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Regulatory Services

June 13, 2023

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Irvine, California 92602

SUBJECT: Results of a Supplemental Biological Study Conducted for Offsite Patterson Avenue Improvements Associated with PPT220024 and PPT220026, Located in the Community of Mead Valley, Riverside County, California

Dear Ms. Anderson:

This letter report provides the results of a supplemental biological study conducted by Glenn Lukos Associates, Inc. (GLA) for offsite Patterson Avenue improvements related to two projects evaluated by GLA in separate Biological Technical Reports, including the Patterson Avenue and Harvill Avenue Project (Case# PPT220026, GLA report dated January 24, 2023) and the Patterson Avenue and Cajalco Road Project (Case# PPT220024, GLA report dated November 4, 2022). The PPT22026 report (PDB230010) was approved by the County of Riverside Environmental Programs Department (EPD) on May 10, 2023. The PPT22024 report (PDB230043) was provided to EPD on May 12, 2023, and the review is pending. This report evaluates impacts for the overall improvements of Patterson Avenue from Cajalco Road to the rail crossing located south of the PPT220024 and PPT220026 projects.

1.0 INTRODUCTION

1.1 Site Location and Project Description

The Patterson Avenue improvement area is located in the Mead Valley area of Riverside County, California [Exhibit 1 – Regional Map]. The improvement area is located at latitude 33.835435° and longitude -117.252719° in Section 13 of Township 4 South and Range 4 West on the U.S. Geological Survey (USGS) 7.5-minute topographic map Steele Peak, California [Exhibit 2 – Vicinity Map]. The improvement area comprises an approximately 1,350-foot-long by 50-foot-wide alignment that includes the existing roadway of Patterson Avenue from Cajalco Road on the north to an existing railway crossing to the south [Exhibit 3 – Aerial Map].

The improvements to Patterson Avenue consist of widening and re-paving in conjunction with the installation of utilities associated with the PPT220026 Project.

1.2 Relationship of the Improvements to the MSHCP

The improvement area is located within the Mead Valley Area Plan of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), but is not located within the MSHCP Criteria Area, and as such the Project does not require JPR. The improvement area is located within the MSHCP Survey Area for the burrowing owl (*Athene cunicularia*) but is not located within the Mammal or Amphibian Survey Areas Narrow Endemic Plant Species Survey Area (NEPSSA), or the Criteria Area Plant Species Survey Area (CAPSSA) [Exhibit 4 – MSHCP Overlay Map].

Within the designated Survey Areas, the MSHCP requires habitat assessments and focused surveys within areas of suitable habitat. For locations with positive survey results, the MSHCP requires that 90 percent of those portions of the property that provide for long-term conservation value for the identified species shall be avoided until it is demonstrated that conservation goals for the particular species have been met throughout the MSHCP. Findings of equivalency shall be made demonstrating that the 90-percent standard has been met, if applicable. If equivalency findings cannot be demonstrated, then "biologically equivalent or superior preservation" must be provided.

2.0 METHODOLOGY

GLA biologist David Smith evaluated the road alignment on January 24, 2023, by conducting a general biological survey and habitat assessments for special-status species. Nearly all of the alignment is already developed, consisting of the existing Patterson Avenue, with a few disturbed roadside areas. This section summarizes the methodology to address the road improvement area, cross-referencing with the studies that were performed for the two adjacent industrial projects.

2.1 Botanical Resources

The road improvement area was evaluated for special-status plants and sensitive vegetation communities, including during surveys performed in 2022 for the two industrial projects and the supplemental visit performed on January 24, 2023. The study first included a review of available literature and other historical records:

- California Native Plant Society, Rare Plant Program. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.5, CNPS 2022 and 2023); and
- CNDDB for the USGS 7.5-minute quadrangle(s): Steele Peak and eight surrounding quadrangles (CDFW 2022 and 2023).

The MSHCP utilizes vegetation mapping for the overall Plan area derived from baseline mapping conducted in 1995. Vegetation types were classified according to Holland (1986). The MSHCP states that the baseline vegetation map is limited by the timeframe within which the data were assembled as well as the precision of those data, and that the current extent and character of vegetation communities may differ from that depicted on the MSHCP vegetation map. The MSHCP baseline identifies the entire road alignment as grassland. However, this classification is no longer accurate, as Patterson Avenue is now a paved roadway, with adjacent areas either being developed or disturbed through farming. A vegetation map is included as Exhibit 5 to reflect the current land uses. Representative site photographs are included as Exhibit 6.

As noted above, the improvement area is not located within the NEPSSA or the CAPSSA. As such, focused plant surveys are not required pursuant to the MSHCP. Focused plant surveys were conducted in 2022 for the adjacent PPT220026 project to support the CEQA analysis. GLA biologist Jillian Stephens conducted plant surveys on March 9, April 13, and May 31, 2022. The surveys were conducted in accordance with accepted botanical survey guidelines (CDFW 2018, CNPS 2001, Nelson 1984, USFWS 2000). As applicable, surveys were conducted at appropriate times based on precipitation and flowering periods. Surveys were conducted by following meandering transects within target areas of suitable habitat. A complete list of the plant species observed for the PPT220026 project were provided in Appendix A of the 2022 Biological Technical Report for that project.

2.2 Wildlife Resources

2.2.1 Burrowing Owl

The road improvement area is within the MSHCP survey area for the burrowing owl [Exhibit 4 – MSHCP Overlay Map]. GLA biologist David Smith performed a habitat assessment for burrowing owls on January 24, 2023, following the 2006 MSHCP Burrowing Owl Survey Instructions. As the road improvement area is mostly developed with small disturbed roadside areas that lack burrows, the alignment does not contain suitable habitat for burrowing owls, and therefore focused burrowing owl surveys are not required specifically for the road improvement area. However, since the disturbed area along the eastern edge of the alignment is part of the PPT220026 Project that GLA surveyed in 2022, this report references the burrowing owl surveys conducted for that project. In addition, this report references surveys performed for the PPT220024 Project site located to the west of the proposed road improvement area.

GLA conducted focused burrowing owl surveys for the PPT220026 Project site and the PPT220024 Project site following MSHCP Burrowing Owl Survey Instructions. Surveys were conducted for the PPT220026 Project site on March 17, April 5, May 5, and June 7, 2022, and for the PPT220024 Project site on April 5, July 25, and August 1 and 8, 2022. Per the Survey Instructions, the burrowing owl survey visits were conducted within a period from one hour prior to sunrise to two hours after sunrise. The surveys were conducted during weather that was conducive to observing owls outside their burrows and detecting burrowing owl sign and not during rain, high winds (> 20 mph), dense fog, or temperatures over 90° F. Additionally, the focused burrow survey was performed more than 5 days after a rain event. Surveys were conducted by walking meandering transects throughout areas of suitable habitat. Transects were spaced no more than 30 meters apart, adjusting for vegetation height and density, in order to provide adequate visual coverage of the survey areas. At the start of each transect, and at least every 100 meters along transects, the survey area was scanned for burrowing owls using binoculars. All suitable burrows were inspected for diagnostic owl sign (e.g., pellets, prey remains, whitewash, feathers, bones, and/or decoration) in order to identify potentially occupied burrows. The surveys also included a 500-foot visual survey around the Project site that was scanned using binoculars, as feasible. Tables 2-1 and 2-2 summarize the burrowing owl survey visits that were performed in 2022 for the adjacent industrial projects.

Table 2-1. Summary of Burrowing Owl Surveys for the PPT220026 Project

Survey Date	Biologist(s)	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Cloud Cover
3/17/2022	DS	0830/0900	61/62	0-1	Clear
4/5/2022	DS	0750/0830	65/67	0-1	Clear
5/5/2022	DS	0730/0800	64/66	0-1	Clear
6/7/2022	DS	0700/0730	66/68	0-1	Clear

DS = David Smith

Table 2-2. Summary of Burrowing Owl Surveys for the PPT220024 Project

Survey Date	Biologist(s)	Start/End Time	Start/End Temperature (°F)	Start/End Wind Speed (mph)	Start/End Cloud Cover (%)
4/5/2022	JV	0615/0815	53/56	0/1	0/0
7/25/2022	JV	0515/0730	63/68	0/1	50/50
8/1/2022	JV	0600/0745	60/63	2/4	0/0
8/8/2022	JV	0545/0745	58/64	0/0	0/0

JV = Joseph Vu

2.2.2 Listed Fairy Shrimp

GLA evaluated the road improvement area for the potential to support listed fairy shrimp, including those species with MSHCP survey requirements. As the majority of the alignment consists of the existing paved roadway of Patterson Avenue, there is no potential to support fairy shrimp. GLA biologist David Smith reviewed the few disturbed roadside areas on January 24, 2023, for indicators of fairy shrimp habitat, including whether the alignment contained depressional features/topography that were inundated, had recent evidence of inundation, or otherwise had the potential to become inundated.

2.3 Jurisdictional Waters

The road improvement area was evaluated for the presence of jurisdictional waters, including waters of the U.S. (including wetlands) subject to the jurisdiction of the Corps and Regional Board, and waters of the State (including riparian vegetation) subject to the jurisdiction of CDFW.

2.4 MSHCP Riparian/Riverine Areas and Vernal Pools

Volume I, Section 6.1.2 of the MSHCP describes the process through which protection of riparian/riverine areas and vernal pools would occur within the MSHCP Plan Area. The purpose is to ensure that the biological functions and values of these areas throughout the MSHCP Plan Area are maintained such that habitat values for species inside the MSHCP Conservation Area are maintained. The MSHCP requires that as projects are proposed within the overall Plan Area, the effect of those projects on riparian/riverine areas and vernal pools must be addressed.

The MSHCP defines riparian/riverine areas as *lands which contain Habitat dominated by trees, shrubs, persistent emergent mosses and lichens, which occur close to or which depend upon soils*

moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year.

The MSHCP defines vernal pools as *seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetland indictors of hydrology and/or vegetation during the drier portion of the growing season.*

With the exception of wetlands created for the purpose of providing wetlands habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating characteristics as described above which are artificially created are not included in these definitions.

GLA surveyed the road improvement area for riparian/riverine areas and vernal pool habitat. To assess for vernal pools, GLA evaluated the topography of the site, including whether the site contained depressional features/topography with the potential to become inundated; whether the site contained soils associated with vernal pools; and whether the site supported plants that suggested areas of localized ponding.

3.0 RESULTS

This section provides the results of general biological surveys, vegetation mapping, habitat assessments, and focused surveys for special-status plants and animals, an assessment for MSHCP riparian/riverine areas and vernal pools, and an evaluation for Waters of the United States (including wetlands) subject to the jurisdiction of the Corps and Regional Board, and streams (including riparian vegetation) and lakes subject to the jurisdiction of CDFW.

3.1 Existing Conditions

The Patterson Avenue improvement area consists of a mostly developed road alignment with disturbed roadside areas that support ruderal vegetation or that consist of annually maintained agricultural fields. Elevations range from approximately 1,510 feet above mean sea level (ASML) in the south to approximately 1,518 feet ASML in the north.

Soils on site consist of sandy loams, including Exeter sandy loam, deep, 2 to 8 percent slopes, eroded; Greenfield sandy loam, 2 to 8 percent slopes, eroded; Monserate sandy loam, 5 to 8 percent slopes, eroded; and Ramona sandy loam, 2 to 5 percent slopes, eroded.

3.2 Vegetation Mapping

The road improvement area supports two vegetation types/land uses: Developed lands and Disturbed lands. Table 3-1 provides a summary of the vegetation types and their corresponding acreage. Descriptions of each vegetation type follow the table. A Vegetation Map is attached as Exhibit 5. Photographs depicting the road improvement area are shown in Exhibit 6.

Table 3-1. Summary of Vegetation/Land Use Types

VEGETATION/LAND USE TYPE	ACREAGE
Developed	1.18
Disturbed	0.19
Total	**1.37**

Developed
The road improvement area includes 1.18 acres of developed land associated with existing Patterson Avenue. These areas are paved and entirely devoid of vegetation [Exhibit 5 – Vegetation Map].

Disturbed
The road improvement area includes 0.19 acre of disturbed land, primarily consisting of the lands that are adjacent to Patterson Avenue and are regularly disked that support non-native grasses and non-native and native forbs [Exhibit 5 – Vegetation Map]. Species observed within the adjacent disturbed areas included Australian saltbush (*Atriplex semibaccata*), big heron bill (*Erodium botrys*), coastal heron's bill (*Erodium cicutarium*), common fiddleneck (*Amsinckia intermedia*), foxtail barley (*Hordeum murinum*), London rocket (*Sisymbrium irio*), pigweed (*Malva parviflora*), Russian thistle (*Salsola tragus*), summer mustard (*Hirschfeldia incana*), and stinknet (*Oncosiphon pilulifer*).

3.3 Special-Status Vegetation Communities

The CNDDB identifies the following seven special-status vegetation communities for the Steele Peak and surrounding quadrangle maps: Canyon Live Oak Ravine Forest, Southern California Arroyo Chub/Santa Ana Sucker Stream, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Riparian Forest, Southern Sycamore Alder Riparian Woodland, and Southern Willow Scrub. The road improvement area does not contain any special-status vegetation communities, including those identified in the CNDDB.

3.4 Special-Status Plants

The road improvement area does not support special-status plants, as the majority of the alignment does not support any vegetation, and the remaining disturbed roadside areas do not contain suitable habitat to support any special-status plants. Furthermore, no special-status plants were detected in 2022 for the adjacent PPT220026 Project site. Table 3-2 provides a summary of all plants considered for this analysis. Species were considered based on a number of factors, including: 1) species identified by the January 2022 CNDDB and/or CNPS Inventory as occurring (either currently of historically) on or in the vicinity of the property; and 2) any other species that are known to occur within the vicinity of the property, or for which potentially suitable habitat occurs on site.

Table 3-2. Special-Status Plants Evaluated for the Road Improvement Area.

Species Name	Status	Habitat Requirements	Occurrence
Brand's star phacelia *Phacelia stellaris*	Federal: None State: None CRPR: Rank 1B.1 MSHCP: MSHCP(b)	Coastal dunes and coastal sage scrub.	Does not occur.
Buxbaum's sedge *Carex buxbaumii*	Federal: None State: None CRPR: Rank 4.2 MSHCP: None	Bogs and fens, Meadows and seeps (mesic) and marshes and swamps.	Does not occur.
California Orcutt grass *Orcuttia californica*	Federal: FE State: SE CRPR: Rank 1B.1 MSHCP: MSHCP(b)	Vernal pools	Does not occur.
California screw moss *Tortula californica*	Federal: None State: None CRPR: Rank 1B.2 MSHCP: None	Sandy soil in chenopod scrub, and valley and foothill grassland.	Does not occur.
Chaparral ragwort *Senecio aphanactis*	Federal: None State: None CRPR: Rank 2B.2 MSHCP: None	Chaparral, cismontane woodland, coastal scrub. Sometimes associated with alkaline soils.	Does not occur.
Chaparral sand-verbena *Abronia villosa* var. *aurita*	Federal: None State: None CRPR: Rank 1B.1 MSHCP: None	Sandy soils in chaparral, coastal sage scrub.	Does not occur.

Species Name	Status	Habitat Requirements	Occurrence
Cleveland's bush monkeyflower *Diplacus (Mimulus) clevelandii*	Federal: None State: None CRPR: Rank 4.2 MSHCP: MSHCP(f)	Gabbroic soils, often in disturbed areas, openings, rocky. Chaparral, cismontane woodland, lower montane coniferous forest.	Does not occur.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CRPR: Rank 1B.1 MSHCP: MSHCP(d)	Playas, vernal pools, marshes and swamps (coastal salt).	Does not occur.
Coulter's matilija poppy *Romneya coulteri*	Federal: None State: None CRPR: Rank 4.2 MSHCP: MSHCP	Often in burns in chaparral and coastal scrub.	Does not occur.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CRPR: Rank 1B.2 MSHCP: MSHCP(d)	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Does not occur.
Engelmann oak *Quercus engelmannii*	Federal: None State: None CRPR: Rank 4.2 MSHCP: MSHCP	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland.	Does not occur.
Fish's milkwort *Polygala cornuta* var. *fishiae*	Federal: None State: None CRPR: Rank 4.3 MSHCP: None	Chaparral, cismontane woodland, riparian woodland.	Does not occur.
Hall's monardella *Monardella macrantha* ssp. *hallii*	Federal: None State: None CRPR: Rank 1B.3 MSHCP: MSHCP	Occurs on dry slopes and ridges within openings in broadleaved upland forest, chaparral, lower montane coniferous forest, cismontane woodland, and valley and foothill grassland.	Does not occur.
Heart-leaved pitcher sage *Lepechinia cardiophylla*	Federal: None State: None CRPR: Rank 1B.2 MSHCP: MSHCP(d)	Closed-cone coniferous forest, chaparral, and cismontane woodland.	Does not occur.
Intermediate mariposa-lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CRPR: Rank 1B.2 MSHCP: MSHCP	Rocky soils in chaparral, coastal sage scrub, valley and foothill grassland.	Does not occur.
Intermediate monardella *Monardella hypoleuca* ssp.*intermedia*	Federal: None State: None CRPR: Rank 1B.3 MSHCP: None	Usually in the understory of chaparral, cismontane woodland, and lower montane coniferous forest (sometimes).	Does not occur.

Species Name	Status	Habitat Requirements	Occurrence
Little mousetail *Myosurus minimus* ssp. *apus*	Federal: None State: None CRPR: Rank 3.1 MSHCP: MSHCP(d)	Valley and foothill grassland, vernal pools (alkaline soils).	Does not occur.
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	Federal: None State: None CRPR: Rank 1B.2 MSHCP: MSHCP	Clay soils in chaparral, coastal sage scrub, meadows and seeps, and valley and foothill grasslands.	Does not occur.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CRPR: Rank 1B.2 MSHCP: MSHCP(b)	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Does not occur.
Marsh sandwort *Arenaria paludicola*	Federal: FE State: SE CRPR: Rank 1B.1 MSHCP: None	Bogs and fens, freshwater marshes and swamps.	Does not occur.
Mesa horkelia *Horkelia cuneata* var. *puberula*	Federal: None State: None CRPR: Rank 1B.1 MSHCP: None	Sandy or gravelly soils in chaparral (maritime), cismontane woodland, and coastal scrub.	Does not occur.
Munz's onion *Allium munzii*	Federal: FE State: ST CRPR: Rank 1B.1 MSHCP: MSHCP(b)	Clay soils in chaparral, coastal sage scrub, and valley and foothill grasslands.	Does not occur.
Nevin's barberry *Berberis nevinii*	Federal: FE State: SE CRPR: Rank 1B.1 MSHCP: MSHCP(d)	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub.	Does not occur.
Ocellated humboldt lily *Lilium humboldtii* ssp. *ocellatum*	Federal: None State: None CRPR: Rank 4.2 MSHCP: MSHCP(f)	Chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, riparian woodland. Occurring in openings.	Does not occur.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CRPR: Rank 4.2 MSHCP: MSHCP	Chaparral, coastal sage scrub, valley and foothill grassland. Occurring in clay soils.	Does not occur.
Palomar monkeyflower *Erythranthe diffusa*	Federal: None State: None CRPR: Rank 4.3 MSHCP: MSHCP	Sandy or gravelly soils in chaparral, lower montane coniferous forest.	Does not occur.

Species Name	Status	Habitat Requirements	Occurrence
Paniculate tarplant *Deinandra paniculata*	Federal: None State: None CRPR: Rank 4.2 MSHCP: None	Usually in vernally mesic, sometimes sandy soils in coastal scrub, valley and foothill grassland, and vernal pools.	Does not occur.
Parish's brittlescale *Atriplex parishii*	Federal: None State: None CRPR: Rank 1B.1 MSHCP: MSHCP(d)	Chenopod scrub, playas, vernal pools.	Does not occur.
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: None State: None CRPR: Rank 1B.1 MSHCP: MSHCP	Sandy or rocky soils in open habitats of chaparral and coastal sage scrub.	Does not occur.
Payson's jewelflower *Caulanthus simulans*	Federal: None State: None CRPR: Rank 4.2 MSHCP: MSHCP	Sandy or granitic soils in chaparral and coastal scrub.	Does not occur.
Peninsular spineflower *Chorizanthe leptotheca*	Federal: None State: None CRPR: Rank 4.2 MSHCP: MSHCP	Alluvial fan, granitic. Chaparral, coastal scrub, lower montane coniferous forest.	Does not occur.
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CRPR: Rank 4.2 MSHCP: MSHCP	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley and foothill grassland.	Does not occur.
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CRPR: Rank 4.3 MSHCP: None	Chaparral, coastal sage scrub	Does not occur.
Salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	Federal: FE State: SE CRPR: Rank 1B.2 MSHCP: None	Coastal dune, coastal salt marshes and swamps.	Does not occur.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CRPR: Rank 1B.2 MSHCP: None	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic).	Does not occur.
San Diego ambrosia *Ambrosia pumila*	Federal: FE State: None CRPR: Rank 1B.1 MSHCP: MSHCP(b)	Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools. Often in disturbed habitats.	Does not occur.

Species Name	Status	Habitat Requirements	Occurrence
San Diego County viguiera *Viguiera laciniata*	Federal: None State: None CRPR: Rank 4.3 MSHCP: None	Chaparral, coastal sage scrub.	Does not occur.
San Diego sagewort *Artemisia palmeri*	Federal: None State: None CRPR: Rank 4.2 MSHCP: None	Sandy and mesic soils in chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodland.	Does not occur.
San Jacinto Valley crownscale *Atriplex coronata* var. *notatior*	Federal: FE State: None CRPR: Rank 1B.1 MSHCP: MSHCP(d)	Alkaline soils in chenopod scrub, valley and foothill grassland, vernal pools.	Does not occur.
San Miguel savory *Clinopodium chandleri*	Federal: None State: None CRPR: Rank 1B.2 MSHCP: MSHCP(b)	Rocky, gabbroic, or metavolcanic soils in chaparral, cismontane woodland, coastal sage scrub, riparian woodland, valley and foothill grassland.	Does not occur.
Santa Ana River woolly star *Eriastrum densifolium* ssp. *sanctorum*	Federal: FE State: SE CRPR: Rank 1B.1 MSHCP: MSHCP	Alluvial fan sage scrub, chaparral. Occurring on sandy or rocky soils.	Does not occur.
Santiago Peak phacelia *Phacelia keckii*	Federal: None State: None CRPR: Rank 1B.3 MSHCP: None	Closed-cone coniferous forest, and chaparral.	Does not occur.
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CRPR: Rank 1B.1 MSHCP: MSHCP(b)	Sandy soils in alluvial scrub, chaparral, cismontane woodland.	Does not occur.
Small-flowered microseris *Microseris douglasii* ssp. *platycarpha*	Federal: None State: None CRPR: Rank 4.2 MSHCP: None	Clay soils in cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools.	Does not occur.
Small-flowered morning-glory *Convolvulus simulans*	Federal: None State: None CRPR: Rank 4.2 MSHCP: MSHCP	Chaparral (openings), coastal sage scrub, valley and foothill grassland. Occurring on clay soils and serpentinite seeps.	Does not occur.
Smooth tarplant *Centromadia pungens* ssp. *laevis*	Federal: None State: None CRPR: Rank 1B.1 MSHCP: MSHCP(d)	Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grasslands, disturbed habitats.	Does not occur.

Species Name	Status	Habitat Requirements	Occurrence
Southern California black walnut *Juglans californica*	Federal: None State: None CRPR: Rank 4.2 MSHCP: MSHCP	Chaparral, cismontane woodland, coastal sage scrub, alluvial surfaces.	Does not occur.
Spreading navarretia *Navarretia fossalis*	Federal: FT State: None CRPR: Rank 1B.1 MSHCP: MSHCP(b)	Vernal pools, playas, chenopod scrub, marshes and swamps (assorted shallow freshwater).	Does not occur.
Sticky dudleya *Dudleya viscida*	Federal: None State: None CRPR: Rank 1B.2 MSHCP: MSHCP(f)	Coastal bluff scrub, chaparral, coastal sage scrub. Occurring on rocky soils.	Does not occur.
Tecate cypress *Hesperocyparis forbesii*	Federal: None State: None CRPR: Rank 1B.1 MSHCP: None	Closed-cone coniferous forest, chaparral.	Does not occur.
Thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CRPR: Rank 1B.1 MSHCP: MSHCP(d)	Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools.	Does not occur.
Vernal barley *Hordeum intercedens*	Federal: None State: None CRPR: Rank 3.2 MSHCP: MSHCP	Coastal dunes, coastal sage scrub, valley and foothill grassland (saline flats and depressions), vernal pools.	Does not occur.
Western spleenwort *Asplenium vespertinum*	Federal: None State: None CRPR: Rank 4.2 MSHCP: MSHCP	Rocky soils in chaparral, cismontane woodland, and coastal scrub.	Does not occur.
White rabbit-tobacco *Pseudognaphalium leucocephalum*	Federal: None State: None CRPR: Rank 2B.2 MSHCP: None	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland.	Does not occur.
White-bracted spineflower *Chorizanthe xanti* var. *leucotheca*	Federal: None State: None CRPR: Rank 1B.2 MSHCP: None	Coastal scrub (alluvial fans), Mojavean desert scrub, pinyon and juniper woodland.	Does not occur.
Woven-spored lichen *Texosporium sancti-jacobi*	Federal: None State: None CRPR: Rank 3 MSHCP: None	On soil, small mammal pellets, dead twigs, and on *Selaginella* spp. Chaparral (openings).	Does not occur.

Species Name	Status	Habitat Requirements	Occurrence
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	Federal: None State: None CRPR: Rank 2B.1 MSHCP: MSHCP(b)	Alkaline soils in meadows and seeps, marshes and swamps, riparian scrub, vernal pools.	Does not occur.
Yucaipa onion *Allium marvinii*	Federal: None State: None CRPR: Rank 1B.2 MSHCP: MSHCP(b)	Chaparral (clay, openings).	Does not occur.

STATUS

Federal
FE – Federally Endangered
FT – Federally Threatened
FC – Federal Candidate

State
SE – State Endangered
ST – State Threatened

CNPS/CRPR
Rank 1A – Plants presumed extirpated in California and either rare or extinct elsewhere.
Rank 1B – Plants rare, threatened, or endangered in California and elsewhere.
Rank 2A – Plants presumed extirpated in California, but common elsewhere.
Rank 2B – Plants rare, threatened, or endangered in California, but more common elsewhere.
Rank 3 – Plants about which more information is needed (a review list).
Rank 4 – Plants of limited distribution (a watch list).

Threat Code extension
.1 – Seriously endangered in California (over 80% occurrences threatened)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

MSHCP
MSHCP = No additional action necessary
MSHCP(a) = Surveys may be required as part of wetlands mapping
MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area
MSHCP(c) = Surveys may be required within locations shown on survey maps
MSHCP(d) = Surveys may be required within Criteria Area
MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species
MSHCP(f) = Covered species when a Memorandum of Understanding is executed with the Forest Service Land

OCCURRENCE

- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.

- Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.
- Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed.
- Confirmed present – The species was detected onsite incidentally or through focused surveys

3.5 Special-Status Animals

The road improvement area does not support any special-status animals with MSHCP requirements and is generally not expected to support any special-status animals since nearly all of the alignment is paved and the remaining roadside areas are heavily disturbed and lack suitable habitat. Five species were found to have a potential to occur on the adjacent PPT220026 Project site and therefore the disturbed roadside area within the Patterson Avenue improvement area may have a low potential to support these species. While these areas may support these species, the majority of the developed road alignment does not comprise potential habitat. The five special-status animal species which have potential to occur within the disturbed areas include: loggerhead shrike (***Lanius ludovicianus***; state designated as a Species of Special Concern [SSC] while nesting), Swainson's hawk (***Buteo swainsoni***, state designated as an SSC while nesting), white-tailed kite (***Elanus leucurus***, state designated as a California Fully Protected Species [FP]), Los Angeles pocket mouse (***Perognathus longimembris brevinasus***, state designated as an SSC), and Stephens' kangaroo rat (***Dipodomys stephensi***, federally listed as Threatened [FT]).

Table 3-3 provides a summary of all species considered for the analysis. Species were considered based on a number of factors, including: 1) species identified by the January 2023 CNDDB as occurring (either currently of historically) on or in the vicinity of the property; and 2) any other special-status species that are known to occur within the vicinity of the property, or for which potentially suitable habitat occurs on site.

Table 3-3. Special-Status Animals Evaluated for the Road Improvement Area.

Species Name	Status	Habitat Requirements	Occurrence
Invertebrates			
Crotch bumble bee *Bombus crotchii*	Federal: None State: SC MSHCP: Not Covered	Relatively warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Does not occur.
Quino checkerspot butterfly *Euphydryas editha quino*	Federal: FE State: None MSHCP: MSHCP	Larval and adult phases each have distinct habitat requirements tied to host plant species and topography. Larval host plants include *Plantago erecta* and *Castilleja exserta*. Adults occur on sparsely vegetated rounded hilltops and ridgelines and are known to disperse through disturbed habitats to reach suitable nectar plants.	Does not occur.
Riverside fairy shrimp *Streptocephalus woottoni*	Federal: FE State: None MSHCP: MSHCP(a)	Restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds.	Does not occur.
San Diego fairy shrimp *Branchinecta sandiegonensis*	Federal: FE State: None MSHCP: None	Seasonal vernal pools	Does not occur.
Vernal pool fairy shrimp *Branchinecta lynchi*	Federal: FT State: None MSHCP: MSHCP (a)	Seasonal vernal pools	Does not occur.
Fish			
Arroyo chub *Gila orcutti*	Federal: None State: SSC MSHCP: MSHCP	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Does not occur.

Species Name	Status	Habitat Requirements	Occurrence
Santa Ana speckled dace *Rhinichthys osculus* ssp. 3	Federal: None State: SSC MSHCP: Not Covered	Occurs in the headwaters of the Santa Ana and San Gabriel Rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temperatures of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Does not occur.
Santa Ana sucker *Catostomus santaanae*	Federal: FT State: None MSHCP: MSHCP	Small, shallow streams, less than 7 meters in width, with currents ranging from swift in the canyons to sluggish in the bottom lands. Preferred substrates are generally coarse and consist of gravel, rubble, and boulders with growths of filamentous algae, but occasionally they are found on sand/mud substrates.	Does not occur.
Southern steelhead - southern California DPS *Oncorhynchus mykiss irideus*	Federal: FE State: None MSHCP: Not Covered	Clear, swift moving streams with gravel for spawning. Federal listing refers to populations from Santa Maria river south to southern extent of range (San Mateo Creek in San Diego county.)	Does not occur.
Amphibians			
Western spadefoot *Spea hammondii*	Federal: None State: SSC MSHCP: MSHCP	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Does not occur.
Reptiles			
California glossy snake *Arizona elegans occidentalis*	Federal: None State: SSC MSHCP: Not Covered	Inhabits arid scrub, rocky washes, grasslands, chaparral.	Does not occur.
Coastal whiptail *Aspidoscelis tigris stejnegeri (multiscutatus)*	Federal: None State: SSC MSHCP: MSHCP	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Does not occur.

Species Name	Status	Habitat Requirements	Occurrence
Coast horned lizard *Phrynosoma blainvillii*	Federal: None State: SSC MSHCP: MSHCP	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Does not occur.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: SSC MSHCP: Not Covered	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Does not occur.
Red-diamond rattlesnake *Crotalus ruber*	Federal: None State: SSC MSHCP: MSHCP	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Does not occur.
San Bernardino ringneck snake *Diadophis punctatus modestus*	Federal: None State: None	Moist habitats including woodlands, forest, grasslands, chaparral, farms, and gardens.	Does not occur.
Southern California legless lizard *Anniella stebbinsi*	Federal: None State: SSC MSHCP: Not Covered	Broadleaved upland forest, chaparral, coastal dunes, coastal scrub; found in a broader range of habitats that any of the other species in the genus. Often locally abundant, specimens are found in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans.	Not expected to occur.
Western pond turtle *Emys marmorata*	Federal: None State: SSC MSHCP: MSHCP	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Does not occur.

Species Name	Status	Habitat Requirements	Occurrence
Birds			
Bald eagle (nesting & wintering) *Haliaeetus leucocephalus*	Federal: Delisted State: SE, FP MSHCP: MSHCP	Primarily in or near seacoasts, rivers, swamps, and large lakes. Perching sites consist of large trees or snags with heavy limbs or broken tops.	Does not occur.
Burrowing owl (burrow sites & some wintering sites) *Athene cunicularia*	Federal: None State: SSC MSHCP: MSHCP(c)	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Confirmed absent.
California black rail *Laterallus jamaicensis coturniculus*	Federal: None State: ST, FP MSHCP: Not Covered	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Does not occur.
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: SSC MSHCP: MSHCP	Low elevation coastal sage scrub and coastal bluff scrub.	Does not occur.
Golden eagle *Aquila chrysaetos*	Federal: None State: WL, FP MSHCP: MSHCP	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Does not occur.
Least Bell's vireo (nesting) *Vireo bellii pusillus*	Federal: FE State: SE MSHCP: MSHCP(a)	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Does not occur.

Species Name	Status	Habitat Requirements	Occurrence
Loggerhead shrike (nesting) *Lanius ludovicianus*	Federal: None State: SSC MSHCP: MSHCP	Forages over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.	Low potential to occur in the disturbed areas for foraging, but no potential to nest on site.
Long-eared owl (nesting) *Asio otus*	Federal: None State: SSC MSHCP: MSHCP	Riparian habitats are required by the long-eared owl, but it also uses live-oak thickets and other dense stands of trees.	Does not occur.
Swainson's hawk (nesting) *Buteo swainsoni*	Federal: None State: ST MSHCP: MSHCP	Summer in wide open spaces of the American West. Nest in grasslands but can use sage flats and agricultural lands. Nests are placed in lone trees.	Low potential to occur in the disturbed areas for foraging, but no potential to nest on site.
Tricolored blackbird (nesting colony) *Agelaius tricolor*	Federal: None State: CE, SSC MSHCP: MSHCP	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Does not occur.
Western snowy plover (nesting) *Charadrius alexandrinus nivosus*	Federal: FT State: SSC MSHCP: Not Covered	Sandy or gravelly beaches along the coast, estuarine salt ponds, alkali lakes, and at the Salton Sea.	Does not occur.
Western yellow-billed cuckoo (nesting) *Coccyzus americanus occidentalis*	Federal: FT State: SE MSHCP: MSHCP(a)	Dense, wide riparian woodlands with well-developed understories.	Does not occur.
White-tailed kite (nesting) *Elanus leucurus*	Federal: None State: FP MSHCP: MSHCP	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Low potential to occur in the disturbed areas for foraging, but no potential to nest on site.

Species Name	Status	Habitat Requirements	Occurrence
Yellow-breasted chat (nesting) *Icteria virens*	Federal: None State: SSC MSHCP: MSHCP	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Does not occur.
Yellow rail *Coturnicops noveboracensis*	Federal: None State: SSC MSHCP: Not Covered	Shallow marshes, and wet meadows; in winter, drier freshwater and brackish marshes, as well as dense, deep grass, and rice fields.	Does not occur.
Yellow warbler (nesting) *Setophaga petechia*	Federal: None State: SSC MSHCP: MSHCP	Breed in lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland. During migration, forages in woodland, forest, and shrub habitats.	Does not occur.
Mammals			
American badger *Taxidea taxus*	Federal: None State: SSC MSHCP: Not Covered	Most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils.	Does not occur.
Dulzura pocket mouse *Chaetodipus californicus femoralis*	Federal: None State: SSC MSHCP: Not Covered	Coastal scrub, grassland, and chaparral, especially at grass-chaparral edges	Does not occur.
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	Federal: None State: SSC MSHCP: MSHCP(c)	Fine, sandy soils in coastal sage scrub and grasslands.	Low potential to occur within the disturbed areas.
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	Federal: None State: SSC MSHCP: MSHCP	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral.	Not expected to occur.
Pocketed free-tailed bat *Nyctinomops femorosaccus*	Federal: None State: SSC WBWG: M MSHCP: Not Covered	Rocky areas with high cliffs in pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian.	Does not occur.

Species Name	Status	Habitat Requirements	Occurrence
San Bernardino kangaroo rat *Dipodomys merriami parvus*	Federal: FE State: SSC MSHCP: MSHCP(c)	Typically found in Riversidean alluvial fan sage scrub and sandy loam soils, alluvial fans and floodplains, and along washes with nearby sage scrub.	Does not occur.
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: SSC MSHCP: MSHCP	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Not expected to occur.
Southern grasshopper mouse *Onychomys torridus ramona*	Federal: None State: SSC MSHCP: Not Covered	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Does not occur.
Stephens' kangaroo rat *Dipodomys stephensi*	Federal: FE State: ST MSHCP: MSHCP/SKR HCP: Covered	Open grasslands or sparse shrublands with less than 50% vegetation cover during the summer.	Low potential to occur within the disturbed areas.
Western mastiff bat *Eumops perotis californicus*	Federal: None State: SSC WBWG: H MSHCP: Not Covered	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Not expected to occur.
Western yellow bat *Lasiurus xanthinus*	Federal: None State: SSC WBWG: H MSHCP: Not Covered	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Does not occur.
Yuma myotis *Myotis yumanensis*	Federal: None State: None WBWG: LM	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Does not occur.

STATUS

Federal	**State**
FE – Federally Endangered	SE – State Endangered
FT – Federally Threatened	ST – State Threatened
BCC – Bird of Conservation Concern	CE – State Candidate Endangered
	SSC – California Species of Special Concern
	FP – California Fully-Protected Species

Western Bat Working Group (WBWG)
H – High Priority
LM – Low-Medium Priority
M – Medium Priority
MH – Medium-High Priority

Occurrence
- Does not occur – The site does not contain habitat for the species and/or the site does not occur within the geographic range of the species.
- Confirmed absent – The site contains suitable habitat for the species, but the species has been confirmed absent through focused surveys.
- Not expected to occur – The species is not expected to occur onsite due to low habitat quality, however absence cannot be ruled out.
- Potential to occur – The species has a potential to occur based on suitable habitat, however its presence/absence has not been confirmed.
- Confirmed present – The species was detected onsite incidentally or through focused surveys

3.5.1 Special-Status Wildlife Species Not Observed but with a Potential to Occur at the Project Site

Birds

Burrowing Owl (*Athene cunicularia*) is designated as a CDFW Species of Special Concern. The burrowing owl is a covered species not adequately conserved under the MSHCP, which means that projects located within the burrowing owl survey area may have to evaluate avoidance measures if burrowing owls are present.

The road improvement does not support burrowing owls due to a lack of suitable habitat. Furthermore, no burrowing owls were detected during the 2022 focused burrowing owl surveys at the immediately adjacent industrial project sites.

Loggerhead Shrike (*Lanius ludovicianus*) is designated as a CDFW Species of Special Concern when nesting and a covered species under the MSHCP without additional survey or conservation requirements.

The loggerhead shrike was not detected during the biological survey. However, the road improvement area includes approximately 0.20 acre of potential foraging habitat but does not support suitable nesting habitat.

Swainson's Hawk (*Buteo swainsonii*) is listed as Threatened by the state and is also designated as a CDFW Species of Special Concern for nesting. It is also a covered species under the MSHCP without additional survey or conservation requirements. The Swainson's hawk does not breed in western Riverside County but does migrate through as a transient in the spring and fall and may occasionally winter within the area.

The Swainson's hawk was not detected during the biological survey; however, as the site is devoid of any trees, the species is not expected to utilize the site except potentially as part of a larger foraging area along a migratory route. The road improvement area includes approximately 0.20 acre of potential foraging habitat but does not support suitable nesting habitat.

White-tailed Kite (*Elanus leucurus*) is designated as a California Fully Protected Species by CDFW (with an emphasis on nesting) and is a covered species under the MSHCP without additional survey or conservation requirements.

As a covered species, the MSHCP allows for the loss of habitat for white-tailed kites; however, the MSHCP does not allow for the direct harm of Fully Protected Species, including the white-tailed kite. The road improvement area does not contain any nesting habitat for the white-tailed kite, and therefore it is not expected that the Project could result in direct harm to a white-tailed kite. However, the road improvement area includes approximately 0.20 acre of potential foraging habitat.

Mammals

Los Angeles Pocket Mouse (*Perognathus longimembris brevinasus*) is designated as a CDFW Species of Special Concern and is a covered species under the MSHCP with special survey requirements. However, the road improvement area does not occur within a mammal survey area for Los Angeles pocket mouse; therefore, surveys are not required, and avoidance/mitigation would not be required for the loss of habitat, if present.

Although the road improvement area is disturbed and no burrows or evidence of occupation was detected, the road improvement area contains an estimated 0.20 acre of potential habitat for the Los Angeles pocket mouse and therefore, the pocket mouse may be present.

Stephens' Kangaroo Rat (*Dipodomys stephensi*) is a federally Threatened species and a state Threatened species.

Although the road improvement area is disturbed and no burrows or evidence of occupation was detected, the road improvement area supports approximately 0.19 acre of potential habitat (areas mapped as Disturbed) and therefore, the SKR may be present. The Project site road improvement area is located within the Fee Area Boundary of the SKR HCP. Focused surveys for SKR are not required within the Fee Area, regardless of habitat suitability. Take authorization for SKR is covered through the HCP.

3.5.3 Fairy Shrimp

On January 24, 2023, GLA biologists performed a habitat assessment for fairy shrimp habitat. No vernal pools or other seasonal pools (natural or artificial) are present within the road improvement area, including any features with the potential to support fairy shrimp. The site is mapped as containing sandy loam soils, which are generally not associated with vernal pools. Observations of the soils at the site showed a lack of clay soil components. Lastly, no plants were observed at the site that are associated with vernal pools and similar habitats that experience prolonged inundation.

3.5.4 Raptor Use

Southern California holds a diversity of birds of prey (raptors), and many of these species are in decline. For most of the declining species, foraging requirements include extensive open, undisturbed, or lightly disturbed areas, especially grasslands. This type of habitat has declined severely in the region, affecting many species, but especially raptors. A few species, such as red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*), are somewhat adaptable to low-level human disturbance and can be readily observed adjacent to neighborhoods and other types of development. These species still require appropriate foraging habitat and low levels of disturbance in vicinity of nesting sites.

Many of the raptors that would be expected to forage and nest within Western Riverside County are covered species under the MSHCP, with the MSHCP providing the necessary conservation to offset project impacts to foraging and/or nesting habitats. Some common raptor species (e.g., American kestrel and red-tailed hawk) are not covered by the MSHCP but are expected to be conserved with implementation of the Plan due to the parallel habitat needs with those raptors covered under the Plan. It is important to understand that the MSHCP does not provide MBTA and Fish and Game Code take authorization for raptors covered under the Plan.

The road improvement area provides foraging habitat for raptors, including several special-status raptors. GLA did not detect any raptors during the biological surveys. However, the improvement area is surrounded by undeveloped agricultural lands to the east and west, and

small mammal burrows were detected within the immediately adjacent areas. As described in section 3.5.2 above, there is a low potential for Swainson's hawk and white-tailed kite to forage within the disturbed roadside area that is contiguous with the adjacent PPT220026 Project site. A total of 0.20 acre of potential foraging habitat is present for raptors. The road improvement area does not support potential nesting habitat for these species.

3.6 Nesting Birds

The road improvement area contains ground cover that provides suitable habitat for nesting native birds. Mortality of native birds (including eggs) is prohibited under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code.[1]

Common bird species detected within the Project site included black phoebe (***Sayornis nigricans***), European starling (***Sturnus vulgaris***), house finch (***Haemorhous mexicanus***), killdeer (***Charadrius vociferus***), mourning dove (***Zenaida macroura***), and western meadowlark (***Sturnella neglecta***).

Birds are not expected to nest within the road improvement area due to the developed nature of the site.

3.7 Wildlife Linkages/ Corridors and Nursery Sites

Habitat linkages are areas which provide a connection between two or more other habitat areas which are often larger or superior in quality to the linkage. Such linkage sites can be quite small or constricted, but may can be vital to the long-term health of connected habitats. Linkage values are often addressed in terms of "gene flow" between populations, with movement taking potentially many generations.

Corridors are similar to linkages but provide specific opportunities for individual animals to disperse or migrate between areas, generally extensive but otherwise partially or wholly separated regions. Adequate cover and tolerably low levels of disturbance are common requirements for corridors. Habitat in corridors may be quite different than that in the connected areas, but if used by the wildlife species of interest, the corridor will still function as desired.

[1] The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R.21). In addition, Sections 3505, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

Wildlife nurseries are sites where wildlife concentrate for hatching and/or raising young, such as rookeries, spawning areas, and bat colonies. Nurseries can be important to both special-status species as well as commonly occurring species.

The road improvement area has historically been disturbed and is mostly surrounded by agricultural and commercial properties to the east and west and roadways to the north and south. The site does not occur with a Criteria Cell, and therefore does not contain an existing or proposed Core, Linkage, or Constrained Linkage as identified by the MSHCP. Although the site may provide for some limited movement of local wildlife, the site is not part of a significant regional wildlife movement corridor, as identified by the MSHCP.

3.8 Critical Habitat

The road improvement area is not located within USFWS-designated Critical Habitat areas.

3.9 Jurisdictional Waters

The road improvement area does not contain any jurisdictional waters, including those features that would fall under the jurisdiction of the Corps, CDFW, or the Regional Board.

3.10 MSHCP Riparian/Riverine Areas and Vernal Pools

Vegetation communities associated with riparian systems and vernal pools are depleted natural vegetation communities because, similar to coastal sage scrub, they have declined throughout Southern California during past decades. In addition, they support a large variety of special-status wildlife species. Most species associated with riparian/riverine are covered species under the MSHCP (under Section 6.1.2 of the Plan). The MSHCP has specific policies and procedures regarding the evaluation and conservation of riparian/riverine resources (including riparian vegetation) and vernal pools because it supports MSHCP covered species. Thus, the MSHCP classification of riparian/riverine includes both riparian (depleted natural vegetation communities) as well as ephemeral drainages that are natural in origin but may lack riparian vegetation.

The road improvement area does not contain any riparian/riverine areas or vernal pools pursuant to *Section 6.1.2* of the MSHCP. The site consists predominantly of developed asphalt roadway and regularly disked disturbed areas. There were no indications of low-lying areas that may support seasonal ponding or support the transport of water during rainfall events.

No vernal pools or other seasonal pools (natural or artificial) are present within the road improvement area, including any features with the potential to support fairy shrimp. The site is

mapped as containing sandy loam soils, which are generally not associated with vernal pools. Observations of the soils at the site showed a lack of clay soil components. Lastly, no plants were observed at the site that are associated with vernal pools and similar habitats that experience prolonged inundation.

The site does not support suitable potential habitat for riparian-associated birds including least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. Each of these species requires riparian vegetation, which is not present on the site.

4.0 IMPACT ANALYSIS

The following discussion examines the potential impacts to plant and wildlife resources that would occur as a result of the proposed roadway improvements. For further context and definitions refer to section 5.0 of the biological technical reports for the PPT220026 Project Avenue and the PPT220024 Project.

4.1 Special-Status Species

Appendix G(a) of the CEQA guidelines asks if a project is likely to "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."

4.1.1 Special-Status Plants

No special-status plants were detected at the road improvement area, and none are expected to occur onsite due to the lack of suitable habitat and level of disturbance. Therefore, the proposed road improvement would not impact special-status plants.

4.1.2 Special-Status Animals

No special-status animals were detected at the road improvement area. However, as mentioned in Section 3.5, five special status species, including loggerhead shrike, Swainson's hawk, white-tailed kite, Los Angeles pocket mouse, and Stephens' kangaroo rat have a low potential to occur in the disturbed roadside area adjacent to the PPT220026 Project site.

4.2 Sensitive Vegetation Communities

Appendix G(b) of the CEQA guidelines asks if a project is likely to "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."

The road improvements area does not contain any native vegetation communities, including special-status vegetation communities. As noted above, the entire property is disturbed or developed, with vegetated areas dominated by non-native, ruderal species. Therefore, the proposed road improvements would not impact special-status vegetation communities.

Table 4-1. Summary of Vegetation/Land Use Impacts

Vegetation/Land Use Type	Total Acreage
Developed	0.19
Disturbed	1.18
Total	**1.37**

4.3 Wetlands

Appendix G(c) of the State CEQA guidelines asks if a project is likely to "have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means."

The road improvement area does not contain any state or federally protected wetlands; therefore, no impacts to state or federally protected wetlands would occur as a result of construction of the proposed road improvements.

4.4 Wildlife Movement and Native Wildlife Nursery Sites

Appendix G (d) of the State CEQA guidelines asks if a project is likely to "interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites."

The road improvement area lacks migratory wildlife corridors and/or wildlife nursery sites and does not occur within any MSHCP Cores or Linkages. The proposed road improvements would not interfere with or impact (1) the movement of native resident or migratory fish or wildlife

species, (2) established native resident or migratory wildlife corridors, or (3) the use of native wildlife nursery sites.

Any impacts to local wildlife movement occurring as a result of the proposed road improvements would be minor and would not rise to the level of significant pursuant to CEQA. The improvements have the potential to impact active bird nests if vegetation is removed during the nesting season (February 1 to September 25). Impacts to nesting birds are prohibited by the California Fish and Game Code.

Although impacts to migratory birds are prohibited by California Fish and Game Code, impacts to migratory birds by the proposed road improvements would not be a significant impact under CEQA. The migratory birds with potential to nest within the improvement area would be those that are extremely common to the region and highly adapted to human landscapes (e.g., killdeer, mourning dove). The number of individuals potentially affected by the proposed improvements would not significantly affect regional or local, populations of such species. A measure is identified in Section 5.0 of this report to avoid impacts to nesting birds.

4.5 Local Policies or Ordinances

Appendix G(e) of the State CEQA guidelines asks if a project is likely to "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance."

There are no local policies or ordinances that apply to the Patterson Avenue improvements.

4.6 Habitat Conservation Plans

Appendix G(f) of the State CEQA guidelines asks if a project is likely to "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan."

As discussed throughout this report, the road improvement area is within the Western Riverside County MSHCP. Section 6.0 of this report analyzes compliance of the proposed improvements with the Reserve Assembly and species/habitat requirements of the MSHCP. Through compliance with the applicable requirements, the improvements will not conflict with the provisions of the MSHCP.

4.7 Jurisdictional Waters

The road improvement area does not contain jurisdictional waters. Therefore, the proposed improvements would have no impacts to jurisdictional waters.

4.8 Indirect Impacts to Biological Resources

Potential indirect effects associated with development include water quality impacts from associated with drainage into adjacent open space/downstream aquatic resources; lighting effects; noise effects; invasive plant species from landscaping; and effects from human access into adjacent open space, such as recreational activities (including off-road vehicles and hiking), pets, dumping, etc. Temporary, indirect effects may also occur as a result of construction-related activities.

Volume I, Section 6.1.4 of the MSHCP (Urban/Wildland Interface Guidelines) identifies guidelines that are intended to address indirect effects associated with locating projects (particularly development) in proximity to the MSHCP Conservation Area. To minimize potential edge effects, the guidelines are to be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area. The proposed road improvement area is not located in proximity to the MSHCP Conservation Area or other native habitats. As such, the proposed improvements will not result in significant indirect effects to biological resources. Furthermore, the Urban/Wildland Interface Guidelines do not apply to the proposed improvements.

4.9 Cumulative Impacts to Biological Resources

Given the small size and highly disturbed nature of the proposed improvement area, the proposed improvements are not expected to result in cumulative impacts that would rise to a level of significance under CEQA. Additionally, any potentially significant cumulative impacts occurring as a result of the proposed improvements will be considered fully mitigated through participation in the MSHCP and therefore consistent with the MSHCP.

5.0 MINIMIZATION/AVOIDANCE MEASURES

The following discussion provides project-specific minimization/avoidance measures for actual or potential impacts to special-status resources.

5.1 Burrowing Owl

The disturbed lands adjacent to the PPT220026 project contain suitable habitat for burrowing owls; however, burrowing owls were not detected during focused surveys within the PPT220026 Project site to the east or within the PPT220024 Project site to the west. MSHCP Objective 6 for burrowing owls requires that pre-construction surveys be performed prior to site grading. As such, the following measure is recommended to avoid direct impacts to burrowing owls associated with the proposed road improvement area.

- **Pre-Construction Survey.** A 30-day pre-construction survey for burrowing owls is required prior to future ground-disturbing activities (e.g., vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, etc.) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. If burrowing owls have colonized the site prior to the initiation of ground-disturbing activities, the project proponent will immediately inform the Regional Conservation Authority (RCA) and the Wildlife Agencies and will need to coordinate in the future with the RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. If ground-disturbing activities occur, but the site is left undisturbed for more than 30 days, a pre-construction survey will again be necessary to ensure that burrowing owl have not colonized the site since it was last disturbed. If burrowing owls are found, the same coordination described above will be necessary.

5.2 Nesting Birds

The road improvement area is generally not expected to support nesting birds. However, the disturbed lands adjacent to the PPT220026 project site have a limited potential to support common ground nesting birds, and so the following measure is recommended to avoid impacts to nesting birds:

- As feasible, vegetation clearing should be conducted outside of the nesting season, which is generally identified as February 1 through September 15. If avoidance of the nesting season is not feasible, then a qualified biologist shall conduct a nesting bird survey within three days prior to any disturbance of the site, including disking, demolition activities, and grading. If active nests are identified, the biologist shall establish suitable buffers

around the nests (typically 300 feet for passerine birds and 500 feet for raptors). A smaller buffer may be established if the project biologist deems it suitable. The buffer areas shall be avoided until the nests are no longer occupied and the juvenile birds can survive independently from the nests.

6.0 MSHCP CONSISTENCY ANALYSIS

The purpose of this section is to provide an analysis of the proposed Patterson Avenue improvements with respect to compliance with biological aspects of the Western Riverside County MSHCP. Specifically, this analysis evaluates the proposed improvements with respect to the Project's consistency with MSHCP Reserve assembly requirements, *Section 6.1.2* (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), *Section 6.1.3* (Protection of Narrow Endemic Plant Species), *Section 6.1.4* (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

6.1 Project Relationship to Reserve Assembly

The road improvement area does not occur within the MSHCP Criteria Area. Therefore, the proposed improvements will not be subject to the HANS and JPR processes, the site is not described for conservation, and the improvements would be consistent with MSHCP policies, specifically pertaining to the relationship to the MSHCP reserve assembly.

6.2 Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

The road improvement area does not contain any riparian/riverine areas or vernal pools. Therefore, the proposed improvements will not impact any riparian/riverine areas or vernal pools, or any species associated with such features. The improvements will be consistent with *Volume I, Section 6.1.2* of the MSHCP.

6.3 Protection of Narrow Endemic Plants

Volume I, Section 6.1.3 of the MSHCP requires that within identified NEPSSA, site-specific focused surveys for Narrow Endemic Plants Species will be required for all public and private projects where appropriate soils and habitat are present.

However, the road improvement area does not occur within NEPSSA; therefore, the proposed improvements are not subject to any additional NEPSSA requirements pursuant to the MSHCP and would be consistent with the biological requirements of the MSHCP, specifically pertaining to *Section 6.1.3* (Protection of Narrow Endemic Plant Species).

6.4 Guidelines Pertaining to the Urban/Wildland Interface

The MSHCP Urban/Wildland Interface Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. As the MSHCP Conservation Area is assembled, development is expected to occur adjacent to the Conservation Area. Future development in proximity to the MSHCP Conservation Area may result in edge effects with the potential to adversely affect biological resources within the Conservation Area. To minimize such edge effects, the guidelines shall be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area and address the following:

- Drainage;
- Toxics;
- Lighting;
- Noise;
- Invasive species;
- Barriers;
- Grading/Land Development.

The road improvement area does not occur in proximity to the MSHCP Conservation Area; therefore, the MSHCP Urban/Wildlands Interface Guidelines (*Volume I, Section 6.1.4* of the MSHCP) do not apply to the proposed improvements. As such, the proposed improvements will be consistent with the biological requirements of the MSHCP, specifically pertaining to the MSHCP Urban/Wildlands Interface Guidelines.

6.5 Additional Survey Needs and Procedures

Focused burrowing owl surveys were conducted for the adjacent PPT220026 and PPT220024 Project site and no burrowing owls were detected; refer to Section 5.1 regarding additional information pertaining to burrowing owl procedures. As the proposed improvement area does not occur within amphibian and/or mammal survey areas, no amphibian and/or mammal surveys are required. As the improvement area does not occur within the CAPSSA, mammal survey areas or amphibian survey areas, no surveys were required for these species.

6.6 Conclusion of MSHCP Consistency

As outlined above, the proposed Patterson Avenue improvements will be consistent with the biological requirements of the MSHCP; specifically pertaining to the relationship to reserve assembly, *Section 6.1.2* (Protection of Species Associated with Riparian/Riverine Areas and

Vernal Pools), *Section 6.1.3* (Protection of Narrow Endemic Plant Species), *Section 6.1.4* (Guidelines Pertaining to the Urban/Wildlands Interface), and *Section 6.3.2* (Additional Survey Needs and Procedures).

7.0 REFERENCES

[CDFG] California Department of Fish and Game. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. State of California, California Natural Resources Agency, Department of Fish and Game. Dated March 20, 2018.

[CDFW] California Department of Fish and Wildlife. Natural Diversity Database. 2023. Special Animals List. Periodic publication. 67 pp.

California Department of Fish and Wildlife. 2023. State and Federally Listed Endangered and Threatened Animals of California. State of California Natural Resources Agency. Sacramento, California.

[CDFW] California Department of Fish and Wildlife. 2023. California Natural Diversity Database: RareFind 5. Records of occurrence for U.S.G.S. 7.5- minute Quadrangle maps: Steele Peak and surrounding quadrangles. California Department of Fish and Wildlife, State of California Resources Agency. Sacramento, California. [accessed January 2023].

[CNPS] California Native Plant Society, Rare Plant Program. 2023. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.5). Website http://www.rareplants.cnps.org [accessed January 2023].

[Dudek] Dudek & Associates. 2003. Western Riverside County Multiple Species Habitat Conservation Plan. Volumes 1 – 5. Prepared for the Transportation and Land Management Agency, County of Riverside, California as part of the Riverside County Integrated Project. Adopted June 2003, currently available at http://www.rcip.org/conservation.htm.

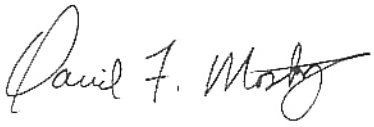
Holland, R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, California Department of Fish and Wildlife.

Nelson, J. 1984. Rare plant survey guidelines. In: Inventory of rare and endangered vascular plants of California. J. Smith and R. York (eds.). Special Publication No. 1. California Native Plant Society.

[USFWS] U.S. Fish and Wildlife Service. 2000. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants. Sacramento, CA: U.S. Fish and Wildlife Service. Unpublished memorandum, dated January 2000.

If you have any questions, please call me at (949) 340-2562.
Sincerely,

GLENN LUKOS ASSOCIATES, INC.



David Moskovitz
Director of Biological Services

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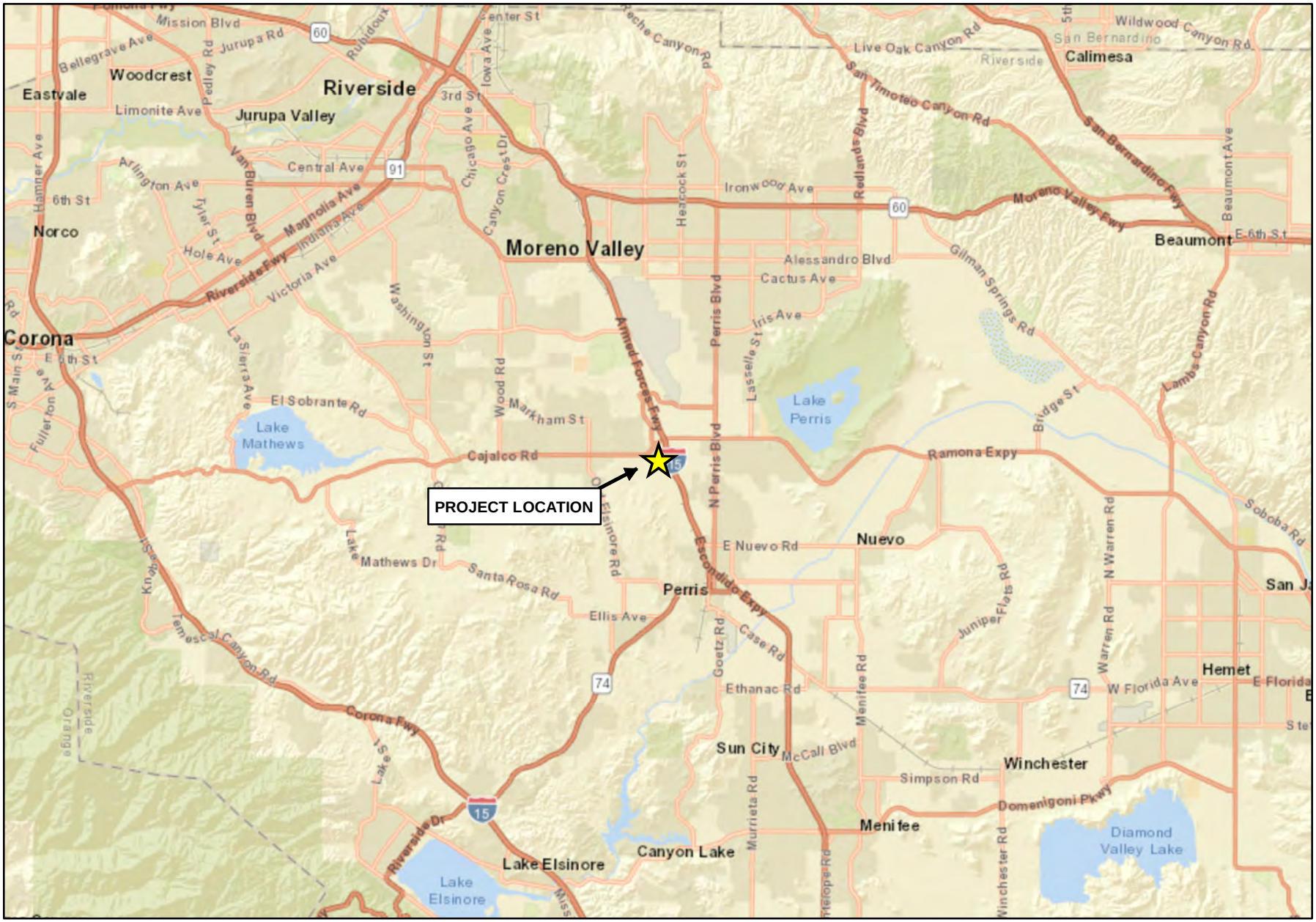

Source: ESRI World Street Map

N

0 2 4 8 Miles

PATTERSON AVENUE IMPROVEMENTS

Regional Map

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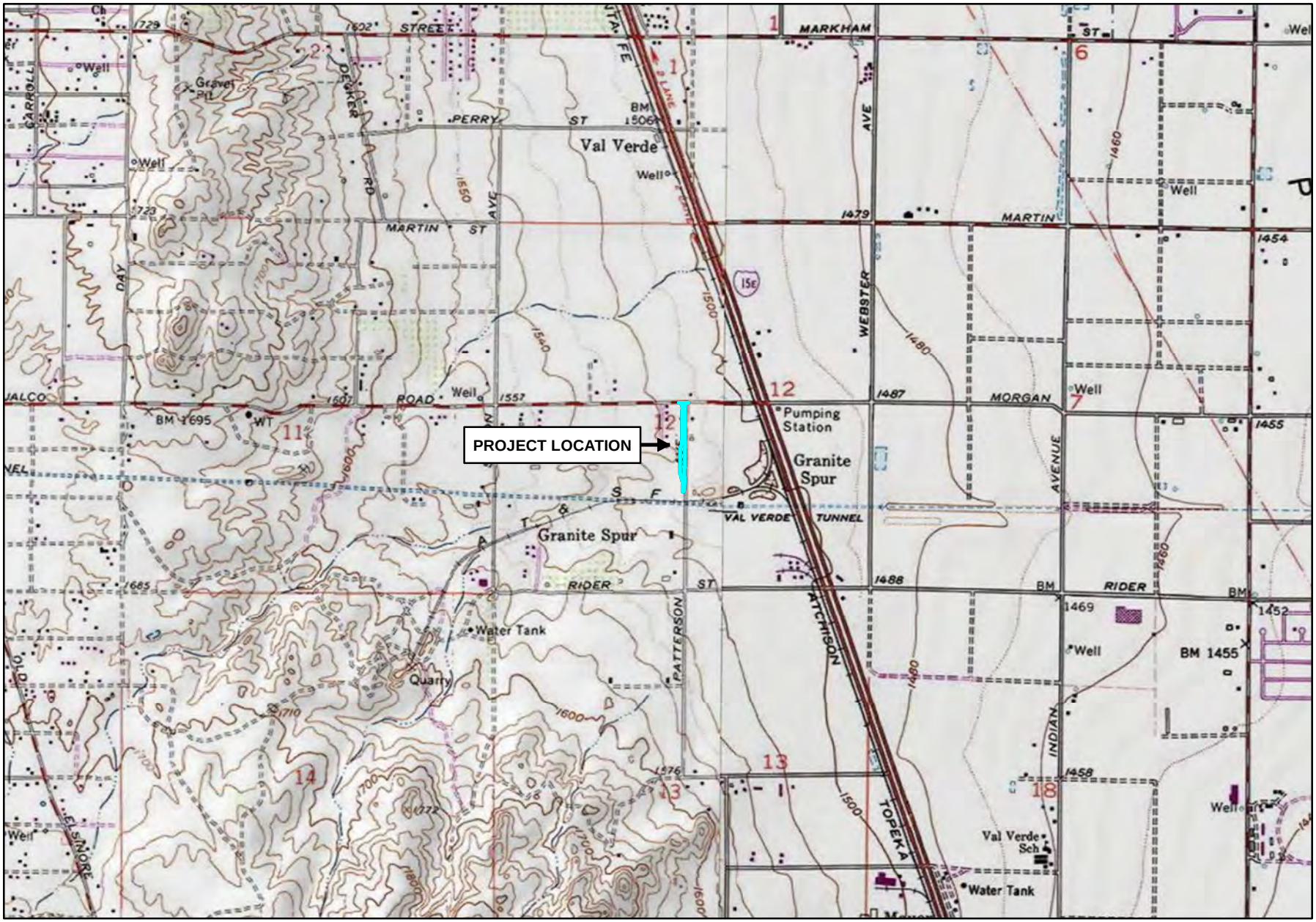
Exhibit 1



Adapted from USGS Steele Peak, CA quadrangle

N

0 1,000 2,000 4,000 Feet

PATTERSON AVENUE IMPROVEMENTS

Vicinity Map

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Exhibit 2

Patterson Avenue Improvements

PPT 220024

PPT 220026

N

0 75 150 300

Feet

1 inch = 150 feet

PATTERSON AVENUE IMPROVEMENTS

Aerial Map

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Exhibit 3

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Patterson Avenue Improvements

Burrowing Owl Survey Area

N

0 50 100 200

Feet

1 inch = 100 feet

PATTERSON AVENUE IMPROVEMENTS

MSHCP Overlay Map

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Exhibit 4

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Patterson Avenue Improvements

Disturbed

Developed

N

0 50 100 200

Feet

1 inch = 100 feet

PATTERSON AVENUE IMPROVEMENTS

Vegetation/Land Use Map

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Exhibit 5

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Photograph 1: View looking south along the eastern edge of the road improvement area.

Photograph 2: View looking north along the western edge of the road improvement area.

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Exhibit 6

PATTERSON AVENUE IMPROVEMENTS

Site Photographs