



*NATURAL RESOURCES ASSESSMENT, INC.*

**General Biological Assessment, Fairy Shrimp Assessment, Rare  
Plant Surveys and Phase II Burrowing Owl Surveys  
Truck Terminal Properties  
Perris, California**

**Prepared for:**

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**March 24, 2021**

**Project Number: LIL19-112**

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**CERTIFICATION**

I hereby certify that the statements furnished below and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.



Karen Kirtland

Natural Resources Assessment, Inc.

March 24, 2021

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## **1.0 Introduction**

Natural Resources Assessment, Inc. (NRAI) was contracted by Lilburn Corporation and Mr. Bob Nassir of Truck Terminal Properties to provide biological services for a proposed industrial center in Perris, California. The assessment was completed consistent with the requirements of the Western Riverside County Multiple Species Habitat Conservation Plan (MSCHP).

## **2.0 Site Location and Project Description**

The property is located in Perris, Riverside County, California (Figures 1 and 2). The project consists of one parcel (APN 302-110-032) totaling 5.0 acres located on the north side of Markham Avenue, east of Perris Boulevard. Existing development is along the eastern and southern borders. Open land (formerly farmland) exists on the west and north. (Figure 3). Based on the evidence of debris and our knowledge of the area, the site may have been farmed in the past, but that could not be positively established.

The project site is located in Section 5, Township 4 south, Range 3 west on the Perris USGS 7.5-minute quadrangle, San Bernardino Base and Meridian (Figure 2).

The Applicant is requesting the approval of a proposed designation of the land for industrial use.

Review of historic aerial photographs indicated that the property has been a vacant lot since at least 1994 (MSHCP files).

## **3.0 Methods**

### **3.1 Data Review**

NRAI conducted a data search for information on plant and wildlife species known occurrences within the vicinity of the project. This review included biological texts on general and specific biological resources, and those resources considered to be sensitive by various wildlife agencies, local governmental agencies and interest groups. Information sources included but are not limited to the following:

- Information provided by the Western Riverside County MSHCP for the parcel.
- U.S. Army Corps 404 requirements, State Water Resources Control Board requirements and California Department of Fish and Wildlife 1602 requirements.
- General texts and other documents regarding potential resources on the project.

NRAI used the information to focus our survey efforts in the field. Please see Section 6.0 for a complete listing of documents reviewed.



Figure 1. Regional Location of the Project.

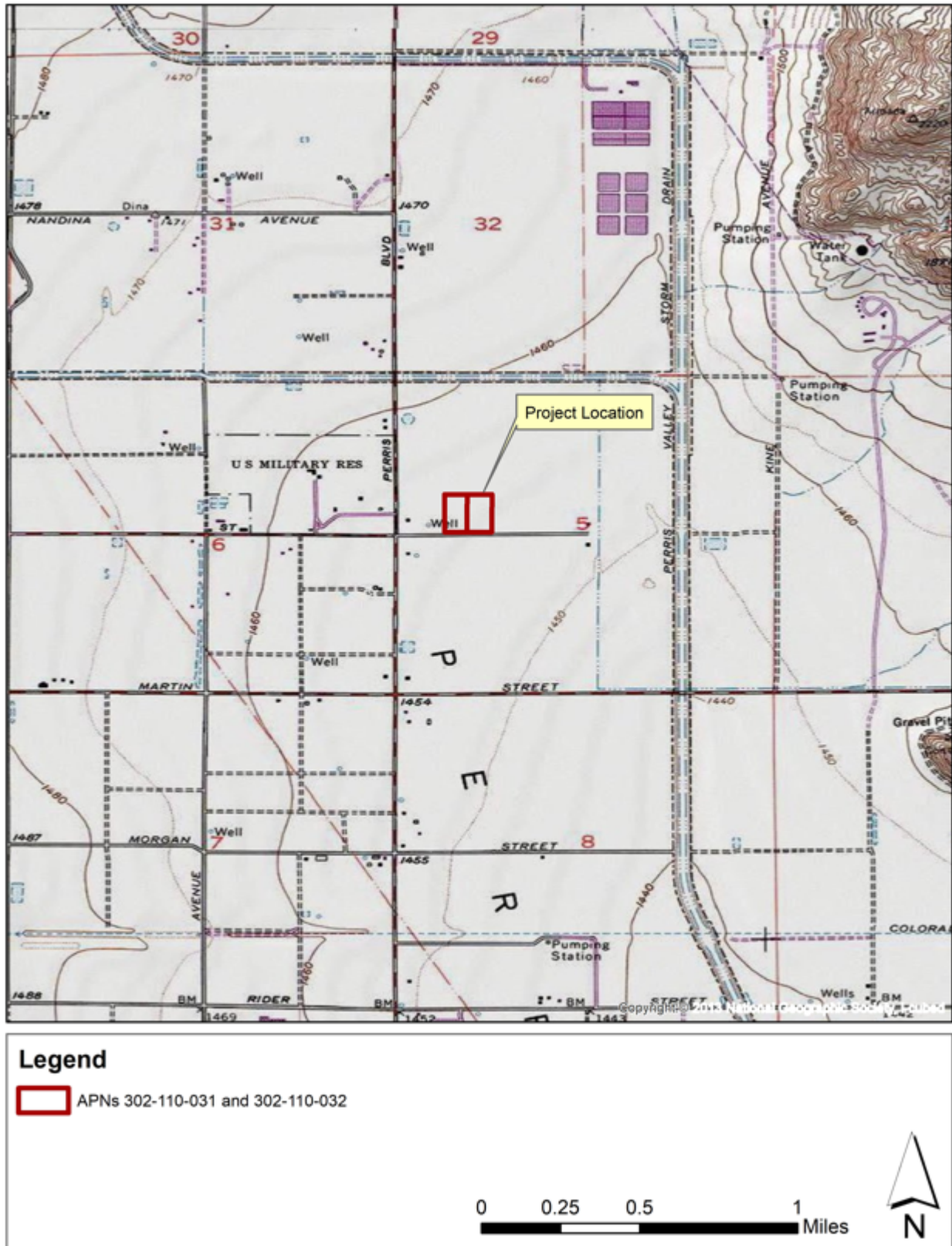


Figure 2. Topography of the Project Site. Date Unknown.





Figure 3, Aerial Showing the Condition of the Property 2020.

### **3.2 Field Assessment**

Ms. Karen Kirtland and Mr. Ricardo Montijo conducted an initial assessment on March 11, 2019 to discuss the site with the client and evaluate the site.

Ms. Kirtland and Mr. Montijo conducted a general biological assessment field survey on August 27, 2019. Based on their site assessment, they recommended further surveys of the site for fairy shrimp, burrowing owl and sensitive plant species during the appropriate time of year. The field team evaluated the property habitats, making notes on the general and sensitive biological resources present and taking representative photographs. The survey included habitat assessment surveys for resources covered under the MSHCP survey requirements.

Follow up surveys for sensitive plants and burrowing owl were conducted on March 1, March 24, April 17, 2020 and March 11, 2021.

## **4.0 Results**

### **4.1 Weather, Topography and Soils**

August 27, 2019. Weather at the beginning of the field survey was 84 degrees Fahrenheit, with clear skies and no wind. At the end of the survey, the temperature was 93 degrees Fahrenheit, with clear skies and winds of southwest winds of three miles per hour (mph).

March 1, 2020. Weather at the beginning of the field survey was 60 degrees Fahrenheit, with overcast skies and no wind. At the end of the survey, the temperature was 65 degrees Fahrenheit, with overcast skies and northwest winds of less than one mph.

March 24, 2020. At the beginning of the survey there was 60 percent cloud cover, with winds approximately two miles per hour (mph) from the south. The temperature was 65 degrees Fahrenheit. By the end of the survey the temperature was 68 degrees Fahrenheit, with 40 percent cloud cover and winds at two miles per hour from the northwest.

April 17, 2020. Weather at the beginning of the survey was 55 percent cloud cover, with no winds. The temperature was 73 degrees Fahrenheit. By the end of the survey the temperature was 75 degrees Fahrenheit, with 40 percent cloud cover and winds at three miles per hour from the northwest.

March 11, 2021. Weather at the beginning of the survey was 90 percent broken cloud cover, with no winds. The temperature was 47 degrees Fahrenheit. There was a brief hail storm with small hail stones during part of the survey. By the end of the survey the temperature was 50 degrees Fahrenheit, with 90 percent broken cloud cover and no winds.

The property has a flat topography.

Domino silt loam, saline-alkali is a soil found on alluvial fans. It is made up of alluvium derived from granite and is moderate saline to strongly saline. Domino silt loam rare floods and never ponds. This soil is non-hydric except in depressions, where it may exhibit one of the three characteristics identified for hydric soils (Figure 4, Natural Resources Conservation Service 2020).

The soil on site has been impacted by disking for weeding and is mass compacted.





Figure 4. Soils.

## **4.2 Land Uses**

A review of aerial imagery from Google Earth indicates that the property has been a vacant lot since at least 2002. Current disturbances include ongoing disking, and minor dumping.

## **4.3 Vegetation**

The MSHCP mapped the property as agriculture in 1994. In 2005 and 2012, the MSCHP mapped the property as disturbed/developed.

In our mapping of the property, the surface cover is composed of a few barren areas and ruderal (weedy) plant community (Figure 5).

### **4.3.1 Barren**

This condition is represented by mostly bare ground.

### **4.3.2 Ruderal Vegetation**

Ruderal plant vegetation growing after disking of the agricultural growth was found throughout the property. Ruderal is comprised of a mix of mostly non-native and native weeds such as foxtail brome (*Bromus madritensis* ssp. *rubens*), mouse barley (*Hordeum murinum*), seaside barley (*Hordeum marinum*), fiddleneck (*Amsinckia menziesii*) and stinknet (*Onicosiphon piluliferum*).

The ruderal vegetation is found throughout the property except on the dirt pad at the south end of both parcels (Photos 1 through 4). There is a concrete pad in the center of the western parcel. There is also an area in the northeast corner of the eastern parcel where debris piles have been placed (Photo 5). The debris is mostly old landscape cuttings.

A list of all plant species observed is provided in Appendix A.

## **4.4 Wildlife**

No amphibian or reptile species were observed. There are no water sources that would be used by amphibians, and the relative lack of ground cover, rocks or shrub makes the site unsuitable for most reptile species.

Bird species seen or hear included mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*) and lark sparrow (*Chondestes grammacus*).

Botta's gopher (*Thomomys bottae*) burrows were observed. No other sign of native mammal species was observed.

A list of all wildlife species observed is provided in Appendix A.

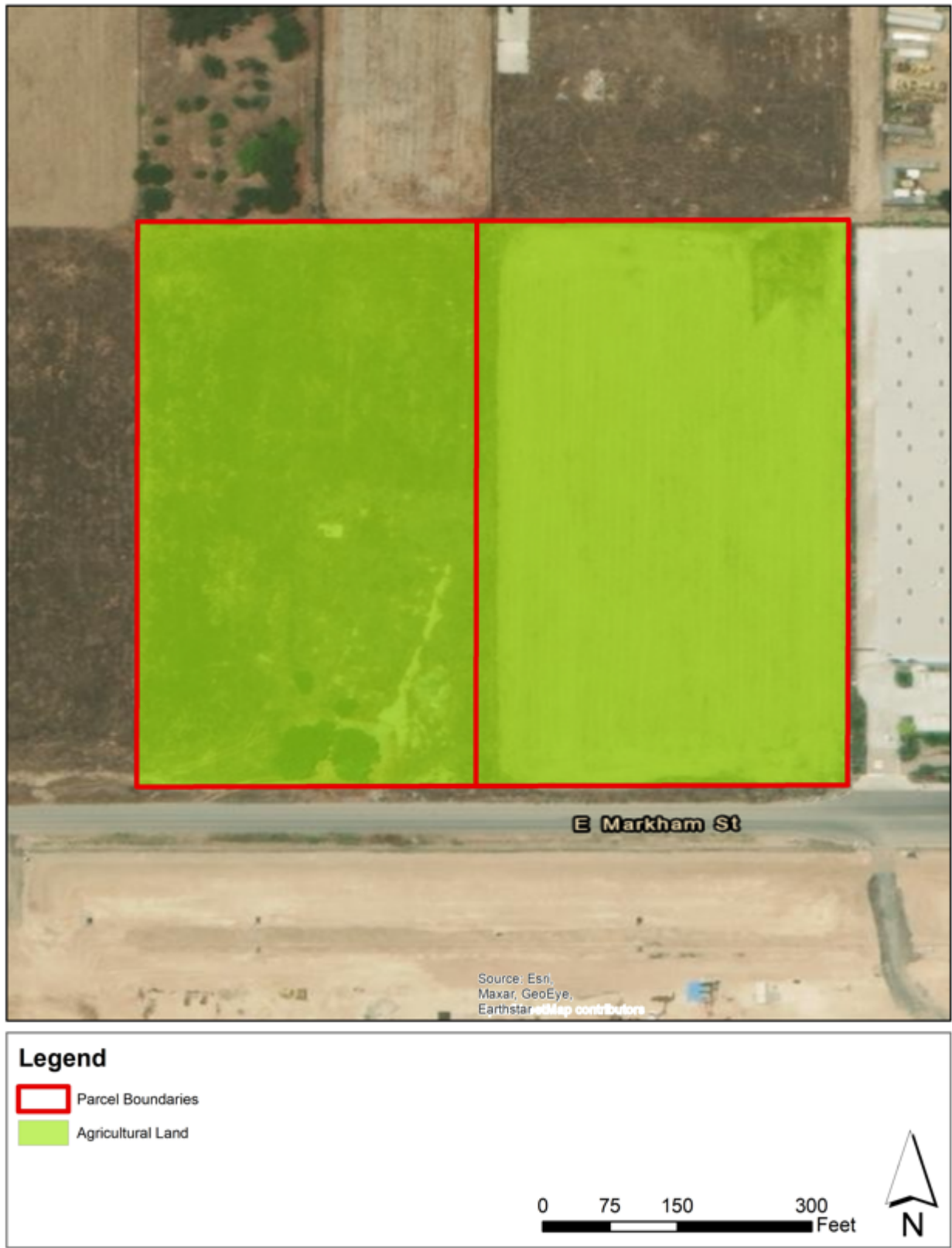


Figure 5. Vegetation Designation under the MSHCP 2012.  
March 24, 2021 Markham & Perris LIL19-11





Photo 1. Recent disking activity. Looking north from the southern end of the Western parcel.



Photo 2. Ruderal (weedy) vegetation. Looking southeast from the center of the western parcel.





Photo 3. Ruderal vegetation looking southwest from the northern boundary of the eastern parcel.



Photo 4. Ruderal vegetation, eastern parcel. Looking north from the southern boundary





Photo 5. Debris piles on eastern parcel.

## **5.0 MSHCP Consistency Analysis**

Section 6 of the MSHCP states that all projects must be reviewed for compliance with plan policies pertaining to Riparian/Riverine resources, Criteria resources, Narrow Endemic Plant Species, urban/wildlands interface, and additional survey needs as applicable.

The following discussion includes status descriptions for each resource identified in the MSHCP for this parcel.

### **5.1 Reserve Assembly Analysis**

Not applicable.

### **5.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (Section 6.1.2)**

#### **5.2.1 Riparian/Riverine Areas**

Riparian/Riverine Areas are defined by the MSHCP as “lands which contain Habitat dominated by tress [sic], shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year”.

## Findings

The property is flat, has no drainages and shows no evidence of flowing water. There is no riparian habitat as defined in the MSHCP on site. No riverine/riparian habitat exists on the parcel.

The project is consistent with MSHCP Section 6.1.2.

### 5.2.2 Vernal Pools

The field team did not identify any indicators of vernal pool development such as water stains, cracked mud, shallow depressions, or similar areas where water would collect. Given the history of the property, the currently highly disturbed surface and the original soil (unsuitable for pool formation), vernal pools are not present nor expected to occur in the future.

The project is consistent with MSHCP Section 6.1.2.

### 5.2.3 Riverside Fairy Shrimp

Riverside fairy shrimp (*Streptocephalus woottoni*) is known to be found in Ventura, Los Angeles, Riverside, Orange, and San Diego Counties. It has also been found at two locations Valle de las Palmas and south of El Rosario in Baja California, Mexico. It occurs in ephemeral pools in farmlands and similar open, flat terrain. Fairy shrimp are confined to temporary pools that fill in spring and evaporate by late spring to early summer.

Constituent elements required for survival of the species per the U.S. Fish and Wildlife<sup>1</sup> “include small to large pools or pool complexes that have the appropriate temperature, water chemistry, and length of time of inundation with water necessary for Riverside fairy shrimp incubation and reproduction, as well as dry periods necessary to provide the conditions to maintain a dormant and viable cyst bank.”

Specific conditions for successful reproduction of Riverside fairy shrimp include:

- Depths ranging from 10 in (25 cm) to 5 to 10 ft (1.5 to 3 m);
- Ponding inundation that lasts for a minimum length of 2 months and a maximum length of 5 to 8 months during the winter and spring months, followed by a dry period prior to the next winter and spring rains;
- Suitable water temperatures that fall within the range of 50- and 77-degrees Fahrenheit (10 and 25 degrees Celsius);
- Water chemistry with low total dissolved solids and alkalinity (means of 77 and 65 parts per million, respectively), corroborated by pH within a range of 6.4-7.1.

Also required are watersheds associated with suitable ponding sites that provide water to fill the pools in the winter and spring months. There is no set or standard size of watershed varies greatly and it must be evaluated on a case-by-case basis. Factors that affect the size of the watershed include surface and underground hydrology, the topography of the area surrounding the pool or pools, the vegetative

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<sup>1</sup> <https://www.govinfo.gov/content/pkg/FR-2004-04-27/pdf/04-9203.pdf#page=2>

coverage, and the soil substrate in the area. Watershed sizes designated vary from a few acres to greater than 100 ac (40 ha).

Regarding soil substrates, any soil type with a clay component and/or an impermeable surface or subsurface layer that is known to support vernal pool habitat may provide suitable habitat for Riverside fairy shrimp.

### **Findings**

The project proponent hired Dr. Christopher Rogers of the University of Kansas, an expert in the study of fairy shrimp, to evaluate the property and determine the potential for sensitive fairy shrimp species to be present. In Dr. Roger's professional judgement, no habitat for sensitive fairy shrimp species are present on site and there is no need for surveys. His report is included in Appendix B. Dr. Rogers also concluded there is no vernal pool habitat on site.

The project is consistent with MSHCP Section 6.1.2.

#### **5.2.4 Vernal Pool Fairy Shrimp**

Vernal pool fairy shrimp (*Branchinecta lynchi*) is found in grasslands in ponded areas such as vernal pools, cattle watering holes, basins, etc. Fairy shrimp are confined to temporary pools that fill in spring and evaporate by late spring to early summer.

In southern California, this species is found primarily in the interior of western Riverside County, central Santa Barbara County, and eastern Orange County and more recently in Los Angeles County.

Since most pools preferred by fairy shrimp are found in flat areas, many have been lost to agricultural activities and residential development. The limited extent of available habitat, plus the ongoing loss has resulted in the vernal pool fairy shrimp being listed as threatened by the USFWS.

### **Findings**

The project proponent hired Dr. Christopher Rogers of the University of Kansas, an expert in the study of fairy shrimp, to evaluate the property and determine the potential for sensitive fairy shrimp species to be present. In Dr. Roger's professional judgement, no habitat for sensitive fairy shrimp species is present on site and there is no need for surveys. His report is in Appendix B.

The project is consistent with MSHCP Section 6.1.2.

#### **5.2.5 Santa Rosa Plateau Fairy Shrimp**

The Santa Rosa Plateau fairy shrimp (*Lindieriella santarosae*) is known only from cool-water vernal pools found only on southern basalt flows. Similar to the other shrimp species, the Santa Rosa Plateau fairy shrimp only occurs under the right conditions of water temperature, depth and evaporation patterns.

The Santa Rosa Plateau fairy shrimp is only found on the Santa Rosa Plateau in a very confined locality. The MSHCP has identified the need to set aside for a total of at least 2,134 acres of area on the basalt flow that may contain unmapped vernal pool habitat which might support Santa Rosa Plateau fairy shrimp.

Currently, the entire known population in Riverside County is currently protected as part of the Santa Rosa Plateau Regional Park.

## **Findings**

The project proponent hired Dr. Christopher Rogers of the University of Kansas, an expert in the study of fairy shrimp, to evaluate the property and determine the potential for sensitive fairy shrimp species to be present. In Dr. Roger's professional judgement, no habitat for sensitive fairy shrimp species is present on site and there is no need for surveys.

The project is consistent with MSHCP Section 6.1.2.

### **5.2.6 Riparian Birds**

There is no riparian habitat in or on the property. Therefore, no riparian bird species are present or will use the site, and no impacts to these species or their habitat will occur.

The project is consistent with MSHCP Section 6.1.2.

### **5.3 Narrow Endemic Plant Species (Section 6.1.3)**

Surveys for Narrow Endemic Plant Species were conducted on March 1, March 31 and April 17, 2020. Surveys were conducted according to the methodology recommended by the California Department of Fish and Wildlife (CDFW):

Before the field surveys were conducted, we compiled the relevant botanical information on plant species information for the general project area. Data sources reviewed included the following:

- Calflora, California Native Plant Society (CNPS) Inventory
- California Consortium of Herbaria
- Information, Planning, and Conservation System (IPaC)
- Biogeographic Information & Observation System (BIOS)
- California Natural Diversity Data Base (CNDDB).
- Previous surveys conducted by NRAI and others in the vicinity of the project.

Transects were conducted across the entire property. The coverage was comprehensive and included the entire site.

#### **5.3.1 San Diego Ambrosia**

San Diego ambrosia (*Ambrosia pumila*) is an annual herbaceous plant that grows from a rhizomatous root stock. It occurs in chaparral, coastal sage scrub, valley and foothill grassland, and occasionally in freshwater wetlands. San Diego ambrosia grows on sandy loam or clay soils. In valleys, it persists where disturbance is superficial.

San Diego ambrosia occurs from 30 to 182 meters (100 to 600 feet) in elevation throughout western Riverside and San Diego counties. It blooms from April through October.

San Diego ambrosia is listed as endangered by the USFWS and is on list 1B of the CNPS Inventory. It is not listed by the CDFW.

## **Findings**

We did not see any plants or suitable habitat conditions for the establishment of San Diego ambrosia.

The project is consistent with MSHCP Section 6.1.3.

### **5.3.2 Spreading Navarretia**

Spreading navarretia (*Navarretia fossalis*) is an annual herb found in chenopod scrub, shallow freshwater marshes and swamps, playas, and vernal pools. It usually is found on sites with mesic conditions. It blooms from April through June at elevations from 30 to 655 meters (98 to 2150 feet).

The distribution of spreading navarretia is from Los Angeles south to Baja California and is found in the Lakeview area near Perris and along the stretch of the San Jacinto River from Winchester south. Spreading navarretia is threatened by the loss of aquatic and mesic habitats from development, farming and invasive plant species.

## **Findings**

The property lacks mesic habitats preferred by this species. It was not observed during the surveys. The project is consistent with MSHCP Section 6.1.3.

### **5.3.3 California Orcutt Grass**

California Orcutt grass (*Orcuttia californica*) is an annual herb that is found only in vernal pools. It flowers from April through August at elevations from 15 to 660 meters (49 to 2170 feet).

It is known from the Skunk Lake area and similar vernal pool habitats in Riverside County. California Orcutt grass is threatened by the loss of vernal pool habitats and invasive species. It is listed as endangered by both the USFWS and the CDFW, and is on List 1B.1 of the CNPS Inventory.

## **Findings**

The property does not support vernal pools. It was not observed during the surveys.

The project is consistent with MSHCP Section 6.1.3.

### **5.3.4 Wright's Trichocoronis**

Wright's trichocoronis (*Trichoconis wrightii*) is an annual herb that grows on alkaline soils. It is found in meadows, seeps, marshes, swamps, riparian forests and vernal pools. It blooms from May through September at elevations from 5 to 435 meters (16 to 1430 feet).

It is known from the Mystic Lake area and along the San Jacinto River south to Perris. It is threatened by the loss of mesic habitats and vernal pools to development, farming and invasive plants. It is not listed by the USFWS or the CDFW. It is on List 1B.2 of the CNPS Inventory.

## **Findings**

Mesic habitats and vernal pools preferred by this species do not occur on the property. The site is dominated by invasive plant species forming a dense cover. The project is consistent with MSHCP Section 6.1.3.



## 5.4 Additional Survey Needs and Procedures (Section 6.3.2)

### 5.4.1 Criteria Area Plant Species

Surveys for Criteria Area Plant Species were conducted on March 1, March 31 and April 17, 2020. Surveys were conducted according to the methodology recommended by the California Department of Fish and Wildlife (CDFW):

Before the field surveys were conducted, we compiled the relevant botanical information on plant species information for the general project area. Data sources reviewed included the following:

- Calflora, California Native Plant Society (CNPS) Inventory
- California Consortium of Herbaria
- Information, Planning, and Conservation System (IPaC)
- Biogeographic Information & Observation System (BIOS)
- California Natural Diversity Data Base (CNDDB).
- Previous surveys conducted by NRAI and others in the vicinity of the project.

Transects were conducted across the entire property. The coverage was comprehensive and included the entire site.

#### 5.4.1.1 San Jacinto Valley Crownscale

San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*) an annual species that occurs on alkali soils. It is known primarily from the San Jacinto Valley and Temescal Canyon areas of Riverside County, with outliers found in Kern County and (historically) Kern County.

San Jacinto Valley crownscale blooms from April through August at recorded elevations ranging from 400 to 500 meters (1312 to 1641 feet). Preferred habitat is alkali sink, freshwater wetlands and wetland-riparian, mostly on playas and vernal pools. It occurs in both wetland non-wetland sites.

#### Findings

Sinks, freshwater wetlands and wetland-riparian preferred by this species do not occur on the property. The site is not a playa and there are no vernal pools. This species does not occur on site.

The project is consistent with MSHCP Section 6.3.2.

#### 5.4.1.2 Davidson's Saltscale

Davidson's saltscale (*Atriplex serenana* var.  *davidsonii*) is an annual herb that grows on alkaline soils in coastal bluff scrub and coastal scrub plant communities. This species is recorded mostly along the San Jacinto River in San Jacinto and Hemet areas. It is also recorded from the coast. Davidson's saltscale blooms from April through October at elevations from 10 to 200 meters (30 to 660 feet).

It is threatened by the loss of habitat to development. It is not listed by the USFWS or the CDFW. It is on List 1B.2 of the CNPS Inventory.

## **Findings**

Coastal bluff and coastal sage scrub vegetation does not occur on the property. This species is not present. The project is consistent with MSHCP Section 6.3.2.

### **5.4.1.3 Thread-leaved Brodiaea**

Thread-leaved brodiaea (*Brodiaea filifolia*) is an annual herb that grows from an underground bulb. It is found in openings in chaparral, cismontane woodland, coastal scrub, valley and foothill grasslands, playas and vernal pools. It is found most commonly on clay. It flowers from March through June at elevations from 25 to 1120 meters (82 to 3700 feet). Thread-leaved brodiaea needs loose, uncompacted soils in order for bulbs to grow and reproduce.

Thread-leaved brodiaea is recorded from the Hemet and San Jacinto regions, as well as near Estelle Peak and in the Santa Ana Mountains west of the site.

Thread-leaved brodiaea is threatened by the loss of habitat to agriculture and conversion to development. It is listed as threatened by the USFWS and endangered by the CDFW. It is on List 1B.1 of the CNPS Inventory.

## **Findings**

Thread-leaved brodiaea was not observed during the survey. No suitable habitat is present on the property.

The project is consistent with MSHCP Section 6.3.2.

### **5.4.1.4 Round-leaved Filaree**

Round-leaved filaree (*California macrophylla*) is an annual herb that occurs in clay soils of cismontane woodland and valley and foothill grassland plant communities. Round-leaved filaree is found mostly in foothill areas up and down the coast of California at elevations from 15 to 1200 meters (49 to 4000 feet). It flowers from March to May.

Historical localities from the late 1890s include Menifee and near Temecula. The nearest recent population from 1976 at Lake Perris. Round-leaved filaree is threatened by the loss of habitat to agriculture and conversion to development. It is not listed by the USFWS or the CDFW. It is on List 1B.1 of the CNPS Inventory.

## **Findings**

Suitable clay soils do not exist on site. There are no woodland or grassland habitats on site. Round-leaved filaree was not observed.

The project is consistent with MSHCP Section 6.3.2.

### **5.4.1.5 Coulter's Goldfields**

Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) is an annual herb that grows in coastal salt marshes, swamps, vernal pools and on playas. It prefers mesic conditions in low-lying areas. It blooms from February through June at elevations from 1 to 1200 meters (sea level to 4000 feet).

Most of the local populations are recorded along the stretch of the San Jacinto River from Mystic Lake south to Perris. It is also known from around Lake Elsinore and Sycamore Canyon in the City of Riverside.

Coulter's goldfields is a species threatened by the loss of habitat to agriculture, conversion to development and road improvements. It is not listed by the USFWS or the CDFW. It is on List 1B.1 of the CNPS Inventory.

### **Findings**

No suitable coastal salt marshes, swamps, vernal pools or playas exist on site. Coulter's goldfields was not observed.

#### **5.4.1.6 Little Mousetail**

Little mousetail (*Myosurus minimus* spp. *apus*) is an annual herb that grows in vernal pools formed on alkaline soils in valley and foothill grasslands.

Little mousetail also occur in depressions with persistent or long-term pooling of water. They bloom from March through June at elevations from 20 to 640 meters (65 to 2100 feet).

The habitat of the little mousetail is threatened by the loss of vernal pools, grazing, agriculture and development. Known populations includes areas south of Lake Elsinore and in the Gavilan Hills area.

The little mousetail is not listed by the USFWS or the CDFW. It is on List 3.1 of the CNPS Inventory.

### **Findings**

Little mousetail was not observed. There are no vernal pools or depressions with persistent or long-term pooling of water on the property.

The project is consistent with MSHCP Section 6.3.2.

#### **5.4.1.7 Parish's Brittlecale**

Parish's brittlecale (*Atriplex parishii*) is an annual herb that occurs in vernal pools and playas with alkaline soils. It is found primarily in chenopod scrub from Riverside County down to Baja California. It blooms from June through October, at elevation ranges from 25 to 1900 meters (80 to 6300 feet).

This species is recorded mostly south of the site along the San Jacinto River.

Parish's brittlecale is threatened by the loss of habitat to agriculture, conversion to development and drainage of vernal pool areas. It is not listed by the USFWS or the CDFW. It is on List 1B.1 of the CNPS Inventory.

### **Findings**

Suitable vernal pools and playas are not present on the property. Parish's brittlecale is not expected to be present on site.

The project is consistent with MSHCP Section 6.3.2.

#### **5.4.1.8 Mud Nama**

Mud nama (*Nama stenocarpum*) is an annual or perennial herb that prefers wetland habitats such as riparian, marsh and swamp habitats, but has been found in non-wetland areas. Mud nama has been recorded from Los Angeles, Orange, San Diego and Riverside counties.

Mud nama flowers from March through October at elevations ranging from 5 to 500 meters (16 to 1640 feet). It occurs usually in wetlands, occasionally in non-wetlands and is found in riparian habitats, along lake margins, streambanks and edges of ponds Preferred habitats are freshwater wetlands and wetland-riparian sites.

Mud nama is threatened by the loss of wetland and mesic habitats from agriculture, development and recreational activities. It is not listed by the USFWS or the CDFW. It is listed on List 2B.2 of the CNPS Inventory.

#### **Findings**

There is no mesic habitat on site, and no riparian, lake or pond habitat suitable for this species. There are no drainages with adjacent low areas where water may collect and where this species may occur. This species was not observed during the surveys.

The project is consistent with MSHCP Section 6.3.2.

#### **5.4.2 Burrowing Owl**

Ms. Kirtland conducted a burrowing owl burrow survey as part of the requirements put forth by Riverside County, as follows:

- Surveys for burrowing owl that are conducted during the breeding season March 1 - August 31 are required to describe if, when, and how the site is used by burrowing owls.
- Surveys should be conducted during weather that is conducive to observing owls outside their burrows and detecting burrowing owl sign.
- Surveys cannot be conducted during or within five days of rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F.
- Surveys should be conducted in the morning one hour before sunrise to two hours after sunrise or in the early evening two hours before sunset to one hour after sunset.

Ms. Kirtland conducted the field survey according to the protocols. Sunrise was at 0615 on March 1, 2020. Starting at 0550 Ms. Kirtland conducted a systematic focused survey for burrows including burrowing owl sign. Ms. Kirtland walked transects through suitable habitat over the entire survey area. The survey was completed at 0753.

The survey included a visual survey using high-powered binoculars out to 150 meters of adjacent properties segments with restricted or denied access.

The debris piles in the northeast corner were inspected as potential burrow locations. There were no burrow or burrow-like structure in the debris piles.



The transects were spaced according to terrain and scrub cover to allow one hundred percent visual coverage of the ground surface. All transects were a maximum of 30 meters and usually less.

Weather throughout the survey was overcast skies, 58 degrees Fahrenheit and no wind.

No burrows for burrowing owl were observed. No other suitable locations, such as pipes, concrete structures or similar man-made features that could provide suitable burrow sites were found on the property or in the surrounding area. No whitewash, feathers, scat, castings or other sign of burrowing owl was observed anywhere on the property.

There were California ground squirrel burrows found during the March 11, 2021. All the burrows were newly excavated in response to the burial by recent disking of the site (Photo 6). All of the burrows were in use by California ground squirrels.



Photo 6. California ground squirrel burrows, reopened after closed by disking.

In the absence of suitable burrows, no Phase III: Burrowing Owl Surveys, Census and Mapping were required. Because there is a potential for burrowing owls to move onsite overtime and occupy future abandoned ground squirrel burrows, we recommend a 30-preconstruction burrowing owl survey be conducted according to the requirements of the MSHCP.

The project is consistent with MSHCP Section 6.3.2.

## **5.5 Guidelines Pertaining to the Urban/Wildland Interface (Section 6.1.4)**

The property is not near or in the vicinity of an MSHCP Conservation Area. There will be no impacts to the Urban/Wildland Interface.

The project is consistent with MSHCP Section 6.1.4.  
March 24, 2021 Markham & Perris LIL19-11



## 5.6 Habitat Conservation Plan for the Stephens Kangaroo Rat

The species objectives for the Stephens kangaroo rat (SKR) in the Western Riverside MSHCP were designed to incorporate the objectives and be consistent with the Long-Term Stephens Kangaroo Rat Habitat Conservation Plan (SKR Plan). Any projects that are within the MSHCP boundaries must meet the SKR Plan requirements.

### Findings

The project is located within the SKR fee area. A fee payment will be required.

## 5.7 Jurisdictional Waters

### 5.7.1 Army Corps of Engineers

The Corps regulates discharges of dredged or fill material into waters of the United States. These watersheds include wetlands and non-wetland bodies of water that meet specific criteria. The lateral limit of Corps jurisdiction extends to the Ordinary High-Water Mark (OHWM) and to any wetland areas extending beyond the OHWM; thus, the maximum jurisdictional area is represented by the OHWM or wetland limit, whichever is greater.

Corps regulatory jurisdiction pursuant to Section 404 of the Clean Water Act is founded on a connection or nexus between the water body in question and interstate (waterway) commerce. This connection may be direct, through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce, or may be indirect, through a nexus identified in the Corps regulations.

### 5.7.2 Regional Water Quality Control Board

The Corps has delegated the authority for use of 404 permits to each individual state. The use of a 404 permit in California is regulated by the State Water Resources Control Board (SWRCB) under Section 401 of the Clean Water Act regulations. The Board has authority to issue a 401 permit that allows the use of a 404 permit in the state, with the authority in the state being vested in regional offices known as Regional Water Quality Control Boards (RWQCB).

Under the Porter-Cologne Act of 2003, the SWRCB has extended its responsibilities to include impacts to water quality from non-point source pollution.

In addition, the SWRCB has the responsibility to require that projects address ground water and water quality issues, which would be evaluated as part of the geotechnical and hydrology studies. Their authority extends to all waters of the State (of California).

### 5.7.3 California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW), through provisions of the State of California Administrative Code, is empowered to issue agreements for any alteration of a river, stream or lake where fish or wildlife resources may adversely be affected. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. Lateral limits of jurisdiction are not clearly defined, but generally include any riparian resources associated with a stream or lake, CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream or lake as defined by CDFW.

## **Findings**

There are no jurisdictional waters on site. There is no wetland or riparian habitat on site. There are no drainages or evidence of water flow. Ruderal vegetation and bare ground are the only habitats present on the property.

### **5.8 Raptors, Migratory Birds, and Habitat**

Most of the raptor species (eagles, hawks, falcons and owls) are experiencing population declines because of habitat loss. Some, such as the peregrine falcon, have also experienced population losses because of environmental toxins affecting reproductive success, animals destroyed as pests or collected for falconry, and other direct impacts on individuals. Only a few species, such as the red-tailed hawk and barn owl, have expanded their range despite or as a result of human modifications to the environment. As a group, raptors are of concern to state and federal agencies.

Raptors and all migratory bird species, whether listed or not, also receive protection under the Migratory Bird Treaty Act (MBTA) of 1918<sup>2</sup>. The MBTA prohibits individuals to kill, take, possess or sell any migratory bird, bird parts (including nests and eggs) except per regulations prescribed by the Secretary of the Department (16 U. S. Code 703<sup>3</sup>).

Additional protection is provided to all bald and golden eagles under the Bald and Golden Eagle Protection Act of 1940, as amended<sup>4</sup>. State protection is extended to all birds of prey by the California Fish and Game Code, Section 2503.5<sup>5</sup>. No take is allowed under these provisions except through the approval of the agencies or their designated representatives.

No take is allowed under these provisions except through the approval of the agencies or their designated representatives.

## **Findings**

At the time of the survey, the parcel had very limited marginal nesting habitat for ground-nesting bird species. There is no shrub habitat. There are scattered trees running along the eastern border of the property on the adjacent property (Photo 7). Because the adjacent property is an industrial park, impacts to nesting birds has already occurred and is ongoing.

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<sup>2</sup> <https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php>

<sup>3</sup> <https://www.fws.gov/le/USStatutes/MBTA.pdf>

<sup>4</sup> <https://www.fws.gov/le/USStatutes/BEPA.pdf>

<sup>5</sup> <https://law.justia.com/codes/california/2015/code-fgc/division-4/part-2/chapter-1/section-3513>

March 24, 2021 Markham & Perris LIL19-11



Photo 7. Industrial building on the eastern boundary with scattered trees.

The ruderal habitat may provide some sites for ground nesters. A breeding bird survey following the recommended guidelines of the MBTA will be required to determine if nesting is occurring in this area.

1. If the start of construction occurs between February 1 and August 31, then a qualified biologist shall conduct a breeding bird survey no more than three days prior to the start of construction to determine if nesting is occurring.
2. If occupied nests are found, they shall not be disturbed unless the qualified biologist verifies through non-invasive methods that either (a) the adult birds have not begun egg-laying and incubation; or (b) the juveniles from the occupied nests are capable of independent survival.
3. If the biologist is not able to verify one of the above conditions, then no disturbance shall occur within a distance specified by the qualified biologist for each nest or nesting site. The qualified biologist will determine the appropriate distance in consultation with the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service.

“Construction” includes selection of staging areas, demolition, tree, trash and debris removal, placement of equipment and machinery on to the site preparatory to grading, and any other project-related activity that increases noise and human activity on the project site beyond existing levels. Emergency measures are exempt from this definition.



## 6.0 References

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- Soil Survey Staff, Natural Resources Conservation Service, 2020. United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed May 3, 2020.

## ***Appendix A. Plant and Animal Species Observed***

Plants

Common Name	Scientific Name
<b>Gymnosperms</b>	
<b>Gymnospermae</b>	
<b>Pine Family</b>	<b>Pinaceae</b>
Aleppo Pine	<i>Pinus halepensis</i> P. Mill*
<b>Angiosperms</b>	
<b>Angiospermae</b>	
<b>Dicots</b>	
<b>Dicotyledons</b>	
<b>Amaranth Family</b>	<b>Amaranthaceae</b>
Tumbleweed	<i>Amaranthus albus</i> L.*
<b>Cashew Family</b>	<b>Anacardiaceae</b>
Peruvian Pepper	<i>Schinus molle</i> L.*
<b>Sunflower Family</b>	<b>Asteraceae</b>
Italian Thistle	<i>Carduus pycnocephalus</i> L. *
Bush Sunflower	<i>Encelia farinosa</i> A. Gray ex Torr.
Canada Horseweed	<i>Erigeron canadensis</i> L.
Common Sunflower	<i>Helianthus annuus</i> L.
Prickly Lettuce	<i>Lactuca serriola</i> L. *
Stinknet	<i>Oncosiphon piluliferum</i> (L. f.) Källersjö *
Small Wire Lettuce	<i>Stephanomeria exigua</i> Nutt.
<b>Borage Family</b>	<b>Boraginaceae</b>
Fiddleneck	<i>Amsinckia menziesii</i> (Lehm.) A. Nelson & J. F. Macbr.
<b>Mustard Family</b>	<b>Brassicaceae</b>
Short-pod Mustard	<i>Hirschfeldia incana</i> (L.) Lagr.-Fossat *
Wild Radish	<i>Raphanus sativus</i> L.
London Rocket	<i>Sisymbrium irio</i> L. *
<b>Cactus Family</b>	<b>Cactaceae</b>
Tuna Cactus	<i>Opuntia ficus-indica</i> (L.) Mill.
<b>Euphorb Family</b>	<b>Euphorbiaceae</b>
Turkey Mullein	<i>Croton setiger</i> Hook.
Russian thistle	<i>Salsola tragus</i> L.
<b>Pea Family</b>	<b>Fabaceae</b>
Large Heron's Bill	<i>Melilotus indicus</i> (L.) All.*
<b>Geranium Family</b>	<b>Geraniaceae</b>
Large Heron's Bill	<i>Erodium botrys</i> (Cav.) Bertol *
Red-stemmed Filaree	<i>Erodium cicutarium</i> (L.) L'Hér. ex Aiton*
<b>Mint Family</b>	<b>Lamiaceae</b>
Horehound	<i>Marrubium vulgare</i> L. *
<b>Goosefoot Family</b>	<b>Chenopodiaceae</b>
Russian Thistle	<i>Salsola tragus</i> L. *
<b>Pea Family</b>	<b>Fabaceae</b>



Jerusalem Thorn	<i>Parkinsonia aculeata</i> L. *
<b>Mahogany Family</b>	<b>Meliaceae</b>
Chinaberry	<i>Melia azederach</i> L. *

Monocots Monocotyledons	
<b>Palm Family</b>	<b>Arecaceae</b>
Mexican Fan Palm	<i>Washingtonia robusta</i> H. Wendl.
<b>Grass Family</b>	<b>Poaceae</b>
Slender Oats	<i>Avena barbata</i> Pott ex Link. *
Cheatgrass	<i>Bromus diandrus</i> Roth. *
Red Brome	<i>Bromus madritensis</i> L. ssp. <i>rubens</i> (L.) Husn. *
Barley	<i>Hordeum marinum</i> Huds. ssp. <i>gussoneanum</i> (Parl.) Thell. *
Wall Barley	<i>Hordeum murinum</i> L. ssp. <i>leporinum</i> (Link) Arcang *
Old Han Schismus	<i>Schismus barbatus</i> (L.) Thell. *

**Animals**

BIRDS	CLASS AVES
Common Name	Scientific Name
<b>Eagles, Hawks, Kites</b>	<b>Family Accipitridae</b>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
<b>Long-tailed Tits</b>	<b>Family Aegithalidae</b>
Bushtit	<i>Psaltriparus minimus</i>
<b>New World Vultures</b>	<b>Family Cathartidae</b>
Turkey Vulture	<i>Cathartes aura</i>
<b>Crows, Ravens, and Jays</b>	<b>Family Corvidae</b>
Common Raven	<i>Corvus corax</i>
<b>Sparrows Buntings and Relatives</b>	<b>Family Emberizidae</b>
Savannah Sparrow	<i>Passerculus sandwichensis</i>
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
<b>Finches</b>	<b>Fringillidae</b>
House Finch	<i>Haemorrhous mexicanus</i>
<b>Mimic Thrushes</b>	<b>Family Mimidae</b>
Northern Mockingbird	<i>Mimus polyglottos</i>

**New World Warblers**

Yellow-rumped Warbler

**Gnatcatchers**

California Gnatcatcher

**Hummingbirds**

Anna's Hummingbird

**Wrens**

Bewick's Wren

**Family Parulidae**

*Setophaga coronata*

**Family Polioptilidae**

*Polioptila californica*

**Family Trochilidae**

*Calypte anna*

**Family Troglodytidae**

*Thryomanes bewickii*

<b>MAMMALS</b>	<b>CLASS MAMMALIA</b>
<b>Common Name</b>	<b>Scientific Name</b>
<b>Gophers</b>	<b>Family Geomyidae</b>
California Pocket Gopher	<i>Thomomys bottae</i>
<b>Rabbits and Hares</b>	<b>Family Leporidae</b>
Audubon's Cottontail	<i>Sylvilagus audubonii</i>
<b>Squirrels</b>	<b>Family Sciuridae</b>
California Ground Squirrel	<i>Spermophilus beecheyi</i>

Truck Terminal Properties

*NATURAL RESOURCES ASSESSMENT, INC.*

General Biological Assessment, Rare Plant Surveys and Phase II Burrowing Owl Surveys

## ***Appendix B. Letter Report on Fairy Shrimp Findings***

## The University of Kansas

Kansas Biological Survey

20 April 2020

Mr. Bobby Nassir  
Truck Terminal Properties  
+1.310.466.7225  
1820 San Vicente Blvd  
Santa Monica CA 90402  
[bobnass5@gmail.com](mailto:bobnass5@gmail.com)

SUBJECT: Special Status Shrimp Habitat Surveys at the proposed East Markham Street project site, Perris, Riverside County, California.

Dear Mr. Nassir,

Kansas Biological Survey (KBS) conducted a survey for potential special status shrimp at the proposed East Markham Street project site, Perris, Riverside County, California. Surveys were conducted on 18 April 2020 on foot. This survey consisted of a single, one day visual survey of the site.

### Site Description

The proposed East Markham Street project site (APNs 302-110-024, 32 and 031) lies on the north side of East Markham Street, just west of North Perris Road, in the City of Perris, Riverside County, California.

The site is approximately 10 acres in area, is generally level, and appears to have been regularly ploughed at one time, but has been fallow for many years. All observed vegetation was upland ruderal, with a small stand of ornamental trees (mostly *Eucalyptus* sp.). The site appears to have numerous shallow depressions that may hold rainwater during large precipitation events, but not for more than a day or so, as they are all dominated in mustard (*Brassica* sp.) and fiddleneck (*Amsinckia* sp.). The entire site is dominated in mustard and brome (*Bromus* sp.). Several large Harvester Ant (*Pogonomyrmex* sp.) colonies were observed.

Soils substrates are all Domino silt loam, saline-alkaline, with 0 to 2 per cent slope, moderately well drained, with Calcium carbonate ~10 per cent, gypsum ( $\text{CaSO}_4 \cdot \text{H}_2\text{O}$ ) at 0 percent, and salinity from 8.0 to 16.0 mS/cm.

During the site visit Mourning Dove (*Zenaidura macroura*), Northern Common Raven (*Corvus corax principalis*), Western Kingbird (*Tyrannus verticalis*), Chipping Sparrow (*Spizella passerina*), Savannah Sparrow (*Passerculus sandwichensis*), Song Sparrow (*Melospiza melodia*), House Finch (*Haemorhous mexicanus*) were the only birds observed at the site.

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## The University of Kansas

### Results

No potential special status shrimp habitat was observed on or adjacent to the proposed East Markham Street project site. In fact no evidence of wetland habitats of any kind were observed on site at all. The soils have cation percentages and salinity too high to support the federally endangered fairy shrimp *Streptocephalus woottoni* Eng et al., 1990, and the federally threatened *Branchinecta lynchi* Eng et al., 1990 (Rogers, 2014). In addition, the lack of any basins, any vernal pool habitat, and the well drained, sandy loam soils precludes any listed large branchiopod shrimp being present.

If you have any questions, please contact me.

Yours,



D. Christopher Rogers  
785.864.1714  
Crustacean Taxonomist and Ecologist  
Kansas Biological Survey  
Central Plains Center for Bioassessment  
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### References

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