTER PLAN PROJECT
BIOLOGICAL RESOURCES ASSESSMENT

Michael Baker
INTERNATIONAL



0 250 500
US Feet

Source: ESRI, Imperial County, 2024 Nearmap Imagery.

Project Site

Figure 3



Legend

- ⊕ Reference Point
- 110 Holtville silty clay, wet
- 115 Imperial-Glenbar silty clay loams, wet, 0 to 2 percent slopes
- Project Site (66.3 Acres)
- Study Area (100-ft)

BRAWLEY MIXED USE MASTER PLAN PROJECT
BIOLOGICAL RESOURCES ASSESSMENT

Michael Baker
INTERNATIONAL



0 250 500
US Feet

Source: ESRI, USDA, Imperial County, 2024 Nearmap Imagery.

USDA Soils

Figure 4



Legend

- ⊕ Reference Point
- Project Site (66.3 Acres)
- Study Area (100-ft)
- Agricultural (49.71 Acres)
- Disturbed (14.87 Acres)
- Non-Native Ornamental (1.29 Acres)
- Quailbush Scrub (0.43 Acres)

BRAWLEY MIXED USE MASTER PLAN PROJECT
BIOLOGICAL RESOURCES ASSESSMENT

Michael Baker
INTERNATIONAL



0 250 500
US Feet

Source: ESRI, Imperial County, 2024 Nearmap Imagery.

Vegetation Communities and Other Land Uses

Figure 5

ATTACHMENT B

Site Photographs



Photograph 1. Southwest-facing view from the northeast boundary of the project site.



Photograph 2. View facing northwest from southeast boundary of project site.



Photograph 3. View of Western cattle egret in biological study area.



Photograph 4. View facing northeast from southwest portion of project site.



Photograph 5. West-facing view of irrigation canal within the biological study area.



Photograph 6. View facing east of Mexican fan palms within the western portion of the project site.



Photograph 7. View facing south at project site.



Photograph 8. View of saltbush within the northern portion of the project site.

ATTACHMENT C

Species Compendiums

PLANT COMPENDIUM

VASCULAR SPECIES

EUDICOTS

CHENOPODIACEAE— Goosefoot Family

Atriplex lentiformis— quailbush

MALVACEAE— Mallow Family

Malva parviflora— cheeseweed mallow*

SOLANACEAE— Nightshade Family

Solanum elaeagnifolium— silverleaf nightshade*

TAMARICACEAE— Tamarisk Family

Tamarix ramosissima— tamarisk*

VISCACEAE— Mistletoe Family

Phoradendron californicum— mesquite mistletoe

MONOCOTS

ARECACEAE— Palm Family

Washingtonia robusta— Washington fan palm*

POACEAE— Grass Family

Bromus diandrus— ripgut brome*

Distichlis spicata— salt grass

*signifies introduced (non-native) species

WILDLIFE COMPENDIUM

BIRDS

ICTERIDAE— BLACKBIRDS

Quiscalus mexicanus— great-tailed grackle

CORVIDAE— CROWS & JAYS

Corvus brachyrhynchos— American crow

ARDEIDAE— HERONS, BITTERNS, & ALLIES

Ardea herodias— great blue heron

Bubulcus ibis— cattle egret

CATHARTIDAE— NEW WORLD VULTURES

Cathartes aura— turkey vulture

CHARADRIIDAE— LAPWINGS & PLOVERS

Charadrius vociferus— killdeer

COLUMBIDAE— PIGEONS & DOVES

Streptopelia decaocto— Eurasian collared-dove*

Zenaida macroura— mourning dove

TYRANNIDAE— TYRANT FLYCATCHERS

Sayornis nigricans— black phoebe

AMPHIBIANS

RANIDAE— TRUE FROGS

Lithobates catesbeianus— American bullfrog*

*signifies introduced (non-native) species

ATTACHMENT D

Special-Status Species Potential to Occur Tables

Table D-1. Special-Status Plant Species and Sensitive Vegetation Communities

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution Affinities	Observed On- site	Potential to Occur on the Project Site
<i>Abronia villosa</i> var. <i>aurita</i> chaparral sand-verbena	1B.1 G5T2 S2	Annual herb. Found in chaparral, coastal scrub, desert dunes within sandy substrates. Blooms from January – March and occasionally September Found at elevations ranging from 245–5250 amsl.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Euphorbia abramsiana</i> Abrams' spurge	2B.2 G4 S2	Annual herb. Found in Mojavean desert scrub, Sonoran desert scrub habitats within sandy substrates. Blooms as early as August, and generally from September-November. Found at elevations ranging from 15–4300 amsl.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Johnstonella costata</i> Ribbed cryptantha	4.3 G4G5 S4	Annual herb. Found in desert dunes, Mojavean desert scrub, and Sonoran desert scrub habitats within sandy substrates/ Blooms from February–May. Found at elevations ranging from 195–1640 amsl.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Juncus acutus</i> ssp. <i>leopoldii</i> Southwestern spiny rush	4.2 G5T5 S4	Perennial rhizomatous herb. Found in coastal dunes (mesic), coastal scrub, marshes and swamps (coastal salt), meadows and seeps (alkaline seeps) habitats. Blooms occasionally in March, and generally from May–June. Found at elevations ranging from 10–2955 amsl.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Nama stenocarpa</i> mud nama	2B.2 G4G5 S1S2	Perennial herb. Found in marshes and swamps (lake margins, riverbanks) habitats. Blooms from January–July. Found at elevations ranging from 15–1640 amsl.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Pholisma sonorae</i> sand food	1B.2 G2 S2	Perennial herb (parasitic). Found in desert dunes and Sonoran desert scrub (sandy) habitats. Blooms occasionally in Mar, though generally April–June. Found at elevations ranging from 0–655 amsl.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution Affinities	Observed On-site	Potential to Occur on the Project Site
<i>Pilostyles thurberi</i> Thurber's pilostyles	4.3 G5 S4	Perennial herb (parasitic). Found in Sonoran desert scrub habitats. Blooms from December–April. Found at elevations ranging from 0–1200 amsl.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.

STATUS**California Department of Fish and Wildlife (CDFW)**

CSE Candidate Endangered – The classification provided to a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed as being under review by the Department of Fish and Wildlife for addition to the list of endangered species, or a species for which the commission has published a notice of proposed regulation to add the species to the list of endangered species.

California Native Plant Society (CNPS) California Rare Plant Rank

- 1B Plants rare, threatened, or endangered in California and elsewhere.
- 2B Plants rare, threatened, or endangered in California but more common elsewhere.
- 3 Plant that lack the necessary information to assign them to one of the other ranks or to reject them.
- 4 Plants of limited distribution – Watch List.

Threat Ranks

- .1 Seriously threatened in California (over 80% of occurrences threatened/high degree any immediacy of threat).
- .2 Moderately threatened in California (20 to 80 percent of 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).

NatureServe Conservation Status Rank

The Global Rank (G#) reflects the overall condition and imperilment of a species throughout its global range. The Intraspecific Taxon Rank (T#) reflects the global situation of just the subspecies or variety. The State Rank (S#) reflects the condition and imperilment of an element throughout its range within California. (G#Q)

reflects that the element is very rare but there are taxonomic questions associated with it; the calculated G rank is qualified by adding a Q after the G#). Adding a “?” to a rank expresses uncertainty about the rank.

- G1/T1 Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2/T2 Imperiled— At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3/T3 Vulnerable— At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- G4/T4 Apparently Secure— Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5/T5 Secure – Common; widespread and abundant.
- S1 Critically Imperiled – Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.
- S2 Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or State.
- S3 Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
- S4 Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

Table D-2. Special-Status Wildlife Species

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution Affinities	Observed On-site	Potential to Occur on the Project Site
<i>Asio flammeus</i> short-eared owl	SSC G5 S2	Great Basin grassland Marsh & swamp Meadow & seep Valley & foothill grassland Wetland; Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields.		Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Athene cunicularia</i> burrowing owl	CSE SSC G4 S2	Yearlong resident of California. Inhabit open, treeless areas with low, sparse vegetation, typically with sloping terrain. Habitats include grasslands, deserts, and steppe environments, but can also be found on golf courses. The overriding characteristics of suitable habitat appear to be burrows for roosting and nesting and relatively short vegetation with only sparse shrubs and taller vegetation.	No	Not Expected: Though habitats suitable for this species are present in the project vicinity, no burrows suitable for the species were observed; substrates consist of active agriculture or heavily compacted soils. There is a low potential for species to forage in the area.
<i>Bombus crotchii</i> Crotch bumble bee	CSE G2 S2	Found from coastal California east to the Sierra-Cascade crest and south into Mexico. Primarily occurs in California, including the Mediterranean region, Pacific coast, western desert, great valley, and adjacent foothills through most of southwestern California. Has also been recorded in Baja California, Baja California Sur, and in southwest Nevada. Inhabits open grassland and scrub habitats. Primarily nests underground. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	No	Not Expected: Food plant genera preferred by this species were not observed on-site.
<i>Charadrius montanus</i> mountain plover	SSC G3 S2	Uncommon winter resident in southern California, primarily from September to mid-March, with peak numbers from December through February. At all seasons, mountain plovers are strongly associated with short-grass prairie habitats, or their equivalents, that are flat and nearly devoid of vegetation. Overall, it avoids high and dense cover. Within southern California, the largest numbers occur in grasslands and agricultural areas in the interior. Does not nest in California.	No	Not Expected: Suitable habitats preferred by this species are not present within the project site.

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution Affinities	Observed On- site	Potential to Occur on the Project Site
<i>Cyprinodon macularius</i> desert pupfish	FE SE G1 S1	Aquatic Artificial flowing waters Artificial standing waters Colorado River basin flowing waters Colorado River basin standing waters; Desert ponds, springs, marshes and streams in Southern California.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Dasypterus xanthinus</i> western yellow bat		Desert wash; Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats.	No	Moderate: Suitable habitats for this species are present on-site in the form of the Mexican fan palms, a preferred roosting habitat for this species.
<i>Incilius alvarius</i> Sonoran desert toad	SSC G5	Aquatic Artificial flowing waters Desert wash Wetland; Breeds in temporary pools and irrigation ditches along the Colorado River and southern Imperial Valley.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Laterallus jamaicensis coturniculus</i> California black rail	ST FP G3 S2	Brackish marsh Freshwater marsh Marsh & swamp Salt marsh Wetland; Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Lithobates pipiens</i> northern leopard frog	SSC G5 S2	Freshwater marsh Great Basin flowing waters Great Basin standing waters Marsh & swamp Wetland; Native range is east of Sierra Nevada-Cascade Crest. Near permanent or semi-permanent water in a variety of habitats.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Lithobates yavapaiensis</i> lowland leopard frog	SSC G4 SX	Streams, river side channels, springs, and artificial and natural ponds in desert scrub, grassland, woodland, and pinyon-juniper woodland; Were found along the Colorado River and in streams near the Salton Sea.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Melanerpes uropygialis</i> Gila woodpecker	SE G5 S2	Riparian forest Riparian woodland; In California, inhabits cottonwoods and other desert riparian trees, shade trees, date palms, and palm oasis.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.

Scientific Name Common Name	Special-Status Rank*	Habitat Preferences and Distribution Affinities	Observed On-site	Potential to Occur on the Project Site
<i>Nyctinomops macrotis</i> big free-tailed bat	SSC G5 S3	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water ; Low-lying arid areas in Southern California.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Perognathus langimembris bangsi</i> Palm Springs pocket mouse	SSC G5T2 S1	Desert wash Sonoran desert scrub; Desert riparian, desert scrub, desert wash and sagebrush habitats. Most common in creosote-dominated desert scrub.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Phrynosoma mcallii</i> flat-tailed horned lizard	SSC G3 S3	Desert dunes Mojavean desert scrub Sonoran desert scrub; Restricted to desert washes and desert flats in central Riverside, eastern San Diego, and Imperial counties.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Pyrocephalus rubinus</i> vermillion flycatcher	SSC G5 S2S3	Marsh & swamp Riparian forest Riparian scrub Riparian woodland Wetland; During nesting, inhabits desert riparian adjacent to irrigated fields, irrigation ditches, pastures, and other open, mesic areas.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Rallus obsoletus yumanensis</i> Yuma Ridgway's rail	FE ST FP G5 S2S3	Freshwater marsh Marsh & swamp Wetland; Nests in freshwater marshes along the Colorado River and along the south and east ends of the Salton Sea.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Rynchops niger</i> black skimmer	SSC G5 S2	Alkali playa Sand shore; Nests on gravel bars, low islets, and sandy beaches, in unvegetated sites. Nesting colonies usually less than 200 pairs.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Sigmodon hispidus eremicus</i> Yuma hispid cotton rat	SSC G5 S3	Backwater sloughs, marshy areas adjacent to Colorado River; Along the Colorado River and in grass and agricultural areas near irrigation waters.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.

<i>Scientific Name</i> Common Name	Special-Status Rank*	Habitat Preferences and Distribution Affinities	Observed On- site	Potential to Occur on the Project Site
<i>Taxidea taxus</i> American badger	SSC G5 S3	Occupies a wide variety of habitats including dry, open grassland, sagebrush, and woodland habitats. Require dry, friable, often sandy soil to dig burrows for cover, food storage, and giving birth. Occasionally found in riparian zones and open chaparral with less than 50% plant cover.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Toxostoma crissale</i> crissal thrasher	SSC G5 S2	Riparian woodland; Resident of southeastern deserts in desert riparian and desert wash habitats.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Uma notata</i> Colorado Desert fringe-toed lizard	SSC G3 S2	Wind-blown sand dunes, dry lakebeds, sandy beaches, riverbanks, desert washes, and sparse desert scrub.	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.
<i>Xyrauchen texanus</i> razorback sucker	FE SE FP G1 S2	Found in the Colorado River bordering California	No	Not Expected: This species is not expected to occur within the study area due to the lack of suitable habitat.

***STATUS**

U.S. Fish and Wildlife Service (USFWS)

- FE Endangered – any species which is in danger of extinction throughout all or a significant portion of its range.
- FT Threatened – any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
- FC Candidate – any species which is currently designated a candidate for listing under the Endangered Species Act.

California Department of Fish and Wildlife (CDFW)

- SE Endangered – any native species subspecies of bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.
- ST Threatened – any native or subspecies of bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required under the California Endangered Species Act.
- SC Candidate – any species which is currently designated a candidate for listing under the California Endangered Species Act.
- FP Fully Protected – any native species or subspecies of bird, mammal, fish, amphibian, or reptile that were determined by the State of California to be rare or face possible extinction.
- SSC Species of Special Concern – any species, subspecies, or distinct population of fish, amphibian, reptile, bird, or mammal native to California that currently satisfies one or more of the following criteria: is extirpated from California or, in the case of birds, in its primary seasonal or breeding role; is listed as Federally-, but not State-, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed; is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; or has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.
- WL Watch List – taxa that were previously designated as “Species of Special Concern” but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.
- CSE Candidate Endangered – The classification provided to a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed as being under review by the Department of Fish and Wildlife for addition to the list of endangered species, or a species for which the commission has published a notice of proposed regulation to add the species to the list of endangered species.

NatureServe Conservation Status Rank

The Global Rank (G#) reflects the overall condition and imperilment of a species throughout its global range. The Intraspecific Taxon Rank (T#) reflects the global situation of just the subspecies or variety. The State Rank (S#) reflects the condition and imperilment of an element throughout its range within California. (G#Q) reflects that the element is very rare but there are taxonomic questions associated with it; the calculated G rank is qualified by adding a Q after the G#). Adding a ? to a rank expresses uncertainty about the rank.

- G1/T1 Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2/T2 Imperiled— At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3/T3 Vulnerable— At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- G4/T4 Apparently Secure— Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5/T5 Secure – Common; widespread and abundant.
- S1 Critically Imperiled – Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.
- S2 Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or State.
- S3 Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
- S4 Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.