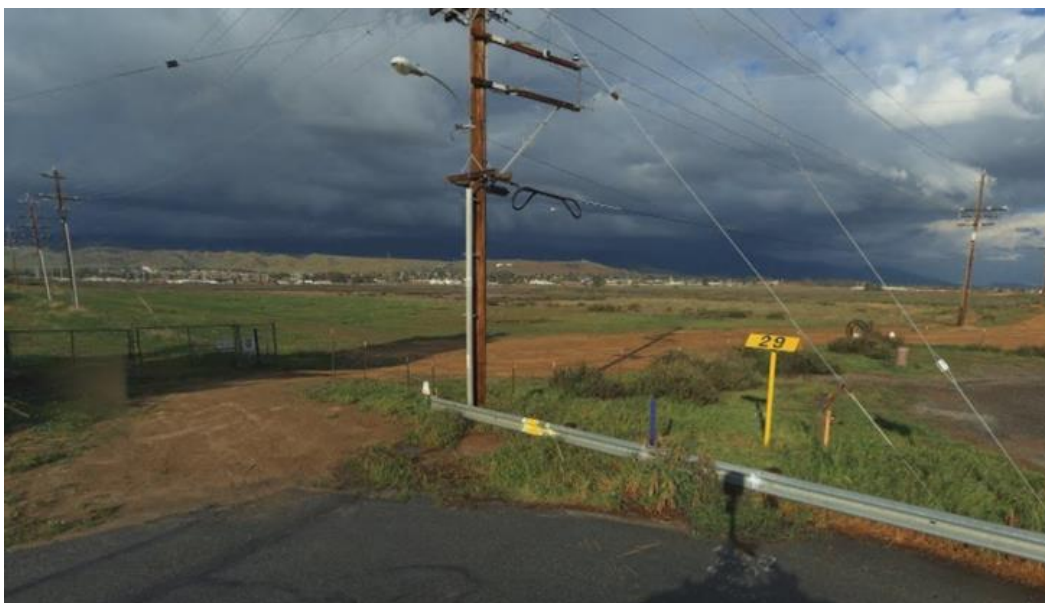


Appendix B.4



**SUNLAKES BOULEVARD REALIGNMENT PROJECT
WESTERN RIVERSIDE COUNTY MULTIPLE SPECIES
HABITAT CONSERVATION AREA - NARROW
ENDEMIC PLANT SPECIES SURVEY REPORT**



**City of Banning and Unincorporated Riverside County, California
Updated June 2024**

**Submitted to:
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**Submitted by:
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11870 Pierce St #160
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**Principal Investigators: Dale Hameister, Senior Biologist
and Nathan Moorhatch, Senior Biologist
WSP Job # 20-554-00800**

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1.0 INTRODUCTION

At the request of the Albert A. Webb and Associates (Webb), WSP USA Inc. (WSP) (Formerly Wood) conducted a focused survey for narrow endemic plant species on the Sun Lakes Boulevard (Blvd.) The project site is in the city of Banning, Riverside County, California; and includes the extension of Sun Lakes Boulevard, from its current termination point at Highland Home Road to the anticipated connection at West Lincoln Street.

The project site lies within the Western Riverside County Multiple-Species Habitat Conservation Area (WRCMSHCP) for Narrow Endemic Plant Species. Habitat for NEPSSA was found to be present during a biological assessment of the site in MONTH, YEAR and therefore the city of Banning requires a focused survey for narrow endemic plant species in compliance with the WRCMSHCP as part of the California Environmental Quality Act (CEQA) requirements.

This emphasis of the survey included locating and documenting the occurrence of special status (rare) narrow endemic plant species (NEPSSA) (if any) on the study site.

2.0 PROJECT BACKGROUND/SITE DESCRIPTION

The project is generally located south of Interstate 10, west of Sunset Avenue and east of Highland Home Road between the terminus of Sun Lakes Boulevard on the west and the terminus of paved Westward Avenue on the east. It can be found in Section 7 of Township 3 South, Range 1 East of the *Beaumont*, California, United States Geological Survey (1978) 7.5-minute topographic quadrangle map (Figure 2). The elevation of the project site ranges from approximately 2,400 to 2,500 feet above sea level. The geographic coordinates near the middle of the site are 33.5512.85° North latitude and -116.5516.29° West longitude. Vegetation communities on site consist primarily of grassland and scrubs.

The proposed project is a transportation project including construction of a new section of Sun Lakes Boulevard from Highland Home Road to Sunset Avenue (Figure 3) and intersection improvements within the City of Banning's existing road right-of-way (ROW). This report and associated figures have been updated to reflect the change in the area of the proposed impacts related to alignment revisions which have occurred so that the new roadway could be redesigned to avoid existing high pressure gas lines within the project area. The project is approximately 5,400 linear feet (1.02 mile). This report and associated figures have been updated to reflect the change in the area of the proposed impacts related to alignment revisions which have occurred so that the new roadway could be redesigned to avoid existing high pressure gas lines within the project area. The updated projects impacts include 19.4 acres of permanent impacts, 9.1 acres of temporary impacts. Project staging and stockpiling will occur within the City's ROW. Currently, Westward Avenue is a straight east-west unpaved dirt road between Highland Home Road and Sunset Avenue. The project crosses over three creeks, from

west to east: Highland Wash, Smith Creek, and Pershing Creek. The project will include the construction of three sets of culverts to cross said creeks.

Surrounding land uses include residential subdivisions, public facilities, and open space. The approximately five-acres is currently undeveloped. Historically the project site was graded for agricultural purposes in the 1960's. It has remained vacant for the past 2 to 3 decades. Vegetation within the proposed project site consists of non-native grassland, California buckwheat scrub, and Riversidean alluvial fan sage scrub. Three deeply incised drainages and associated tributaries are present within the proposed project site. Structures within the general vicinity include city-owned wells, an agricultural storage shelter, and several easements for streets, utilities, gas and oil pipelines, landscaping, and communications systems are all located within the general proposed project alignment.

3.0 METHODS

3.1 Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The Western Riverside County Regional Conservation Authority (RCA) RCA MSHCP Information Map (Western Riverside County RCA 2020) was consulted to determine whether the project site was in any MSHCP plant survey areas. California Department of Fish and Wildlife (2020) was consulted for plant species records in the project area (within five miles).

3.2 Soils

The United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey was consulted for soils mapped on the project site.

3.3 Focused Survey

The survey was conducted during the appropriate time of year (blooming period) for the detection of the NEPSSA species and followed a period of above average rainfall for the 2019-2020 season. The focused survey for rare plants was conducted on 26th and 27th May 2020 by WSP biologists Dale Hameister and Nathan T. Moorhatch. Habitat on the site was assessed for suitability (Figure 4). Thick buckwheat stands, areas of tall mustard within grasslands, and areas heavily grazed by horses were considered unsuitable and were not surveyed. Areas of suitable habitat were surveyed utilizing transects which were adjusted based on topography and habitat coverage so that all potential NEPSSA habitat was surveyed. All flora detected were recorded in field notes and plant species of uncertain identity were collected for identification by University of California Herbarium Collections Manager Andrew Sanders.

4.0 RESULTS

4.1 MSHCP

Virtually the entire project site lies within the MSHCP narrow endemic plant species survey area (NEPSSA) for two plant species (Figure 5): Marvin's (also known as Yucaipa) onion (*Allium marvinii*) and many stemmed dudleya (*Dudleya multicaulis*). Both of these plant species have an affinity for clay soils; however, they are not clay obligates. Historic records for the Marvin's onion occur less than a mile from the project site on soils not mapped as clay. No historic records for many stemmed dudleya were found in the project area, but habitat was suitable. Table 1 below provides the list of the NEPSSA plants that were the targets of this survey as well as a summary of their associated legal status.

Table 1. Narrow Endemic Plant Species

Species	Status	Habitat
Marvin's onion (<i>Allium marvinii</i>)	Federal: None State: S1 CNPS: 1B.2	A perennial bulbiferous herb often found on clay substrates within chaparral habitats. It occurs from 2,490 to 3,495 feet elevation. Blooms April to May.
Many stemmed dudleya (<i>Dudleya multicaulis</i>)	Federal: None State: S2 CNPS: 1B.2	A perennial herb often found on clay substrates within chaparral, coastal scrub, and valley and foothill grasslands. It occurs from 49 to 2,592 feet elevation. Blooms April through July.

Definitions of status designations for Table 1

State designations:

S1: Critically Imperiled – Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2: Imperiled – Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.

California Native Plant Society (CNPS) designations:

LIST 1B: Plants rare, threatened, or endangered in California and elsewhere.

0.2: Moderately threatened in California – 20-80% of occurrences threatened / moderate degree and immediacy of threat.

4.2 Soils

Soils mapped on the project site are shown on Figure 6. None of these soils are specifically associated with the target NEPSSA species but may still support them or contain lenses of suitable soils.

4.3 Field Surveys

The focused survey was conducted on 26th and 27th May 2020 by Wood biologists Dale Hameister (DH) and Nathan T. Moorhatch (NM). Table 2 below provides complete timing and weather conditions. No Marvin's onion or many-stemmed dudleya were detected. A list of plant species which were detected is attached as Appendix A. Representative digital photographs were taken (Appendix B).

Table 2. Survey Data

Date (2020)	Observers	Time	Wind (mph)	Temperature (°F)	Sky (~% cover)
26 May	DH, NM	1000 – 1330	0-3	91 - 101	Clear skies
27 May	DH, NM	0558 – 1200	0-3	63 - 93	Clear skies

5.0 CONCLUSION

The survey was conducted during the appropriate time of year for the detection of the two NEPSSA species and following a period of above average rainfall for the 2019-2020 winter season. Survey timing was ideal for the detection of the target plant species. Marvin's onion and many stemmed dudleya were not detected, however, therefore both are considered absent from the project site. No additional surveys are required.

6.0 LITERATURE CITED AND REFERENCES

- California Department of Fish and Wildlife (CDFW). 2020a. California Natural Diversity Database (CNDDB) RareFind 5 records of sensitive elements.
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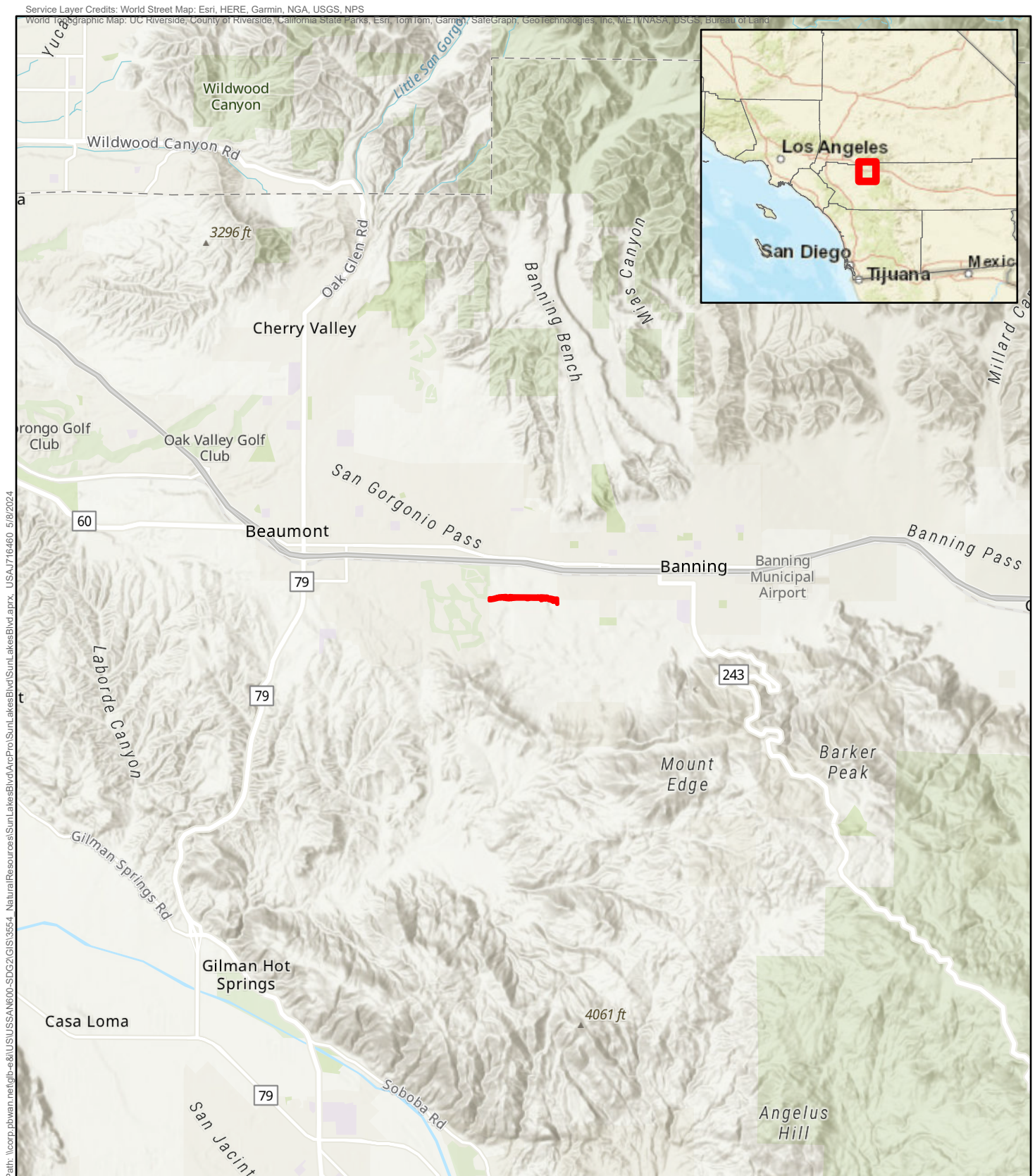
Species Presence/Absence Trapping Studies for the Sunset Crossroads Project Site, Located in City of Banning and Riverside County, California.

TPA. December 2004b. *Biological Assessment: Sunset Crossroads Project Site.*

United States Fish and Wildlife Service (USFWS). 2020. Critical Habitat Portal. Accessed online [at: http://ecos.fws.gov/crithab/](http://ecos.fws.gov/crithab/).

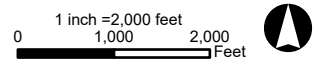
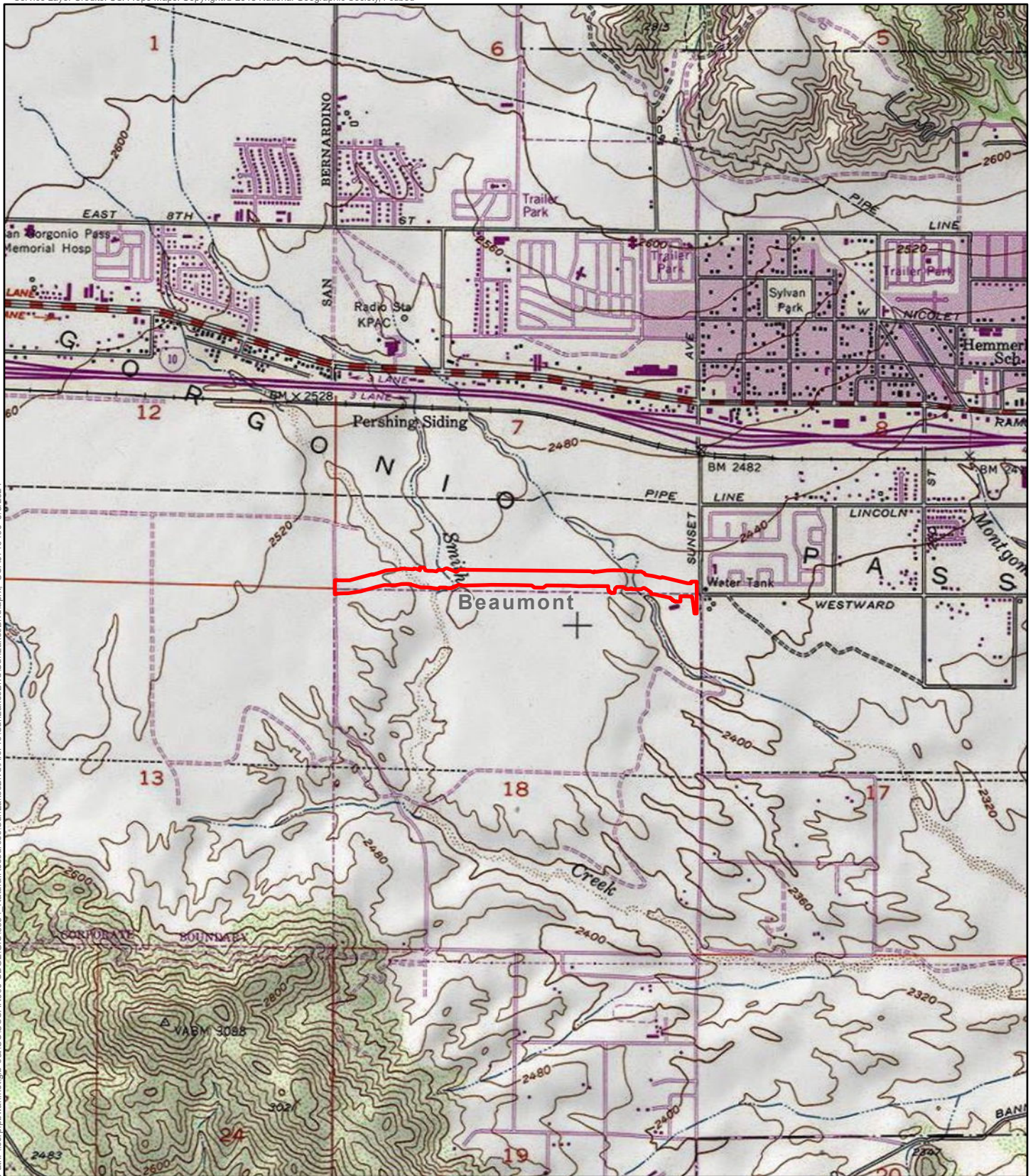
United States Geological Survey. 1978. Beaumont, Calif. 7.5-minute topographic quadrangle maps.

Appendix A - Figures



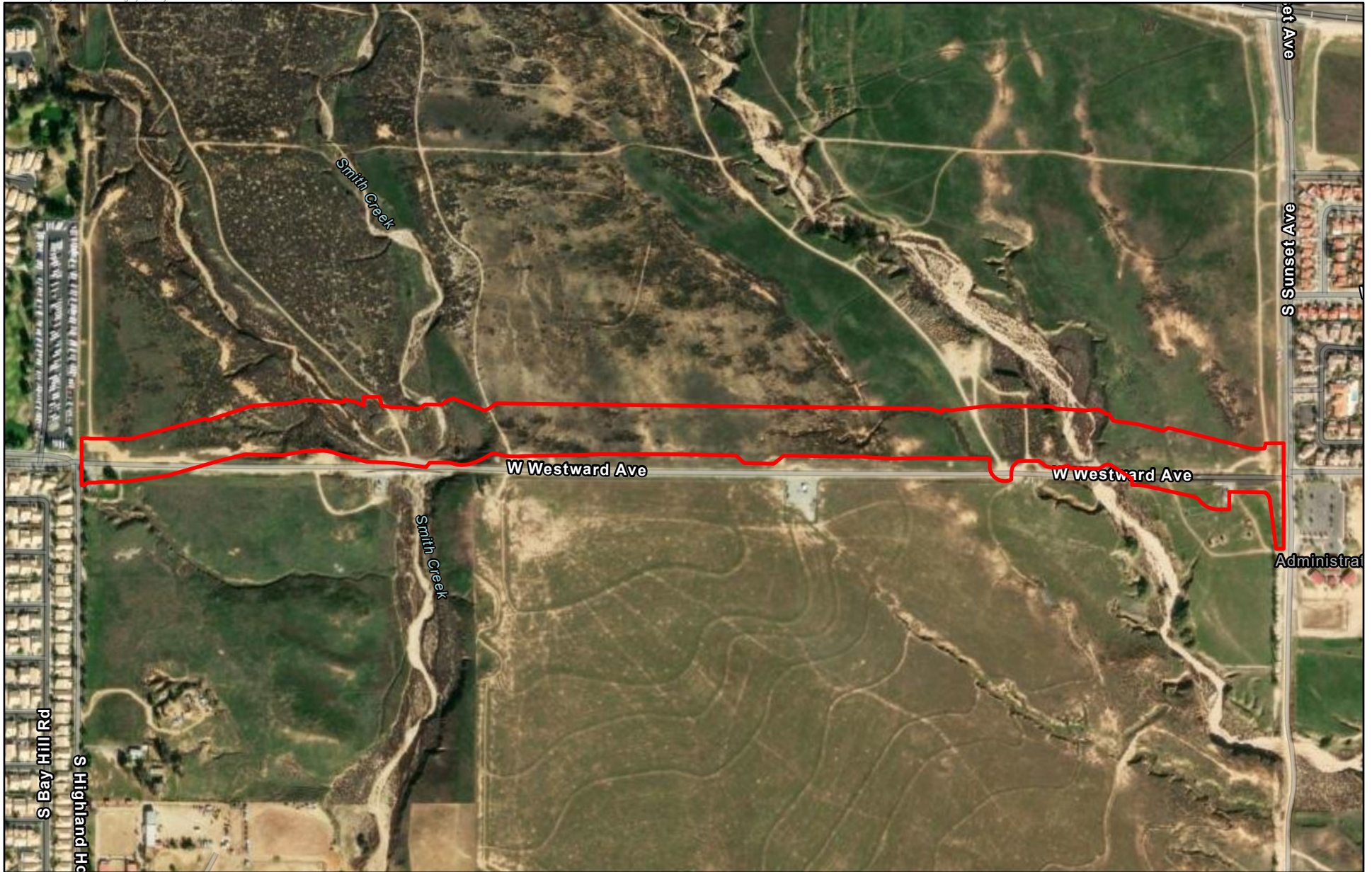
 Project Alignment

FIGURE 1
Project Vicinity and Location
Narrow Endemic Plant Species Survey Report
Sun Lakes Blvd. Realignment Project
Banning, CA



 Project Alignment

FIGURE 2
USGS 7.5' Topo Quad: Beaumont
Narrow Endemic Plant Species Survey Report
Sun Lakes Blvd. Realignment Project
Banning, CA



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 Project Alignment

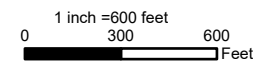
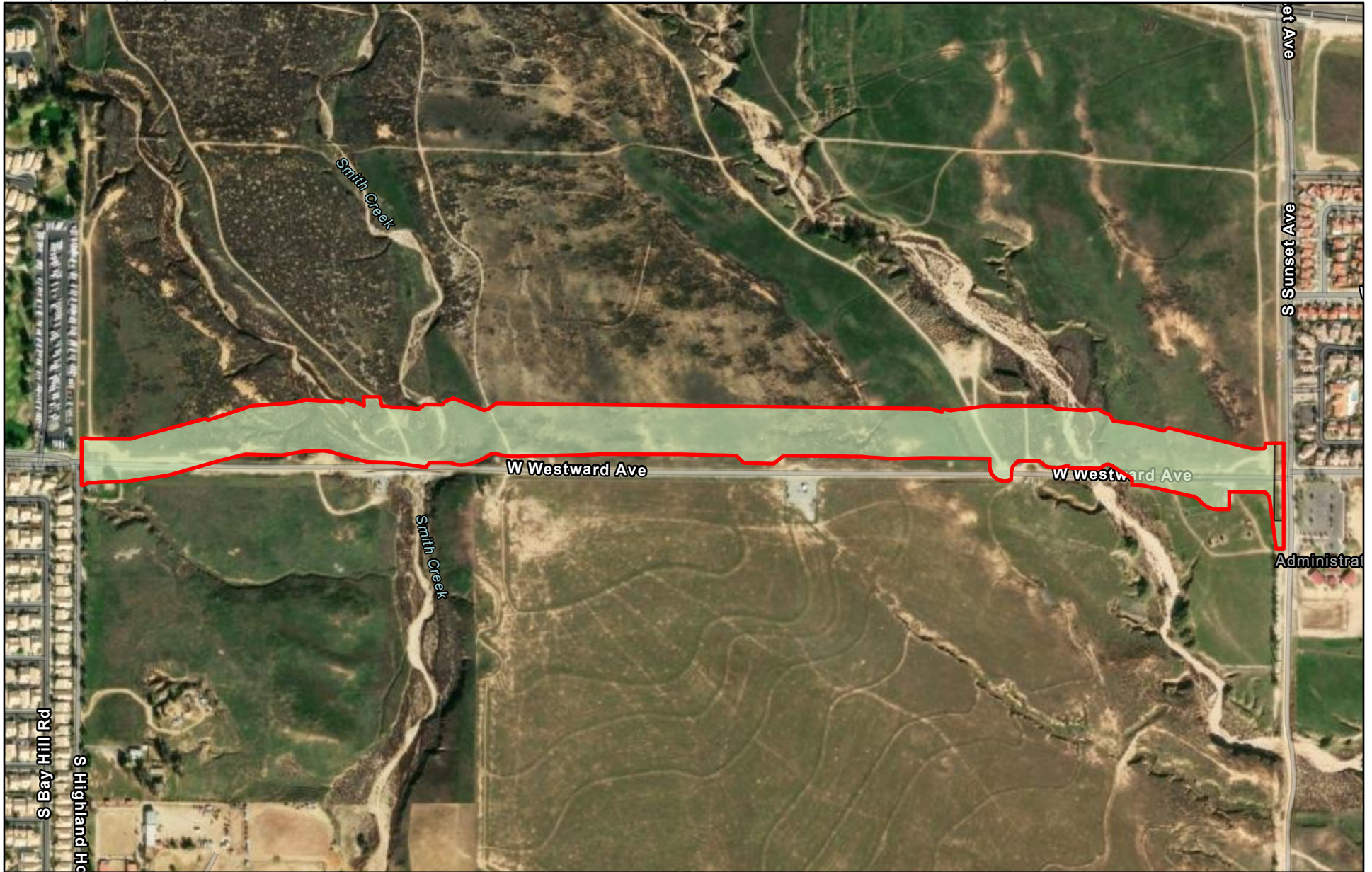


FIGURE 3

Local Vicinity
Narrow Endemic Plant Species Survey Report
Sun Lakes Blvd. Realignment Project
Banning, CA



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-  Project Alignment
-  Marvin's onion (*Allium marvinii*), Many-stemmed dudleya (*Dudleya multicaulis*)

1 inch = 600 feet
0 300 600 Feet



FIGURE 4

Narrow Endemic Plant Species Survey Area
Narrow Endemic Plant Species Survey Report
Sun Lakes Blvd. Realignment Project
Banning, CA



- GyD2: Greenfield sandy loam, 8 to 15 percent slopes, eroded
- RaB2: Ramona sandy loam, 2 to 5 percent slopes, eroded
- RaD3: Ramona sandy loam, 8 to 15 percent slopes, severely eroded
- RSC: Riverwash
- TeG: Terrace escarpments
- Project Alignment

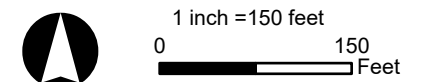
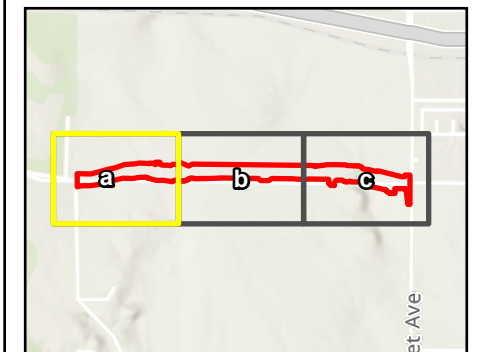


FIGURE 5a
 Soil Types
 Narrow Endemic Plant Species
 Survey Report
 Sun Lakes Blvd. Realignment Project
 Banning, CA



Service Layer Credits: World Imagery: County of San Bernardino, Maxar World Topographic Map: UC Riverside, County of Riverside, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA,



- GyD2: Greenfield sandy loam, 8 to 15 percent slopes, eroded
- RaB2: Ramona sandy loam, 2 to 5 percent slopes, eroded
- RaD3: Ramona sandy loam, 8 to 15 percent slopes, severely eroded
- RaE3: Ramona sandy loam, 15 to 25 percent slopes, severely eroded
- RsC: Riverwash
- Project Alignment

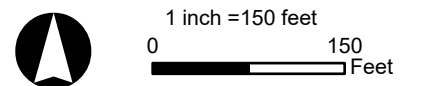
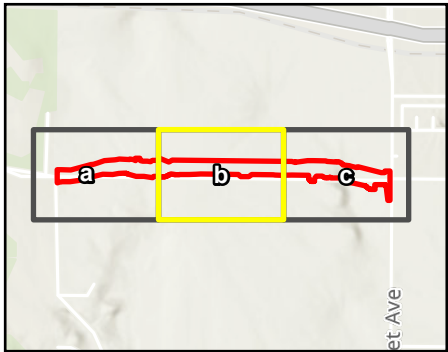


FIGURE 5b
Soil Types
Narrow Endemic Plant Species
Survey Report
Sun Lakes Blvd. Realignment Project
Banning, CA





- GyC2: Greenfield sandy loam, 2 to 8 percent slopes, eroded
- RaB2: Ramona sandy loam, 2 to 5 percent slopes, eroded
- RaD3: Ramona sandy loam, 8 to 15 percent slopes, severely eroded
- RaE3: Ramona sandy loam, 15 to 25 percent slopes, severely eroded
- TeG: Terrace escarpments
- Project Alignment

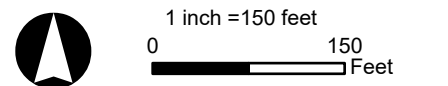
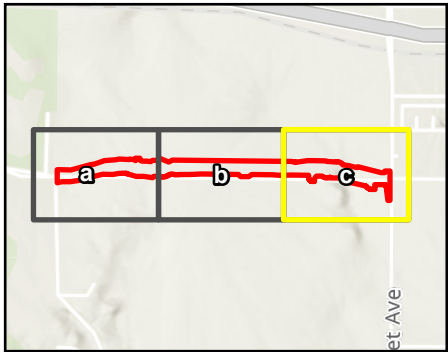
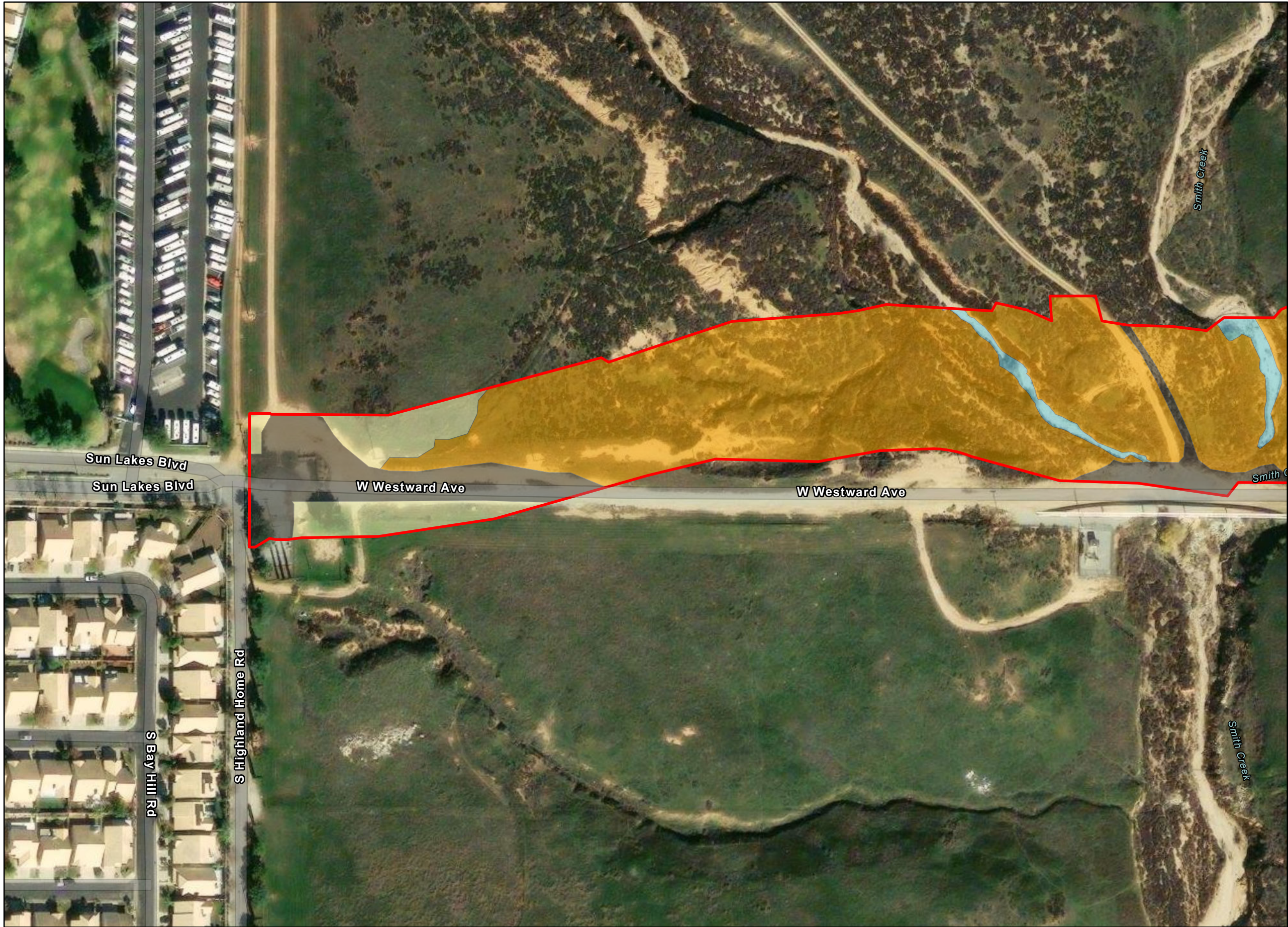


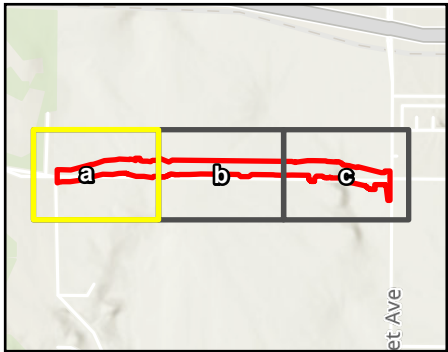
FIGURE 5c
Soil Types
Narrow Endemic Plant Species
Survey Report
Sun Lakes Blvd. Realignment Project
Banning, CA



Service Layer Credits: World Imagery; County of San Bernardino, Maxar World Topographic Map; UC Riverside, County of Riverside, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA,



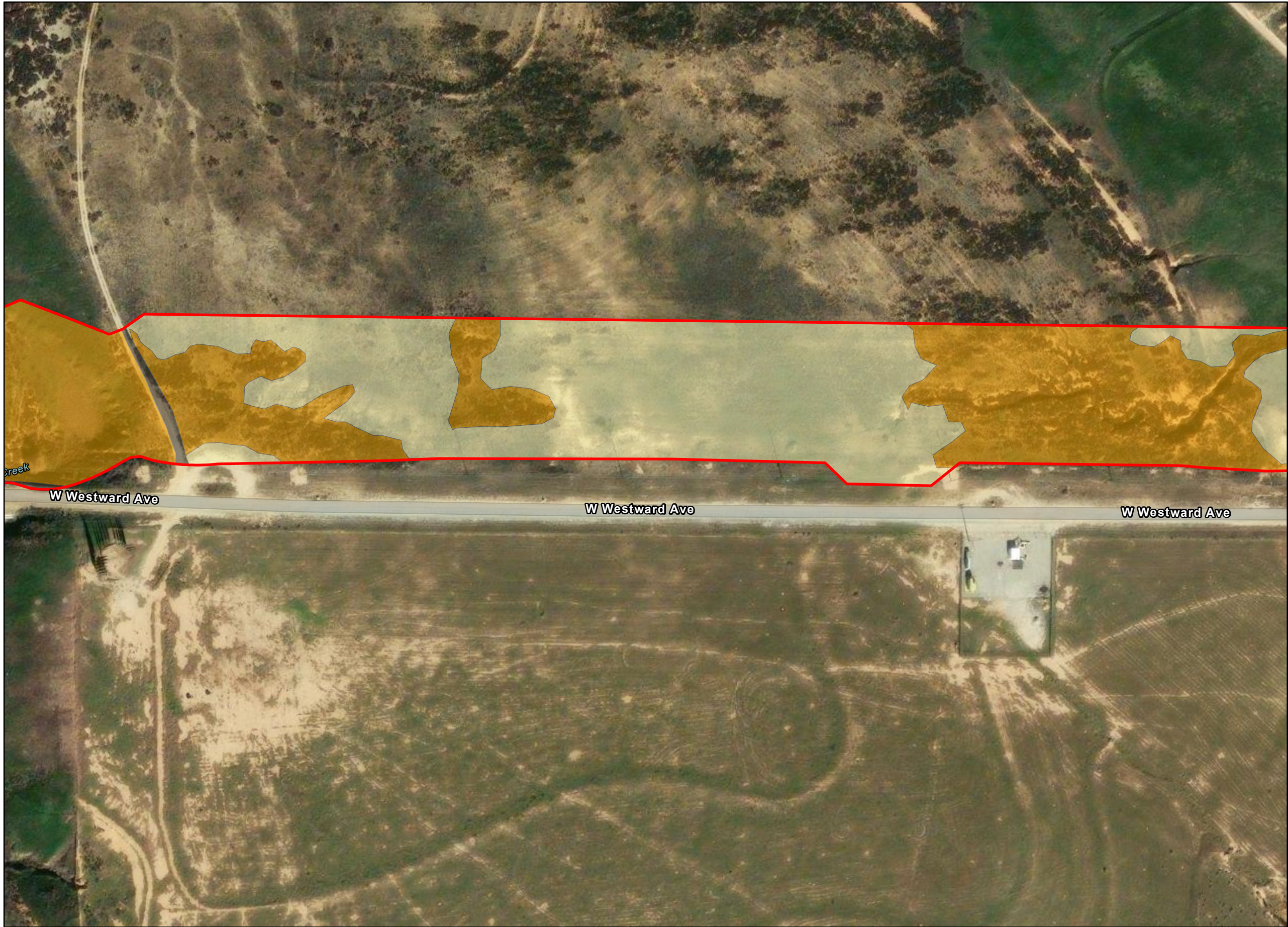
- Vegetation Communities**
- Buckwheat scrub
 - Disturbed/Developed
 - Non-native Grassland
 - Non-vegetated streambed
 - Project Alignment



1 inch = 150 feet
0 150 Feet

FIGURE 6a
Vegetation Communities
Narrow Endemic Plant Species
Survey Report
Sun Lakes Blvd. Realignment Project
Banning, CA





Vegetation Communities

- Buckwheat scrub
- Disturbed/Developed
- Non-native Grassland
- Project Alignment

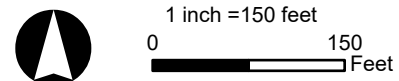
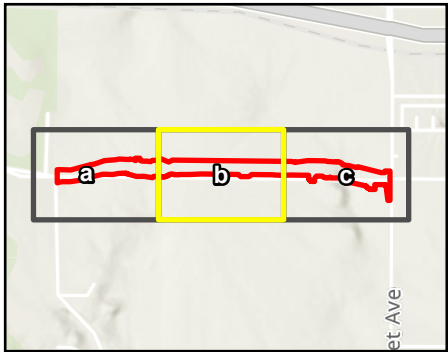
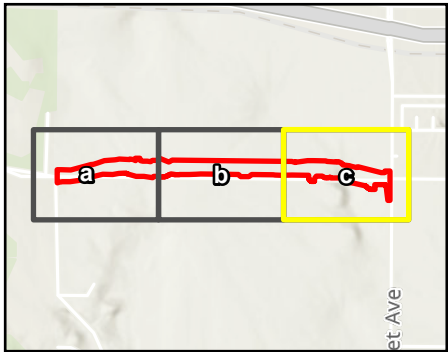


FIGURE 6b
Vegetation Communities
Narrow Endemic Plant Species
Survey Report
Sun Lakes Blvd. Realignment Project
Banning, CA





- Vegetation Communities**
- Buckwheat scrub
 - Disturbed/Developed
 - Non-native Grassland
 - Non-vegetated streambed
 - Riparian Scrub/woodland
 - Riversidean alluvial sage scrub
 - Project Alignment



1 inch = 150 feet
0 150 Feet

FIGURE 6c
Vegetation Communities
Narrow Endemic Plant Species
Survey Report
Sun Lakes Blvd. Realignment Project
Banning, CA



Service Layer Credits: World Imagery; County of San Bernardino, Maxar World Topographic Map; UC Riverside, County of Riverside, California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA,

Appendix B – Site Photographs



Photo 1. Looking west from the eastern edge of the survey area showing the existing dirt road.



Photo 2. Looking south showing non-native grassland and mustard area south of the road.



Photo 3. Looking southeast showing an ephemeral drainage and California buckwheat habitat.



Photo 4. Looking north showing the eastern drainage and scalebroom (RAFSS) habitat.



Photo 5. Looking east showing buckwheat scrub on the north side of the road.



Photo 6. Fleabane observed with butterflies and a crab spider.

Appendix C - Plant and Vertebrate Species List

PLANT SPECIES LIST

This list reports plant species observed on the project site during the WSP's reconnaissance-level survey for this project. Other species may have been overlooked or undetectable due to their seasonal growth patterns. Nomenclature and taxonomy for fauna observed on site follows the Jepson eFlora (2020). If no common name is listed in Jepson, the United States Department of Agriculture PLANTS database (2020) is followed.

FLOWERING PLANTS	
Apocynaceae	Dogbane family
<i>Nerium oleander</i> *	Common oleander
Asteraceae	Sunflower family
<i>Ambrosia acanthicarpa</i>	Annual ragweed
<i>Ambrosia psilostachya</i>	Western ragweed
<i>Artemisia californica</i>	California sagebrush
<i>Artemisia douglasiana</i>	Mugwort
<i>Artemisia dracunculus</i>	Tarragon
<i>Baccharis salicifolia</i>	Mule fat
<i>Centaurea melitensis</i> *	Tocalote
<i>Chaenactis glabriuscula</i>	Yellow pincushion
<i>Corethrogyne filaginifolia</i>	Common sand aster
<i>Ericameria pinifolia</i>	pinebush
<i>Erigeron canadensis</i>	Horseweed
<i>Erigeron foliosus</i>	Leafy fleabane
<i>Eriophyllum confertiflorum</i>	Golden yarrow
<i>Helianthus annuus</i>	Common sunflower
<i>Heterotheca grandiflora</i>	Telegraph weed
<i>Hypochaeris glabra</i> *	Smooth cat's ear
<i>Lactuca serriola</i> *	Prickly lettuce
<i>Lepidospartum squamatum</i>	Scale-broom
<i>Logfia gallica</i> *	Narrowleaf cottonrose
<i>Malacothrix saxatilis</i>	Cliff aster
<i>Oncosiphon piluliferum</i> *	Stinknet
<i>Pseudognaphalium californicum</i>	Ladies' tobacco
<i>Senecio flaccidus</i>	Shrubby ragwort
<i>Stephanomeria exigua</i>	Small wirelettuce
<i>Tetradymia comosa</i>	Cotton thorn
<i>Xanthium strumarium</i>	Rough cocklebur
Boraginaceae	Borage family
<i>Amsinckia</i> sp.	Fiddleneck
<i>Cryptantha</i> sp.	Cryptantha
<i>Heliotropium curassavicum</i>	Heliotrope

<i>Pectocarya</i> sp.	Pectocarya
<i>Phacelia cicutaria</i>	Caterpillar phacelia
Brassicaceae	Mustard family
<i>Brassica tournefortii</i> *	Sahara mustard
<i>Hirschfeldia incana</i> *	Shortpodded mustard
<i>Sisymbrium altissimum</i> *	Tall tumble mustard
<i>Sisymbrium irio</i> *	London rocket
Caprifoliaceae	Honeysuckle family
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue elderberry
Chenopodiaceae	Goosefoot Family
<i>Bassia hyssopifolia</i> *	Five horn bassia
<i>Chenopodium alba</i> *	Goosefoot
<i>Salsola tragus</i> *	Russian thistle
Convolvulaceae	Morning glory family
<i>Convolvulus arvensis</i> *	Field bindweed
Crassulaceae	Stonecrop family
<i>Crassula connata</i>	Sand pygmyweed
Cucurbitaceae	Gourd family
<i>Cucurbita foetidissima</i>	Calabazilla
Cupressaceae	Cypress family
<i>Cupressus sempervirens</i> *	Italian cypress
Euphorbiaceae	Spurge family
<i>Euphorbia albomarginata</i>	Rattlesnake sandmat
<i>Euphorbia maculate</i> *	Spotted spurge
Fabaceae	Pea family
<i>Acmispon glaber</i>	Deerweed
<i>Acmispon heermannii</i>	Heermann's lotus
<i>Lupinus bicolor</i>	Miniature lupine
<i>Medicago polymorpha</i> *	Burclover
<i>Medicago sativa</i> *	Alfalfa
<i>Parkinsonia aculeata</i> *	Mexican palo verde
<i>Spartium junceum</i> *	Spanish broom
<i>Vicia villosa</i> *	Hairy vetch
Geraniaceae	Geranium family
<i>Erodium botrys</i> *	Longbeak stork's bill
<i>Erodium cicutarium</i> *	Redstem filaree
Juglandaceae	Walnut family
<i>Juglans californica</i> – CNPS-4.2	Southern California black walnut
Lamiaceae	Mint family
<i>Marrubium vulgare</i> *	horehound
<i>Salvia apiana</i>	White sage
<i>Salvia columbariae</i>	Chia
<i>Salvia mellifera</i>	Black sage
<i>Trichostema lanceolatum</i>	Vinegarweed

Malvaceae	Mallow family
<i>Malva parviflora</i> *	Cheeseweed
Myrtaceae	Myrtle family
<i>Eucalyptus</i> sp.*	Gum tree
Nyctaginaceae	Four o'clock family
<i>Mirabilis laevis</i>	Wishbone
Onagraceae	Evening primrose family
<i>Camissoniopsis bistorta</i>	California sun cup
<i>Camissonia strigulosa</i>	Sandysoil suncup
<i>Clarkia purpurea</i>	Winecup clarkia
Papaveraceae	Poppy family
<i>Eschscholzia californica</i>	California poppy
Plantaginaceae	Plantain family
<i>Penstemon spectabilis</i>	Showy penstemon
<i>Plantago erecta</i>	Dotseed plantain
Polemoniaceae	Phlox family
<i>Gilia angelensis</i>	Chaparral gilia
<i>Navarretia hamata</i>	Hooked navarretia
Polygonaceae	Buckwheat family
<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Eriogonum gracile</i>	Slender woolly buckwheat
<i>Polygonum aviculare</i> *	Prostrate knotweed
<i>Rumex crispus</i>	Curly dock
Portulacaceae	Purslane family
<i>Calandrinia menziesii</i>	Redmaids
<i>Claytonia</i> sp.	Miner's lettuce
<i>Portulaca oleracea</i> *	Common purslane
Salicaceae	Willow family
<i>Populus fremontii</i>	Fremont cottonwood
<i>Salix gooddingii</i>	Goodding's black willow
<i>Salix lasiolepis</i>	Arroyo willow
<i>Salix laevigata</i>	Red willow
<i>Ailanthus altissima</i> *	Tree of heaven
Solanaceae	Nightshade family
<i>Datura wrightii</i>	Jimsonweed
<i>Nicotiana glauca</i> *	Tree tobacco
Tamaricaceae	Tamarisk family
<i>Tamarix aphylla</i> *	Athel tamarisk
<i>Tamarix ramosissima</i> *	Salt cedar
Cyperaceae	Sedges family
<i>Cyperus eragrostis</i>	Tall flatsedge
Poaceae	Grass family
<i>Bromus diandrus</i> *	Ripgut brome
<i>Bromus madritensis</i> ssp. <i>madritensis</i> *	Foxtail chess

<i>Bromus tectorum</i>	Cheatgrass
<i>Hordeum murinum</i> *	Wall barley
<i>Polypogon monspeliensis</i>	Rabbitsfoot grass
<i>Schismus barbatus</i> *	Common Mediterranean schismus
<i>Stipa pulchra</i>	Purple needle grass

SYMBOLS AND ABBREVIATIONS:

* Non-native species

sp. Identified only to genus; species unknown (plural = spp.)

CNPS-4.2 – California Native Plant Society Rare Plant Rank 4.2