BIOLOGICAL RESOURCES TECHNICAL REPORT

Corrections Corporation of America (CCA)

California City - 215-Acre Site

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SUMMARY

This report describes the results of data collected during May 23-27, 2016 on the biological resources of a 215-ac. property owned by the Corrections Corporation of America (CCA) just east of their existing correctional facility in California City, Kern County, California. The property occurs in the Western Mojave Desert ecoregion at an elevation of 2,550 to 2,700 ft.

CCA is proposing to develop correctional/rehabilitation facilities that may be located within one or more operational areas, with supporting facilities and infrastructure on the 215-ac. property located in an undeveloped area approximately 8 mi. east of the city. The "project area" includes two components: the 215-ac. site and the alignment for the project utilities ("linears"), which includes segments of Twenty Mule Team Pkwy., Gordon Blvd., Virginia Blvd., and 145th St. Utility installation is anticipated to occur within the paved road surface and/or the adjacent denuded shoulder.

The surveys were conducted in accordance with state and federal guidelines for biological surveys, and included protocol-level surveys for desert tortoise (*Gopherus agassizii*) (DT). Protocol-level trapping surveys for Mohave Ground Squirrel (MGS) were not conducted due to seasonal scheduling constraints. Permission was granted by the California Department of Fish and Wildlife to use camera stations as an alternative survey method (Reagen O'Leary, pers. comm.). Transect-based botanical surveys were conducted concurrent with the protocol-level wildlife surveys. The botanical surveys were floristic in nature; all species encountered were identified to a species or to a level necessary for detecting special-status species, if present. This report includes a discussion of the methods employed to conduct the surveys, including background pre-field research, field surveys, and survey limitations. It includes a description of the environmental setting and a site-specific description of the plant communities that occur within the study area. Special-status species documented within the project area and species known to occur in the project vicinity are discussed, as are noxious weeds found in the project area.

During the protocol-level surveys for DT conducted during May 23-26, one active DT burrow was detected and several Class 3 DT burrows were also mapped. There were no burrowing owl (*Athene cunicularia*) (BUOW) detections, and one active desert kit fox (*Vulpes macrotis arsipus*) natal den (active this year) was found. The nine camera stations that were set up on the site for MGS surveys (and removed seven days later) detected only common ravens (*Corvus corax*). No active bird nests were found on the site and one loggerhead shrike (*Lanius ludovicianus*) – a California Department of Fish and Wildlife (CDFW) species of special concern – was observed

offsite. Weather conditions onsite during the protocol-level surveys were generally warm, clear, and breezy but somewhat below average temperature, based on data collected in nearby Mojave.

No special status plant species were observed on the 215-ac. site or linears during the botanical surveys. Survey timing coincided with the bloom season for late-blooming special-status plant species. However, early season plant species, if present, would not be detected during late May surveys, unless identifiable by fruit or seed characters, or vegetative characteristics, such as cacti. Mitigation measures for early season pre-construction plant surveys are included in this report, with guidelines for assessing significance and implementing mitigation if found.

Prior to the start of surveys, nearby reference populations of two early-blooming and locally occurring rare plant species were visited to determine whether those species were still identifiable at the time of the survey and to obtain a visual image of the target species, associated habitat, and the associated natural community. Barstow woolly sunflower (*Eriophyllum mohavense*) and desert cymopterus (*Cymopterus deserticola*) could not be detected at six nearby reference populations, and were likely limited by timing. However, both species were observed at other nearby reference populations in March (LaBerteaux pers. comm., Cloud-Hughes pers. comm.) despite low rainfall in the seven months leading up to the survey.

No suitable habitat is present in the project area for the only state-listed endangered plant species known from the region -- Mojave tarplant (*Deinandra mohavensis*), which is associated with seeps, grassy swales, and intermittent streams in mountainous areas (Dudek and ICF 2012); therefore, no reference populations of Mojave tarplant were visited. Red Rock tarplant (*Deinandra arida*) is a state-designated rare species found on seeps and seasonally moist habitats in the Red Rock Canyon area. Marginally suitable habitat for Red Rock tarplant is present in the project area on the small, shallow, episodic stream channels in the western two-thirds of the 215-ac. site, and channels that cross the linears. These habitats were surveyed comprehensively and neither species was found. Surveys coincided with the bloom period of the late-season special-status plants known to occur in the region. A late April 2016 survey of the Last Chance Canyon reference population suggested rainfall was adequate to support germination of Red Rock tarplant.

Suitable habitat is present on the alluvial portions of the 215-ac. site and less-disturbed portions of the linears for Barstow woolly sunflower, a non-listed California Rare Plant Rank (CRPR; formerly California Native Plant Society [CNPS]) 1B plant species with several known populations in the project vicinity. Based on the habitat characteristics of nearby reference populations of desert cymopterus, only a small area of suitably loose sandy habitat was present

in the project area, located along Twenty Mule Team Pkwy. This same small area could also potentially support another CRPR 2B species known from the area – sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*). However, the portion of the linears closest to the edge of pavement is highly disturbed and weedy, which limits the suitability of the habitat for either species.

The survey also considered plant species protected under the California Desert Native Plants Act (CDNPA), which requires a permit for harvesting several native tree and cactus species. A total of 19 individuals of CDNPA plant species were inventoried on the 215-ac. site: 9 individuals of barrel cactus (*Ferocactus cylindraceus*) and 2 individuals of cottontop cactus (*Echinocactus polycephalus*) were found on the rock outcrops in the northernmost portion of the project area, and 8 individuals of silver cholla (*Cylindropuntia echinocarpa*) were distributed throughout the alluvial portions of the 215-ac. site.

No rare natural communities (alliances or associations) were found in the project area. Only one distinct plant community occurs in the project area – a creosote bush-white bursage alliance that is common and widespread regionally (Sawyer et al. 2009). No rare or unique associations within this alliance were observed. The rock outcrops that contain barrel cactus and cottontop cactus support an association of creosote bush-white bursage and California buckwheat that is distinct from the surrounding creosote bush scrub; however, it is not a rare association and cacti are only a very minor component (<1%).

The 215-ac. site has a network of off-highway vehicle (OHV) roads that apparently are still used by OHVs on weekends, according to the correctional facility staff. However, soil disturbance is generally limited to the roads. Elsewhere on the 215-ac. site, the habitat is relatively undisturbed but the herb layer is dominated by the invasive exotic species filaree (*Erodium* spp.) and Mediterranean grass (*Schismus* spp.), characteristic of lands in the Mojave Desert with a history of grazing. On the linears, the area within approximately 10 ft. of the edge of pavement is generally highly disturbed and densely weedy.

No noxious weed species, as defined by the California Department of Agriculture (CDFA), were observed on 215-ac. site except along tortoise fencing on the east edge of the existing prison facility. However, a large infestation of the noxious weed Russian thistle (*Salsola tragus*) occurs on the linears at the west end of Twenty Mule Team Pkwy., on the south side of the road, with scattered small populations extending to the east along the road edge.

LIST OF ACRONYMS

ac.	acre/acres
BLM	Bureau of Land Management
BRTR	Biological Resources Technical Report
BUOW	Burrowing owl
CALA	Coyote
CCA	Corrections Corporation of America
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDNPA	California Desert Native Plants Act
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNPS	California Native Plant Society
CNDDB	California Natural Diversity Data Base
comm.	Communication
CRPR	California Rare Plant Rank (formerly CNPS List)
DRECP	Desert Renewable Energy Conservation Plan
DT	Desert tortoise
FESA	Federal Endangered Species Act
ft.	feet/foot
GANDA	Garcia and Associates
GIS	Geographic Information System
GPS	Global Positioning System
in.	inch/inches
m	meter/meters
MBTA	Migratory Bird Treaty Act
MGS	Mohave ground squirrel
mi.	mile/miles
MOU	Memorandum-of-Understandiing

NRCS	Natural Resource Conservation Service
obv.	Observation
pers.	Personal
Pkwy.	Parkway
SP	State Park
U.S.	United States
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VUMA	Desert kit fox

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FIGURES AND TABLES

1.0 INTRODUCTION

This report describes the results of surveys conducted to collect data on plant communities and special-status plants and wildlife collected during a May 23-27, 2016 survey of the proposed improvements to the Corrections Corporation of America (CCA) existing correctional facility in California City, Kern County, California (Figure 1).

A preliminary assessment of biological resources was conducted on the site in 2009 and again in 2016 to identify permitting needs and regulatory compliance issues for the potential future development (CH2M 2016). The results of the February 26 and April 13, 2016 preliminary assessment surveys conducted by CH2M Hill biologists and Howard Clark, the Garcia and Associates (GANDA) lead wildlife biologist are described in this technical memorandum, are contained under separate cover (CH2M 2016). The surveys did not include a delineation of state or federal waters.

1.1 Project Description

CCA is evaluating options for development of a 215-ac. property ("215-ac. site") adjacent to the existing California City Correctional Center in California City, Kern County, California. CCA owns a total of 320 ac. at this location. The existing correctional facility is located on a 67.5-ac. section of the northwest portion of this parcel. Another proposed 2,200-bed facility has been planned and permitted for the 35-ac. area in the southwest corner of the parcel. The 215-ac. site comprises the remainder of the CCA-owned property to the east of the existing and permitted facilities noted above. The project area also includes the alignment for the project utilities ("linears") shown in Figure 1 to the northwest of the 215-ac. site.

1.1.1 Project Location

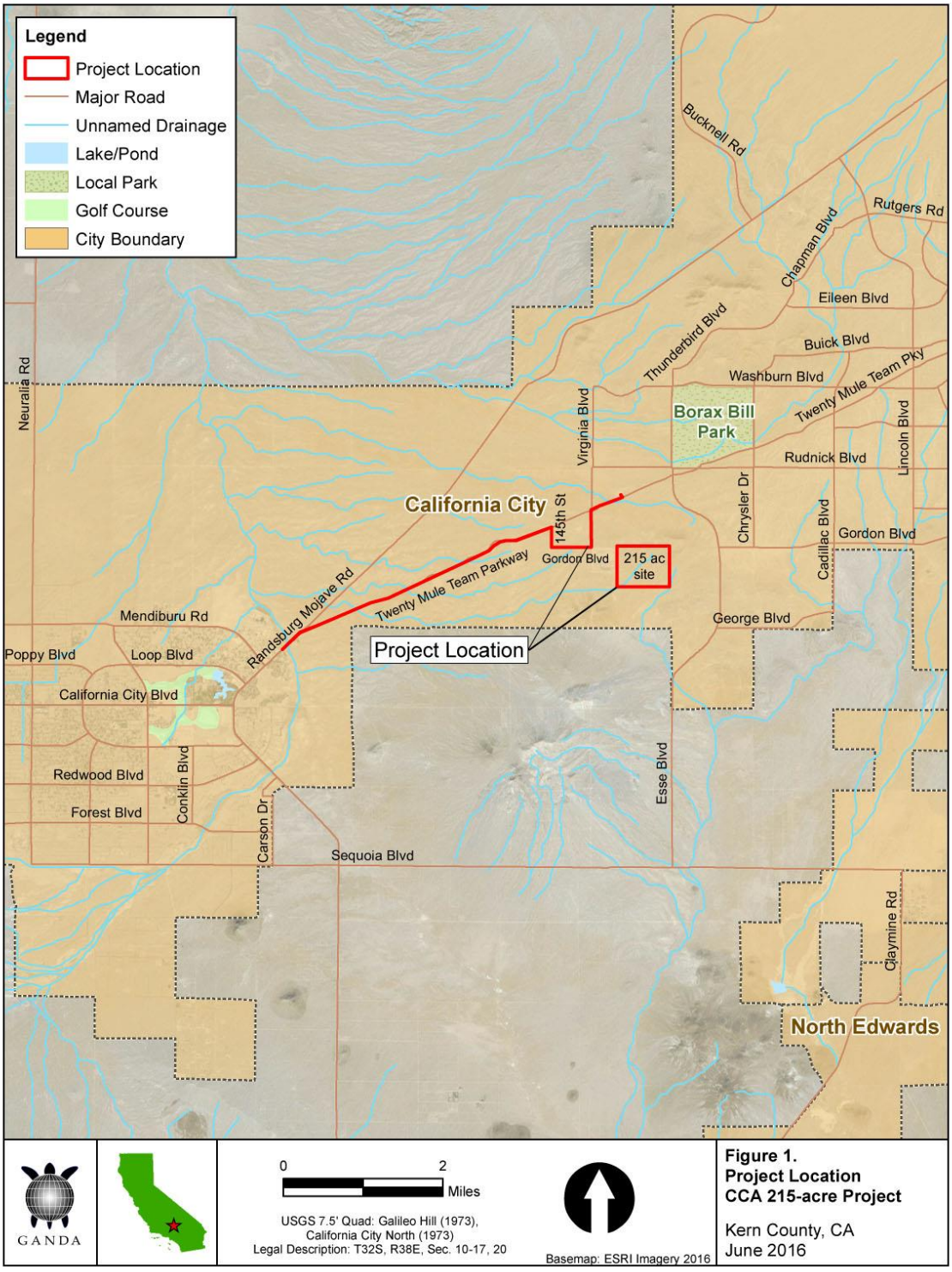
The entire project area and linears are located on the *Galileo Hill* USGS 7.5 minute quadrangle in Township 32 South, Range 38 East, Section 12. The linears are located on portions of Sections 10 to 17 and 20. The UTM coordinates at the southwest access point for the project area via Lindberg Blvd are: 3889826N, 422013E.

The linears encompass an approximate 4-mile segment of Twenty Mule Team Pkwy. between Randsburg-Mojave Rd. and the existing water storage facility just east of the entrance to the existing facility and west of Borax Bill Park. It also includes Virginia Blvd., the entrance to the

existing California City Correctional Facility, portions of Gordon Blvd. west of the existing facility, and 145th St. between Twenty Mule Team Pkwy. and Gordon Blvd. Utility installation is anticipated to occur within the paved road surface and/or the adjacent denuded shoulder along the linears.

The project area is located within the West Mojave Plan, a Habitat Conservation Plan produced by a coalition of local, state, and federal jurisdictions to provide a conservation strategy and streamlined program for complying with the requirements of the California and federal Endangered Species Acts (CESA and FESA, respectively).

The project area is contained within the Western Mojave Desert ecoregion in the basin among the southern Sierra Nevada to the north, the Tehachapi Mountains to the west, and San Bernardino Mountains to the south. Elevations on the 215-ac. site range from approximately 2,700 ft at the northeast corner to 2,550 ft at the southwest corner. The linears range in elevation from 2,350 ft at the western end, just outside the developed area of California City, to 2,575 ft at the eastern end, near Borax Bill Park.


Legend
Project Location
Major Road
Unnamed Drainage
Lake/Pond
Local Park
Golf Course
City Boundary
Bucknell Rd
Rutgers Rd
Chapman Blvd
Eileen Blvd
Thunderbird Blvd
Buick Blvd
Washburn Blvd
Twenty Mule Team Pky
Neuralia Rd
Virginia Blvd
Borax Bill Park
Rudnick Blvd
Lincoln Blvd
Chrysler Dr
Cadillac Blvd
Gordon Blvd
California City
145th St
Gordon Blvd
215 ac site
Twenty Mule Team Parkway
Randsburg Mojave Rd
Mendiburu Rd
George Blvd
Project Location
Poppy Blvd
Loop Blvd
California City Blvd
Redwood Blvd
Forest Blvd
Conklin Blvd
Carson Dr
Esse Blvd
Sequoia Blvd
Claymine Rd
North Edwards
GANDA
0
2
Miles
USGS 7.5' Quad: Galileo Hill (1973),
California City North (1973)
Legal Description: T32S, R38E, Sec. 10-17, 20
Basemap: ESRI Imagery 2016
Figure 1.
Project Location
CCA 215-acre Project
Kern County, CA
June 2016

2.0 METHODS

Comprehensive biological resource surveys of the project area were conducted on May 23-27, 2016, and included both botanical and wildlife surveys. The areas surveyed included the 215-ac. site as well as the linears (Figure 1). The survey of the 215-ac. site was limited to the property boundary. Surveys of the linears encompassed an area extending approximately 15 to 20 ft out from the edge of pavement on both sides of the road.

2.1 Pre-field Research

Prior to the start of the surveys, GANDA biologists compiled and reviewed relevant botanical and wildlife information on the project vicinity to provide a regional context and develop a target list of special-status species with potential to occur in the project area. The following sources of information were consulted to develop a target list of special-status species:

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) results for Galileo Hill USGS 7.5 minute quadrangle and surrounding quadrangles (California City North; Cantil; Saltdale SE; Johannesburg; Boron NW; Boron; North Edwards; California City South);
- U.S. Fish and Wildlife Service (USFWS) list of special-status plant and wildlife species known to occur in the general project vicinity (USFWS 2016);
- CNPS Electronic Inventory of Rare and Endangered Plants (CNPS 2016) results for Galileo Hill USGS 7.5 minute quadrangle and surrounding quadrangles;
- Calflora Occurrence Library and Consortium of California Herbaria (Calflora 2016; CCH 2016);
- NatureServe: Encyclopedia of Life (NatureServe 2016);
- California Desert Native Plant Protection Act (CDNPA) list of regulated plant species;
- Kern County zoning ordinances (Kern County 2009);
- California Department of Food and Agriculture (CDFA) noxious weed lists (CDFA 2016);
- Draft Desert Renewable Energy Conservation Plan (DRECP) species accounts (Dudek and ICF 2012);
- Beacon Solar Power Project (BSPP) Application for Certification (Beacon 2008);
- Biological survey report for the U.S. Borax 2,530-ac. conservation easement near North Edwards (GANDA 2015);

- Recurrent Energy (RE) Distributed Solar Project Biological Resources Assessment Supplement (Recurrent Energy 2011);
- Alta-Oak Creek Mojave Project (Terra-Gen 2009), and
- West Mojave Plan (WEMO) (BLM 2005; BLM 2012)

Special-status species determined in the pre-field research to have potential to occur in the survey area, based on known or documented general and micro-habitat preferences and local or regional distribution, are provided in Table 1 in the Results section of this report, along with a rationale for the assessment of potential occurrence, and a brief summary of the survey results. A map showing the location of special-status species documented within a five-mile radius of the project is provided as Figure 2.

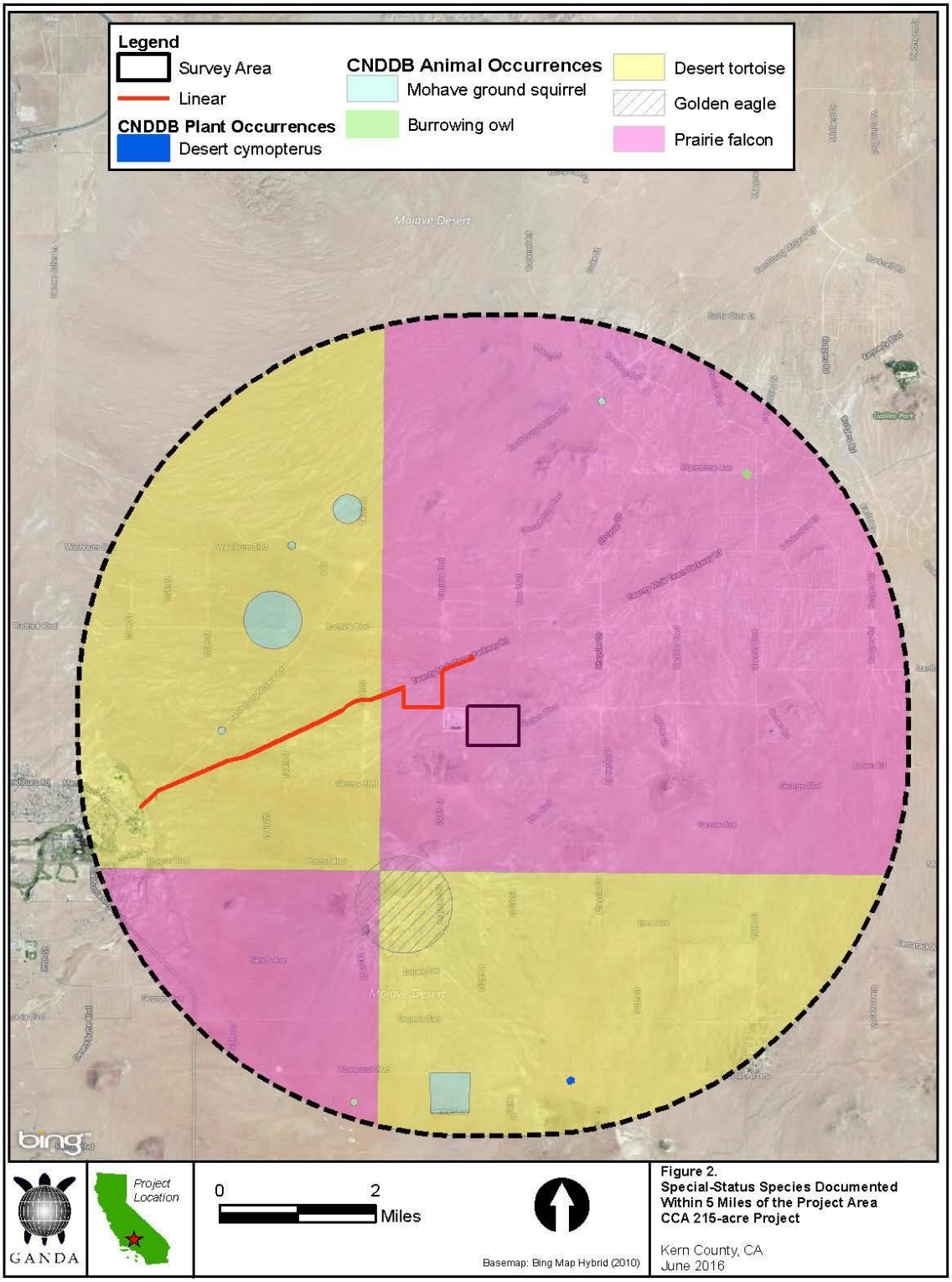


Figure 2.
Special-Status Species Documented Within 5 Miles of the Project Area
CCA 215-acre Project

Kern County, CA
June 2016

2.2 Wildlife Surveys

The objective of the wildlife surveys was to identify and describe existing wildlife use and habitat on the project area, with a focus on presence/absence surveys for desert tortoise (*Gopherus agassizii*), burrowing owl (*Athene cunicularia*), and Mohave ground squirrel (*Xerospermophilus mohavensis*). Surveys for all other special-status wildlife were conducted concurrently with the protocol-level surveys for desert tortoise, described in more detail below. Study limitations are discussed in the Results section of this report. A list of all animal species observed during the surveys is provided in Appendix B.

Wildlife surveys were led by Howard Clark. Mr. Clark has over 20 years conducting wildlife surveys, including protocol level surveys for the burrowing owl, kit fox, and Mohave ground squirrel. He currently holds a Memorandum-of-Understanding (MOU) with CDFW for the Mohave ground squirrel.

2.2.1 Desert Tortoise

Spring 2016 desert tortoise surveys followed the guidelines published in the USFWS *Field Survey Protocol for any Non-Federal Action That May Occur within the Range of the Desert Tortoise* (protocol) (USFWS 1992), with the following exception: no surveys were conducted of the five zone of influence (ZOI) transects that are typically required outside of and parallel to the disturbance area at 100 ft., 300 ft., 600 ft., 1,200 ft. and 2,400 ft. due to trespassing concerns on private property. In addition, the linear portion of the project was not surveyed on foot (including the linear ZOI) due to trespassing and safety concerns. However, the linear portion was surveyed via vehicle where accessible along frontage dirt roads (i.e., powerline rights of way). Habitat within the ZOI and linear buffer corresponded to the habitat within the project area. Surveyors visually inspected the adjacent buffer from within the project area. Desert tortoise surveys were completed between May 23 and May 26, 2016. Project biologists included Howard Clark, Minh Dao, Bart Haralson, and Mike Zerwekh. Surveys were conducted only in the study area footprint.

The survey area was surveyed according to protocol by spacing transects 10 meters (m) apart along east-to-west-oriented transects. The survey was conducted by slowly and systematically walking linear transects while surveyors visually searched for desert tortoise and sign. Particular emphasis was placed on searching around the bases of shrubs and along the banks of shallow washes. All types of tortoise sign were recorded using Global Positioning System (GPS) technology. Surveys were conducted during the day.

Photographs of tortoise sign were taken, and burrows, scat, and other sign were classified using the *Information Index for Desert Tortoise Sign: Burrows and Dens, Scats and Shell Remains* as in the *USFWS Field Survey Protocol for any Non-Federal Action That May Occur within the Range of the Desert Tortoise* (protocol) (USFWS 1992).

Generally, under this classification system for tortoise sign, burrows coded by the observer as Class 1, 2, or 3, are identified as tortoise burrows with greater confidence than burrows coded as Class 4 or 5, which have the potential to be tortoise burrows but cannot be confirmed as tortoise. The tortoise burrow classification system requires that observers determine the following if:

- burrows have been recently used and are therefore active burrows (there is tortoise sign present, such as scat, tracks, etc.);
- burrows can be classified as definitely or possibly tortoise, and
- burrows are in good condition (i.e., could be used by a tortoise in the current condition) or deteriorated condition (i.e., would need modification by a tortoise to be used).

Height, width, and depth (estimated) measurements of desert tortoise (*Gopherus agassizii*) (DT) burrows were taken.

2.2.2 Burrowing Owl

Spring 2016 burrowing owl surveys were conducted at the same time as the desert tortoise surveys. The first step of the burrowing owl protocol was followed as described in the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Wildlife 2012). The first step in the protocol is a habitat assessment, which was completed in May 2016 for the 215-ac. area. Habitat within the buffer corresponded to the habitat within the project area. Surveyors visually inspected the adjacent buffer from the project area for burrowing owl sign. The second step in the protocol includes four surveys, which were not conducted. Because field surveys began in late May, completion of a full complement of the four surveys was not possible within the required time periods. The protocol calls for surveys to be conducted between February 15 and April 15, followed by three more surveys at least three weeks apart between April 15 and July 15. At least one survey must be conducted after June 15. Due to the timing of project initiation, surveys began on May 23, which was more than five weeks after the end of the first survey period (February 15 to April 15). Had four surveys been conducted staring on May 23 and spaced three weeks apart, the final survey would have been conducted on July 25, approximately 1.5 weeks after the end of the period for the last survey (July 15). As such, conducting four surveys in 2016 would have resulted in survey timing being incompatible with the first and last protocol survey periods. Although the linear portion of the project was not surveyed on foot, information was

gathered from points along the linear routes that contained potential BUOW habitat. This information was used in an assessment for BUOW habitat along the linears.

The habitat assessment of the 215-ac area was conducted during the DT surveys. As described previously, transects were spaced 10 m apart along east-to-west-oriented transects. The survey was conducted by slowly and systematically walking linear transects while surveyors visually searched for burrowing owls and sign. Each burrow encountered was evaluated for burrowing owl use. Special care was taken to search for prey remains, whitewash, pellets, and tracks. Burrowing owl surveys were completed between May 23 and May 26, 2016. Project biologists included Howard Clark, Minh Dao, Bart Haralson, and Mike Zerwekh. This intensive coverage of the site provided ample information for the habitat assessment. Such assessments for BUOW generally do not have an expiration date unless site conditions change (O'Leary pers. comm.).

2.2.3 Mohave Ground Squirrel

Spring 2016 Mohave ground squirrel surveys were conducted by deploying 9 Bushnell® Trophy Cam HD 12MP Vital Trail Cameras (Bushnell Outdoor Products, Overland Park, KS) systematically throughout the project area. Cameras were attached to wooden stakes and aimed at a pile of 4-way horse feed bait. Each camera was set to a sensitive setting in order to detect small mammals. No cameras were placed along the linear portion of the project due to safety and high potential for theft of the cameras. Cameras were placed in a 3 x 3 grid formation with each camera spaced an average of 250 m apart. Cameras were established on May 24, 2016 and recovered on May 31, 2016. Protocol-level trapping surveys were not conducted due to scheduling constraints. Permission was granted by the California Department of Fish and Wildlife to use camera stations as an alternative survey method (O'Leary pers. comm.).

2.3 Botanical Surveys

The objective of the botanical surveys was to identify and delineate the existing vegetation communities on the project area, and conduct botanical surveys for special-status plants, as well as plant species protected under the CDNPA and local general plan policies or zoning ordinances.

2.3.1 Special-Status Plant Surveys

Surveys for special-status plants and rare natural communities were generally conducted in accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009), and *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 1996). Due to

timing of project initiation, the surveys began on May 23, 2016; as such, surveys were not adequately timed for detecting early blooming special-status plants with potential for occurrence, based on the presence of suitable habitat and known populations in the project vicinity. Recommendations for additional pre-construction surveys are included in this report.

Visits to reference populations are recommended to familiarize surveyors with the species having potential to occur in the project area to determine whether they are identifiable at the time of the surveys, and to obtain a search image of the species and habitat characteristics. Reference populations were visited for the three special-status plant species known from the project vicinity with potential for occurrence, based on the presence of suitable habitat and known occurrences within approximately 15 miles of the project area. For example, six nearby populations (reference sites) for desert cymopterus (*Cymopterus deserticola*) and Barstow woolly sunflower (*Eriophyllum mohavense*), located in the California City-Mojave-Boron area, were visited prior to the start of surveys to determine if those two early-blooming species were identifiable at the time of May survey. One reference population of the state rare species Red Rock tarplant was visited in late April 2016 (Chainey-Davis pers. obv.). Limitations of the botanical surveys are discussed in the Results section of this report.

The floristically-based surveys, including visits to nearby reference populations and plant identification, were conducted by GANDA botanist Carolyn Chainey-Davis. Ms. Chainey-Davis has over 28 years of experience conducting botanical surveys, including surveys of the California Desert region, and recent surveys in the immediate project vicinity. Nomenclature used in this report is consistent with *The Jepson Manual, Vascular Plants of California, 2nd Edition* (Baldwin et al. 2012) and the *Jepson eFlora* (The Jepson Project 2012).

Transects were conducted at approximately 6 to 50 ft intervals, depending on the suitability of the habitat to support special-status species known from the nine-quadrangle region surrounding the project area. Portions of the project area containing suitable habitat to support listed species and other special-status plants were surveyed comprehensively. These included ephemeral streams and swales, rock outcrops, loose sandy areas, and other microhabitats.

Although the alluvial portions of the site have potential to support Barstow woolly sunflower and several other special-status plant species, these habitats were surveyed less intensively because no annuals were still in bloom or identifiable on the drier flats between stream channels; additional early season surveys would be required for detecting several species with potential for occurrence. During the May surveys, the only early to mid-season annuals still identifiable were concentrated along the episodically moist ephemeral stream channels; these habitats, as well as

the rock outcrops with potential for special-status cacti, and other microhabitats were surveyed comprehensively at 100 percent coverage.

A total of 40 person-hours were conducted in the field by a qualified botanist; 32 hours were spent conducting floristic botanical surveys of the 215-ac. site, representing a total of 5.4 ac. per man hour. A total of 8 hours were dedicated to botanical surveys of the linears. An additional 5 hours was spent doing plant identification. The CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009) recommend the following minimum standard for level of effort:

> "The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity, which determines the distance at which plants can be identified. Conduct surveys by walking over the entire site to ensure thorough coverage, noting all plant taxa observed. The level of effort should be sufficient to provide comprehensive reporting. For example, one person-hour per eight acres per survey date is needed for a comprehensive field survey in grassland with medium diversity and moderate terrain, with additional time allocated for species identification."

The level of effort spent conducting botanical surveys of the relatively homogeneous project area exceeded this minimum level of effort. Nevertheless, the surveys were inconclusive for some special-status species due to survey timing. One early season survey would be required to confirm presence or absence of special-status plants.

2.3.2 Vegetation Mapping

During the field survey, vegetation communities in the project study area were characterized based on the classification system in *A Manual of California Vegetation (MCV)* (Sawyer et al. 2009) and mapped using aerial imagery. The *Manual of California Vegetation* and the *List of Vegetation Alliances and Associations* (CDFW 2010) were consulted to determine the conservation status of natural communities (alliances or associations) present in the project area.

3.0 RESULTS

3.1 Environmental Setting

The project area and linears are located in the Fremont Valley portion of the Western Mojave subregion of the California Desert Province (Hickman 1993), an area characterized by low precipitation and humidity, high summer temperatures, relatively cool winter temperatures, strong fluctuations in daily temperatures, and strong seasonal winds. The western Mojave Desert lies on an elevated plain with scattered low mountain ranges. Average minimum and maximum temperature in the project region are 46.1 to 77.5 degrees Fahrenheit, with an average annual rainfall of 5.7 in. from 1895 to 2015 (PRISM Climate Group).

The project area is situated in the basin between the southern Sierra Nevada to the north, the Tehachapi Mountains to the west, and San Bernardino Mountains to the south. Elevations on the project area range from approximately 2,700 ft at the northeast corner to 2,550 ft at the southwest corner. The linears range in elevation from 2,350 ft at the western end, just outside the developed area of California City, to 2,575 ft at the eastern end, near Borax Bill Park.

The topography is generally moderately sloping (approximately 2-15%) and undulating. Granitic bedrock outcrops and rocky to gravelly soils occur along low linear ridges in the northern portion of the project area. These erosional pediment surfaces are overlain by a veneer of sandy-gravelly alluvium and cut by numerous small (2- to 8-ft wide) episodic channels that drain from the northeast to southwest, with several smaller channels draining the ridges of rock outcrops in the western portion of the project area. In some places, the veneer of alluvium is quite thin, and the resulting granitic “balds” or exposed caliche layers support a somewhat distinct suite of native annuals. The low point at the southwest corner is flatter, with fewer or no stream channels, and better developed and deeper soils. Saline-alkaline soils are not present on or near the site, which is elevated well above Koehn Lake (the nearest playa). No active or stabilized dunes or fine blow sand are present.

The site is crisscrossed by a network of small, primitive OHV roads. Although traffic is reported to be high on spring and summer weekends (according to the adjacent correctional facility staff), and the site experiences a high degree of human disturbance, soil disturbance is more or less confined to the roads. Noxious weeds are generally absent in the project area, but the herb layer is dominated by common and widespread weedy annuals, characteristic of areas currently or historically grazed by sheep.

3.2 Plant Communities

Vegetation in the Mojave Desert is strongly influenced by climate, elevation, and soils. A predominance of plants with morphological adaptations to endure extreme aridity (e.g., waxy or resinous leaf cuticles, drought deciduous or succulent plants, woolly leaf pubescence, and deep tap root systems). The morphological structure of these plants is typically characterized by short stature, with shrubs widely spaced due to competition for soil water resources (Hickman 1993, Moe and Twisselmann 1995).

Vegetation in the project area consists entirely of an alliance of creosote bush-white bursage (*Larrea tridentata- Ambrosia dumosa* alliance). This alliance is common and widespread regionally with no apparent threat to its security (Sawyer et al. 2009). No rare or unique associations within this alliance were observed.

The shrub layer is of a low to moderate diversity, with creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) representing 90 percent or more of the relative cover of shrubs. Total vegetative cover in the shrub layer ranges from about 5 to 8 percent. Creosote bush plants range in size from 3 to 4 ft. high; white bursage plants form dense small mounds to 18 in. and have somewhat higher density along the drainages. Other shrub species comprise a small component of the total cover but include white rubber rabbitbrush (*Ericameria nauseosa* var. *hololeuca*), narrow-scaled horse bush (*Tetradymia stenolepis*), California buckwheat (*Eriogonum fasciculatum*), and silver cholla (*Cylindropuntia echinocarpa*).

Cheesebush (*Ambrosia salsola*) is also found predominantly along the drainages. In general, the drainages have higher species diversity; other species found more often along the drainages include goldenhead (*Acamptopappus sphaerocephalus*), and Cooper's boxthorn (*Lycium cooperi*).

The rock outcrops support an association of creosote bush, white bursage, and California buckwheat, with a very minor component of barrel cactus (*Ferocactus cylindraceus*) and cottontop (*Echinocactus polycephalus*).

Perennials are occasional throughout and include apricot mallow (*Sphaeralcea ambigua*), wire lettuce (*Stephanomeria pauciflora*), wishbone bush (*Mirabilis laevis*), Mojave woody aster (*Xylorhiza tortifolia*), and desert needlegrass (*Stipa speciosa*).

Total vegetative cover in the herb layer is significantly higher, ranging from 15 to 35 percent, but is overwhelmingly dominated by two invasive non-native annuals characteristic of sheep-grazed

habitat in the west Mojave: Mediterranean grass (*Schismus* spp.) and filaree (*Erodium* spp.). Most spring-blooming annuals were well-past blooming stage; commonly encountered annuals that were still identifiable during the May surveys included bristly fiddleneck (*Amsinckia tessellata*), brittle spineflower (*Chorizanthe brevicornu*), desert dandelion (*Malacothrix glabrata*), slender goldfields (*Lasthenia gracilis*), suncup (*Camissonia campestris*), California mustard (*Caulanthus lasiophylla*), gilia (*Gilia* sp.), brown eyes (*Chylismia claviformis*), Booth's evening-primrose (*Eremothera boothii* ssp. *desertorum*), thistle sage (*Salvia carduacea*), and pincushion (*Chaenactis* spp.). Annuals still in bloom included: yellow blazing star (*Mentzelia affinis*), desert woollystar (*Eriastrum eremicum*), bright green buckwheat (*Eriogonum viridescens*), angle-stemmed buckwheat (*Eriogonum angulosum*), and pygmy poppy (*Eschscholzia minutiflora* ssp. *covillei*).

This same common and widespread plant community also bounds the alignment for the linears. However, the 10- to 20-ft area extending out from the edge of pavement on both sides of the alignment is largely disturbed and weedy. In the disturbed areas, creosote bush scrub is replaced by dense patches of rabbitbrush (*Ericameria nauseosus*) alternating with more open and weedy areas of invasive non-native plants, particularly along both sides of Twenty Mule Team Pkwy, which has been disturbed by the construction, maintenance, and/or OHV use of the transmission line road that parallels Twenty Mule Team Pkwy. Dominant non-native species include red brome (*Bromus madritensis* ssp. *rubens*), cheatgrass (*Bromus tectorum*), short-podded mustard (*Hirschfeldia incana*), and Oriental hedge-mustard (*Sisymbrium orientale*).

No rare natural communities (alliances or associations) were found in the project area. The only other distinct habitat is the association of creosote bush-white bursage and California buckwheat associated with the rock outcrops on the 215-ac. site, but this is not a rare natural community. Cacti are only a very minor component (<1%) of the habitat.

A map showing the distribution of plant communities on the project area is provided in Figure 3. Photographs of the vegetation and geomorphic features are provided in Figure 4.

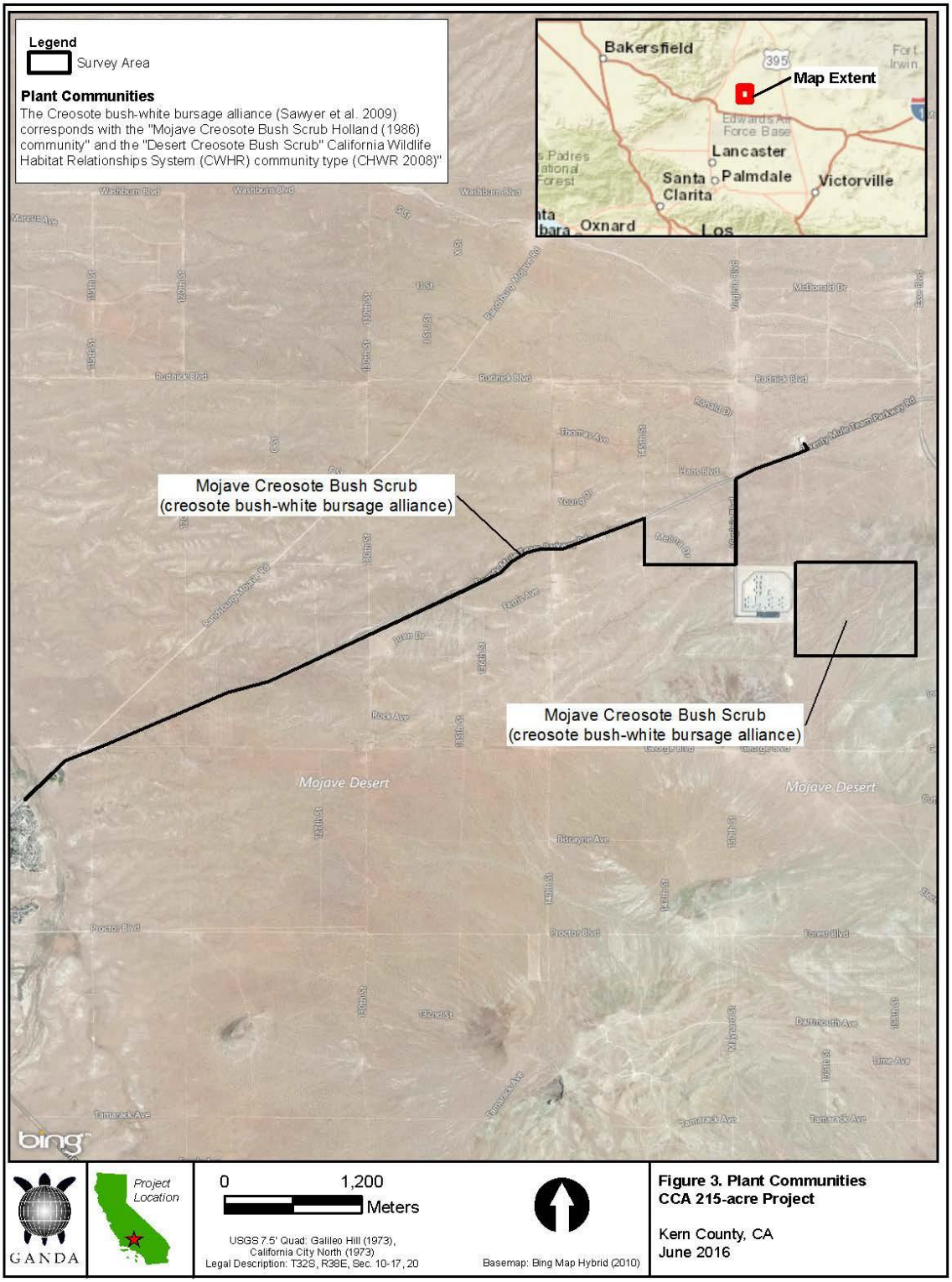


Figure 3. Plant Communities
CCA 215-acre Project

Kern County, CA
June 2016

Figure 4. Photographs of the Project Area Vegetation
Photo 1
Creosote bush scrub characteristic of the 215 ac. property, and the only distinct plant community in the project area. Taken from northeast corner, looking south.

Figure 4. Photographs of the Project Area Vegetation
Photo 2
Granitic bedrock outcrops occur in linear ridges throughout the northern portion of the 215 ac. property, cut by numerous small channels.

Figure 4. Photographs of the Project Area Vegetation
Photo 3
Micro-habitats such as this sparsely vegetated, sandy, granitic bald support a different suite of annuals.

Figure 4. Photographs of the Project Area Vegetation
Photo 4
Small, sandy, distributary channels are common throughout most of the 215 ac. property.

Figure 4. Photographs of the Project Area Vegetation
Photo 5
Habitat typical of the portion of the linears that includes Gordon Blvd and 145th St. Looking east toward the correctional facility.

Figure 4. Photographs of the Project Area Vegetation
Photo 6
Habitat typical of the portion of the linears that encompasses Twenty Mule Team Parkway. Unpaved roads parallel the paved road on the north and south sides.

3.3 Special-Status Species

3.3.1 Special-Status Wildlife

The discussion of survey results for special-status wildlife begins a list of all special-status species considered to have potential to occur in the project area (Table 1), including a summary of their habitat preferences, legal status, and potential to occur in the project area, followed by species accounts for the target species. The species accounts include a description of the life histories and habitat preferences of the target species, followed by a discussion of the survey results and survey limitations. A complete list of all wildlife species encountered during the surveys is provided in Appendix B.

During the protocol-level surveys for DT conducted May 23-26, 2016 one active DT burrow was detected and several Class 3 DT burrows were also mapped. There were no BUOW detections, and one active desert kit fox natal den (active this year) was found. The nine camera stations that were set up on the site during the surveys (and removed seven days later) detected only common ravens (*Corvus corax*). No active bird nests were found on the site, and one loggerhead shrike (*Lanius ludovicianus*) – a CDFW species of special concern – was observed off site. Weather conditions on site during the protocol-level surveys were generally warm, clear, and breezy but somewhat below average temperature, based on data collected in nearby Mojave. The results of the surveys are discussed in more detail below, following each species account. A map showing the distribution of wildlife sign and observations in the project area is presented in Figure 5. Because no wildlife sign or observations were detected along the linears, no figure is presented.

TABLE 1. SPECIAL-STATUS WILDLIFE POTENTIALLY OCCURRING IN THE PROJECT AREA

Scientific name	**Common Name**	**Status[1] Fed/State/ CDFW/**	**Habitat Preference/ Requirements**	**Survey Results and Discussion**	**Potential for Occurrence in the Project Area[2]**
Aquila chrysaetos	**golden eagle**	--/-- /FP,WL	Nests in canyons on cliffs and large trees in open habitats. Forages chiefly for mammalian prey in grasslands and over open areas.	No golden eagles were observed during the 2016 surveys. Nesting substrates are not present on site and no large trees occur on site or nearby.	**Possible.** Site lacks suitable nesting areas; however golden eagles have potential to occur on site for foraging.
Falco mexicanus	**prairie falcon**	--/--/WL	Nests primarily on cliff ledges, crevices, or cavities within shrub-steppe deserts and open grasslands.	No prairie falcons were observed during the 2016 surveys. No suitable nesting sites occur within the project footprint.	**Unlikely.** Site lacks suitable nesting areas; however golden eagles have potential to occur on site for foraging.
Lanius ludovicianus	**loggerhead shrike**	--/--/SSC	Occurs in open habitats utilizing shrubs, trees, posts, fences, and low utility lines for perches. Specifically prefers open foothill and valley woodlands with some canopy cover and adequate roosting and foraging perches. Forages in edge habitats, and in particular prefers shrubs adjacent to grasslands.	A single loggerhead shrike was observed just outside of the project area, within 300 ft of the linear component of the project. Loggerhead shrikes are expected to occur in the vicinity; the vegetative communities present on site are suitable for their foraging and nesting needs.	**Present.** A loggerhead shrike was observed within 300 ft of the linear component of the project. The species is likely to occur on site and within the vicinity based on that observation.
Toxostoma lecontei	**Le Conte's thrasher**	--/--/SSC	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus	No Le Conte's thrashers were observed during the 2016 surveys. Suitable shrubs and cacti occur on site for nesting.	**Possible.** Le Conte's thrashers can potentially occur on site; suitable foraging habitat and nesting sites (spiny shrubs and cacti) occur throughout the site.

			in desert wash habitat, usually 2-8 ft above ground.		
Athene cunicularia	**burrowing owl**	--/--/SSC	Inhabits open, dry, annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.	Burrowing owl was not detected during the 2016 surveys. Numerous burrows dug by kit foxes and other species occur on site and can serve as suitable burrows for the owls. The site contains suitable habitat for foraging and other uses.	**Possible.** During the 2009 biological reconnaissance survey, a pair of burrowing owls was observed in the southeastern corner of the parking lot of the existing correctional facility. The burrow was located on the north side of the berm that runs along the southern perimeter of the parking lot. The active burrows recorded in 2009 were revisited during the 2016 survey. No burrowing owls or active burrowing owl burrows were observed during this survey. The Project site does contain suitable habitat for burrowing owl.
Xerospermophilus mohavensis	**Mohave ground squirrel**	--/**ST**/--	Inhabits open desert scrub, alkali scrub, and Joshua tree woodland; feeds in annual grasslands; restricted to Mojave Desert. Prefers sandy to gravelly soils, avoids rocky areas. Uses burrows at base of shrubs for cover. Nests are in burrows.	Reconnaissance and camera surveys did not detect Mohave ground squirrel. Other squirrel species, such as white-tailed antelope squirrels, were in very low densities site wide. The site occurs within the range of the species and, overall, the site is characterized as moderate quality habitat, based on disturbance	**Possible.** According to Leitner (2015), six nearby records of the Mohave ground squirrel occur, mainly around the Desert Tortoise Natural Area, approximately 2 to 5 mi. north of the project area. Two incidental observations were recorded approximately 6 mi. southeast of the project area.

				level, soil type, and vegetative community.	
Gopherus agassizii	**desert tortoise**	**FT/ST/**--	Prefers creosote bush habitat with annual wildflower blooms. Inhabits friable soil for burrow and nest construction, occurs in most desert habitats.	During the 2009 reconnaissance survey an adult male tortoise was observed just south of the Project site on the south side of Lindbergh Road. Tortoise sign (burrows and scat) was also observed in the southeast corner of the site. During the 2016 surveys an active tortoise den was found in the northeast quadrant of the site. Tortoise scat approximately a few weeks old was found 500 ft northeast of the den.	**Present.** An active desert tortoise burrow was found during the 2016 surveys. Numerous class 3 burrows were found throughout the 215-ac. site indicating historic use by unknown individuals over the past several years. During the 2009 reconnaissance surveys, an adult male was observed south of the site along Lindbergh Road.
Taxidea taxus	**American badger**	--/--/SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Needs sufficient food and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	No badger sign (prey excavations, dens, scat) was found during the 2016 surveys.	**Possible.** American badgers occur within the Mojave Desert at rather low densities, however, an occasional transient individual can move through the area. Prey species, such as kangaroo rats, occur on the site.
Vulpes macrotis arsipus	**desert kit fox**	--/--/FPM	Open desert, on creosote bush flats, and among sand dunes, generally in areas with less than 20 percent vegetation cover. Kit fox natal dens have several entrances, and a fox usually has several dens within its home	Kit fox dens, scats, and other sign were observed during the 2009 reconnaissance and the 2016 surveys. Several natal dens were recorded, with one den likely active during the 2015-2016 breeding season, indicated by the	**Present.** During the 2009 and 2016 surveys sign of kit fox use of the site was commonly encountered. Several natal dens, ranging from one to several years old, indicate continual historic use of the site. Prey species, such

			range. The burrow entrance is a little higher than wide and too narrow for a coyote (*Canis latrans*) to enter. Tunnels extend for three to six m. Several different dens are used during the year.	presence of puppy scat and prey remains at the den entrances. Numerous single entrance dens, scattered throughout the site, indicate year-round use of the site by kit foxes.	as kangaroo rats, occur on site at moderate densities.

[1] STATUS CODES

FT = Federally threatened; FE = Federally endangered;

SE = State endangered; ST = State threatened;

CDFW = FP = CA Fully Protected; SSC = CA Species of Special Concern; FPM = PFM: Protected Fur-bearing Mammal; WL: Watch List

[2] POTENTIAL RANKING: The potential for special-status species to occur in the Project area was categorized using the following criteria:

None: Project is well outside the known geographic or elevational range, or lacks suitable habitat necessary for the species. Animals with highly restricted ranges are considered to have no potential to occur if the Project area is outside their known range, even if the required habitat characteristics are present onsite. **Unlikely:** Project may contain suitable habitat for this species but is outside its known geographic or elevational range.

Possible: Project is within the geographic and elevational range and has suitable habitat for the species.

Present: The species was observed during limited field investigations.

Potentially suitable habitat was assessed using species-specific requirements: Vegetation type (for example, shrublands); Habitat components (for example, substrate type, vegetation density, slope/aspect, if known); United States Department of Agriculture Soil Survey (if endemic to certain parent materials or soil texture or chemistry)

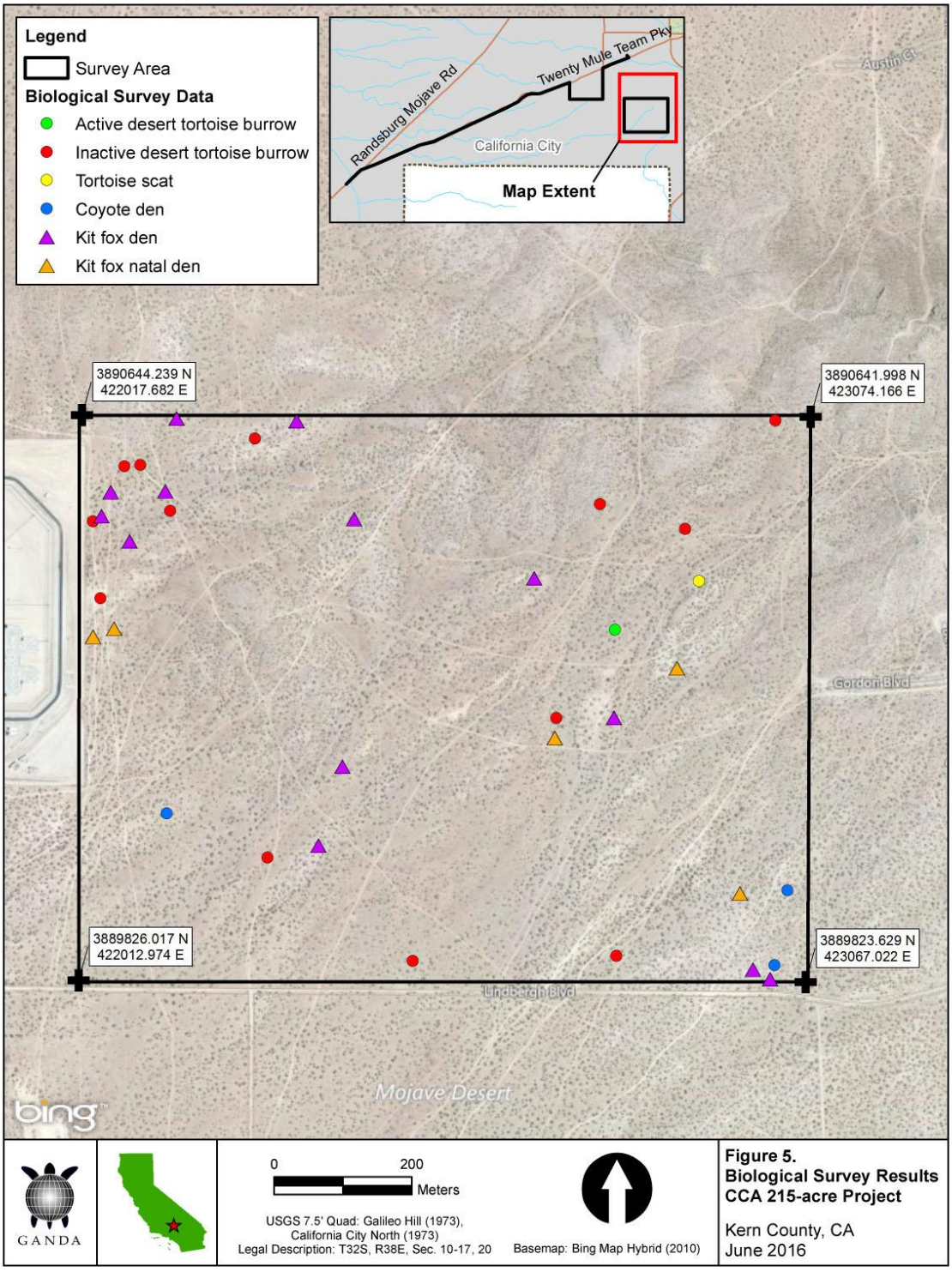


Figure 5.
Biological Survey Results
CCA 215-acre Project

Kern County, CA
June 2016

3.3.1.1 DESERT TORTOISE

The desert tortoise is a large slow growing herbivorous reptile that is well adapted to a variable and often harsh desert environment. In the United States, the desert tortoise's range includes portions of the Mojave and Sonoran Desert regions of southern California, southern Nevada, southwestern Utah, and western Arizona (Berry et al. 2002). In Mexico, the species is found throughout most of Sonora and into portions of Sinaloa. Based on genetic differences there are two recognized populations of desert tortoise in the United States; these are the Mojave and Sonoran populations. Recently, genetic data suggest these groups are unique species (Berry et al. 2002). Although the species often look similar, the differentiation between the Mojave and Sonoran assemblages of the desert tortoise are supported via multiple forms of evidence, including morphology, ecology, and genetics (Weinstein and Berry 1987; Lamb et al. 1989; Lamb and Lydehard 1994; Berry et al. 2002). The Mojave population includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, southwestern Utah, and in the Colorado Desert in California (a division of the Sonoran Desert).

Range wide, desert tortoises occupy a variety of physical locations including alluvial fans, washes, canyon bottoms, rocky hillsides, and bajadas (USFWS 1994). In the Mojave population, desert tortoises are most commonly observed in desert scrub communities dominated by creosote bush, white bursage (*Ambrosia salsola*), Mojave yucca (*Yucca schidigera*), and blackbrush (*Coleogyne ramosissima*) (USFWS 1994). At higher elevations, Joshua tree (*Yucca brevifolia*) and big galleta grass (*Pleuraphis rigida* = *Hilaria rigida*) are common indicators of tortoise habitat (USFWS 1994). However, the species is also known to occur in a variety of desert scrub communities and microphyll woodlands (USFWS 1994). Desert tortoises in the Mojave Desert are generally active between April and June, with a secondary activity period from September through October.

An important functional component that characterizes desert tortoise habitat is the availability of preferred forage, particularly annual forbs, native grasses, and succulents (i.e., cactus) (Zeiner et al. 1988). While many species of plants are taken, forbs are preferred over grasses, and green vegetation is preferred over dry (Zeiner et al. 1988). Some of the preferred forage species for desert tortoises in the Mojave Desert include various species of milk-vetch (*Astragalus* spp.), primrose (*Camissonia* spp.), spurges (*Euphorbia* spp.), lotus (*Lotus* spp.), and wishbone (*Mirabilis* sp.) (Jennings 1993). Jennings (1997) noted that about 70 percent of the bites taken by observed tortoises were on annual plants. Friable soils, such as sand and fine gravel, are an important habitat component, particularly for burrow excavation and nesting. The presence of soil suitable for digging burrows is considered a limiting factor to desert tortoise distribution (Jennings 1993, 1997). Burrows provide shelter from predators and thermal stress in areas where ground temperatures may range from below freezing to over 140° F (Jennings 1993, 1997). Depending

on the location desert tortoises can construct and maintain a series of single-opening burrows, and may use between seven to 12 burrows at a given time (Bulova 1994).

Desert tortoise have several natural predators including common ravens, desert kit foxes, American badgers (*Taxidea taxus*), roadrunners (*Geococcyx californianus*), and coyotes (*Canis latrans*). Bobcats (*Lynx rufus*) and mountain lions (*Puma concolor*) are also known to prey on this species (Jennings 1993, 1997). A variety of birds prey on desert tortoise, including red-tailed hawks (*Buteo jamaicensis*), golden eagles (*Aquila chrysaetos*), loggerhead shrikes, American kestrels (*Falco sparverius*), and burrowing owls (Boarman 2003).

During the 2009 reconnaissance survey (CH2M 2016), an adult male tortoise was observed just south of the project area on the south side of Lindbergh Road. Tortoise sign (burrows and scat) was also observed in the southeast corner of the site. During the 2016 surveys, an active tortoise den was found in the northeastern quadrant of the site. Tortoise scat estimated to be a few weeks old was found 500 ft northeast of the den. Small sticks were placed at the burrow entrance and checked a few times during the survey week. The sticks were lying flat on some of the checks, indicating that something either entered or exited the burrow. One class 2 burrow, nine class 3 burrows, and two class 4 burrows were found on the site indicating historic use by unknown individuals over the past several years. The site contains suitable habitat for the desert tortoise and currently supports at least one individual. The linears also appear to be suitable for the species.

Table 2, below, contains a list of all special-status wildlife sign documented in the project area, followed by representative photos of wildlife sign, and species accounts for Mohave ground squirrel, American badger, kit fox, and loggerhead shrike. Photographs of wildlife sign documented in the project area are provided in Figure 6.

TABLE 2. WILDLIFE SIGN DOCUMENTED IN THE PROJECT AREA

Type of Sign	*Description and Comments*	*Lat*	*Long*
CALA (*Canis latrans)* (coyote) den	Coyote (*Canis latrans*) den. Facing north. 12"x18". Three entrances.	35.149590°	-117.844948°
CALA den	Coyote (*Canis latrans*) den. Facing north. 16"x9". Not active.	35.148584°	-117.845092°
DT (desert tortoise) burrow	Old DT burrow 11"x7". Facing north. Spider webs present. At least 2' deep, likely not in use. Class 3.	35.155699°	-117.845157°
DT burrow	Collapsed DT burrow. Facing northwest. 7"x4". Likely at least 3-4 years old. Class 3.	35.155449°	-117.853422°
DT burrow	DT burrow. Facing north. 7"x4". Spider webs, looks to be at least a year old. Class 3.	35.155065°	-117.855269°
DT burrow	DT burrow. Facing south. 7"x5". At least 2 years old. Signs of erosion, dense spider webs. Class 3.	35.154996°	-117.855506°
DT burrow	DT burrow. Facing west. 8"x11", collapsed, at least year old. Entrance has collapsed, possibly was dug in. Class 3.	35.154598°	-117.847969°
DT burrow	DT burrow. Facing northeast. 4"x5". Fresh looking burrow, structure remains intact a foot inward. No spider webs. Class 2.	35.154325°	-117.856047°
DT burrow	DETO burrow. Facing north. 7"x6". At least a couple years old. Cobwebs present. Class 3.	35.154296°	-117.846573°
DT burrow	Potential DT burrow. Facing east. 6"x5". Looks to have been recently dug by VUMA. Roughly a year old. Class 4.	35.149937°	-117.853184°
DT burrow	DT burrow. Facing south. 6"x4". Collapse, at least 2-3 years old. Class 3.	35.153345°	-117.855882°
DT burrow	Active DT burrow. Facing west. 14"x7". Burrow is well maintained, at least four pieces of scat visible in burrow. Signs of dirt movement within burrow. Can't see back of burrow. Maintains shape further into burrow. Class 1.	35.153038°	-117.847722°
DT burrow	DETO burrow. Facing north. Class 3. 7"x4". Cobwebs present. At least 2 years old. Signs of erosion around mouth and within burrow. Entrance holds some shape. Class 3.	35.151793°	-117.848656°
DT burrow	DT burrow. Facing north. 14"x7". Cobwebs, signs of erosion, vegetation within burrow. Class 3.	35.148703°	-117.847635°
DT burrow	DT burrow. Facing southwest. 6"x4". Heavily collapsed, maintaining semblance of shape. Class 4.	35.148655°	-117.850837°
DT scat	DT scat. Around a couple weeks old. Two scats in area.	35.153620°	-117.846347°
VUMA (= *Vulpes macrotis arsipus* = desert kit fox) den	VUMA den. Facing northwest. 8"x6". Steep incline, curving to the right. Old kit fox scat present.	35.155641°	-117.852773°
VUMA den	VUMA den. Facing northwest. 8"x7". Found stuffed with empty one gallon water bottle and wrappers. Not active.	35.155694°	-117.854704°
VUMA den	VUMA den. Facing northwest. Small scat found around burrow. Cobwebs present. At least a year old.	35.154700°	-117.854836°
VUMA den	Facing northwest. Last used by kit fox but conditions of burrow suitable for future use by DT.	35.154499°	-117.854793°
VUMA den	VUMA den. Facing south. 12"x8". Steep incline. Signs of erosion, likely dug out.	35.154430°	-117.851895°

VUMA den	VUMA den. Facing north. 4"x5". At least a year old.	35.154005°	-117.855368°
VUMA den	VUMA den. Facing northeast. 7"x7". Likely used within last year.	35.153627°	-117.849000°
VUMA den	VUMA den. Facing northeast. 9"x9". At least 2 years old. Cobwebs present. Signs of erosion.	35.151792°	-117.847654°
VUMA den	VUMA den. Facing northeast. Opening in bush into burrow is 11"x7". VUMA scat present.	35.151162°	-117.852010°
VUMA den	VUMA den. Facing east. 8"x4". Signs of heavy erosion. Cobwebs present. Steep slope into burrow.	35.150476°	-117.854825°
VUMA den	VUMA den. Facing east. 10"x10". Likely still in use, fresh scat in immediate area.	35.150080°	-117.852345°
VUMA den	Kit fox den. Facing south. 5"x8". Active last year and intermittently this year.	35.148462°	-117.845431°
VUMA den	VUMA den. Facing north. 9"x7". Likely used last year.	35.148420°	-117.845180°
VUMA natal den	VUMA natal den. Facing southeast. Average burrow size 12"x8". Scat and bones present.	35.154748°	-117.855701°
VUMA natal den	VUMA natal den. Facing southeast. In creosote. Three burrow entrances, average of 10"x6". Kit fox scat and woodrat scat in area.	35.154391°	-117.855896°
VUMA natal den	VUMA natal den. Facing east. Average burrow entrance 6"x4".	35.152885°	-117.855637°
VUMA natal den	VUMA natal den. Facing northwest. Average burrow opening is 7"x4".	35.152813°	-117.855998°
VUMA natal den	VUMA natal den. Facing southwest. Average burrow size 6"x4".	35.152520°	-117.846695°
VUMA natal den	VUMA natal den. Active. Facing northwest. Keyhole shaped opening, 4"x9". J-shaped exit. Adult and pup scat present. Tracks present in soft soil, no more than a day old.	35.151546°	-117.848556°
VUMA natal den	VUMA natal den. Facing north. Main entrance 10"x8". Multiple entrances that lead to creosote. Roughly a year old.	35.149547°	-117.845656°

Figure 6. Photographs of Wildlife Sign
Photo 1

Active Desert Tortoise (*Gopherus agassizii*) burrow (35.153036, -117.847722)

Figure 6. Photographs of Wildlife Sign
Photo 2

Desert Tortoise (*Gopherus agassizii*) scat, few weeks old (35.153620, -117.846347)

Figure 6. Photographs of Wildlife Sign
Photo 3

Desert kit fox (Vulpes macrotis) natal den, possibly active this year
(35.152520, -117.846695)

Figure 6. Photographs of Wildlife Sign
Photo 4

Camera 7 with Common Raven (Corvus corvax)
(35.152520, -117.846695)

Figure 6. Photographs of Wildlife Sign
Photo 5
Long-nosed Leopard Lizard (*Gambelia wislizenii*)
(35.152520, -117.846695)

Figure 6. Photographs of Wildlife Sign
Photo 6
Desert Horned Lizard (*Phrynosoma platyrhinos*)
(35.152520, -117.846695)

3.3.1.2 MOHAVE GROUND SQUIRREL

The Mohave ground squirrel is rare throughout its range and is restricted to the Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo counties (Wessman 1977). This species inhabits desert areas, including alluvial fans, basins, and plains with deep sandy or gravelly friable soils with an abundance of native herbaceous vegetation (Wessman 1977). Mohave ground squirrels can be found in Mojave creosote bush scrub, shadscale desert scrub, alkali scrub, and Joshua tree woodland. This species feeds on green vegetation and seeds but may also eat carrion (Leitner 2015).

This diurnal ground squirrel is active above ground in the spring and early summer (Best 1995). Emergence dates vary from March to June, depending on elevation. Squirrels begin aestivation in July or August (Best 1995). Stored body fat is the principal source of energy for aestivation, although food is also stored in the burrows (Best 1995). Home range size averages approximately 0.91 ac. and varies from 0.25 to 2 ac. (Leitner 2015).

The Mohave ground squirrel is threatened by loss of habitat and degradation of habitat due to urban, suburban, and rural development; agriculture; military activities; energy development; livestock grazing; and off-highway vehicle use (Leitner 2015).

On April 13, 2016, Howard Clark (wildlife biologist, Garcia and Associates) assessed the habitat of the project area to determine suitability for occupation by Mohave ground squirrel. During the survey, no Mohave ground squirrels were observed, and only two white-tailed antelope squirrels (*Ammospermophilus leucurus*) were detected along the northwestern edge of the site.

Walk-over surveys for desert tortoise and burrowing owl occurred between May 23 and May 26, 2016 by project biologists. During these surveys, no Mohave ground squirrels were observed, and one white-tailed antelope squirrel was detected in the southwestern corner of the project area. Nine camera stations were established on the site on May 24, 2016 and recovered on 31 May, 2016 (Figure 7). Review of the camera data revealed no Mohave ground squirrel detections. Common ravens were photographed at camera stations 1, 7, and 8, and were the only wildlife species detected. The bait piles were largely intact after seven days on site, indicating few visits by wildlife.

According to Leitner (2015), six nearby records of the Mohave ground squirrel occur, mainly around the Desert Tortoise Natural Area, approximately 2 to 5 mi. north of the Project site. Two incidental observations were recorded approximately 6 mi. southeast of the site.

Overall, the project area, including linears, supports suitable habitat for the Mohave ground squirrel, however noting few incidental observations of the white-tailed antelope squirrel (a

rather ubiquitous species), may indicate the project area is characterized as moderate quality, based on disturbance level, soil type, and vegetative community.

Protocol-level trapping surveys for the Mohave ground squirrel were not conducted for the site, due to time and scheduling constraints, however camera station surveys were recommended instead. Per the survey protocol for this species (CDFW 2003), the first trapping session is from March 15 to April 30. Because each session consists of five days, the latest trapping could have begun was April 25. Due to the timing of survey initiation, field surveys did not begin until May 23, 2016 approximately one month after the end of the first trapping session.

Permission for use of cameras as an alternative method for assessing the occurrence of MGS was granted by the California Department of Fish and Wildlife on May 23, 2016 (O'Leary pers. comm.). Camera stations have been successful in detecting Mohave ground squirrels in previous studies conducted in collaboration with CDFW. For example, Leitner (2015) detected Mohave ground squirrels at 71% of camera sites in the central part of the range from Ridgecrest south to Kramer Junction and east to Hinkley, detecting 73 Mohave ground squirrel positive events during 15,200 trap days. In another example, 11 Mohave ground squirrels were detected using cameras during an 8-week period (April-May) on the US Borax mitigation site, approximately nine miles southeast of the project site (Garcia and Associates 2015). Garcia and Associates (2015) concluded that, "Results of the 2015 camera surveys suggest that camera traps are a viable alternative to live-trapping. Mohave ground squirrels were documented in 2015 in similar numbers and at similar locations as individuals live-trapped in 2010. The camera trap methodology is less intrusive and has less potential for injury and stress to the state-listed species." (Page 17, Garcia and Associates 2015; see Garcia and Associates 2011) The camera surveys at the US Borax site were repeated in 2016 and Mohave ground squirrels were detected at 17 locations (Tom Olson, pers. comm.). A better understanding of Mohave ground squirrel distribution within the US Borax mitigation site was accomplished with two years of camera data than with two years of live-trapping (Tom Olson, pers. comm.).

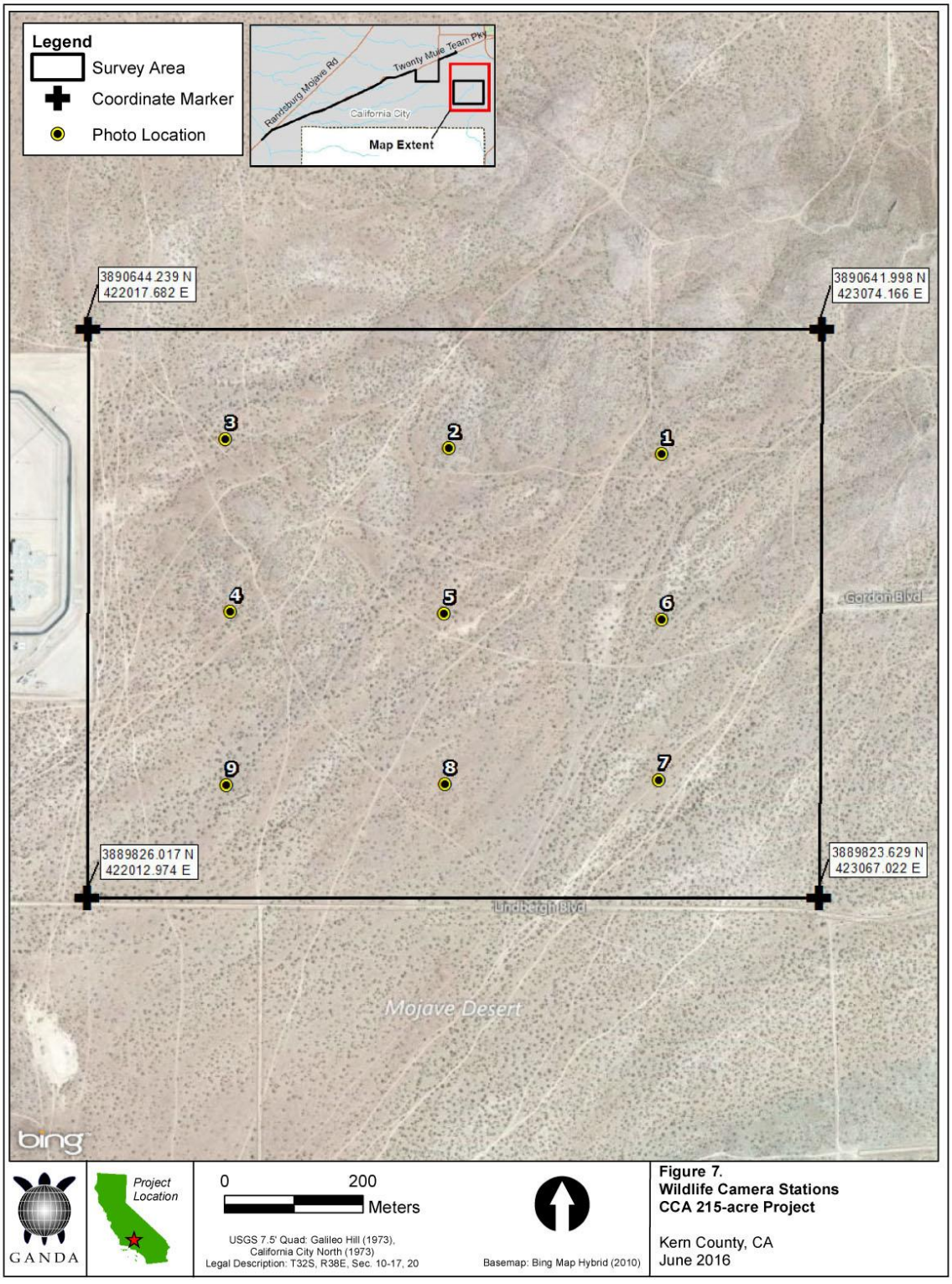


Figure 7.
Wildlife Camera Stations
CCA 215-acre Project

Kern County, CA
June 2016

3.3.1.3 AMERICAN BADGER

American badgers were once fairly widespread throughout open grassland habitats of California (Long 1973). They are now uncommon, permanent residents throughout most of the state, with the exception of the northern North Coast area. Known to occur in the Mojave Desert, they are most abundant in the drier open stages of most shrub, forest, and herbaceous habitats that support friable soils (Long 1973). Cultivated lands have been reported to provide little usable habitat for this species. They feed mainly on small mammals, especially ground squirrels, Botta's pocket gophers (*Thomomys bottae*), rats, mice, and chipmunks (*Tamias* spp.) (Long 1973). This species captures some of its prey above ground including birds, eggs, reptiles, invertebrates, and carrion. Its diet will shift seasonally and yearly depending upon prey availability. Badgers are fossorial, digging large burrows in dry, friable soils and will use multiple dens/cover burrows within their home range (Long 1973). They typically use a different den every day, although they can use a den for a few days at a time (Sullivan 1996). Cover burrows are an average of 30 ft. in length and are approximately 3 ft. in depth. Natal dens are larger and more complex than cover dens. In undisturbed, high-quality habitat, badger dens can average 0.64 den per ac., but are usually at much lower density in highly disturbed areas.

No dens were found during the 2016 surveys indicating use by American badger. There were no live badgers observed. Prey species, such as kangaroo rats, are present on site. Badgers may occur within the region, and transient individuals may move through the area from time to time.

3.3.1.4 DESERT KIT FOX

Desert kit fox is an uncommon to rare permanent resident of arid regions of the southern portion of California (Ahlborn 2000, Zeiner et al. 1988). The species occurs in annual grasslands, or grassy open, arid stages of vegetation dominated by scattered herbaceous species (Zeiner et al. 1988). Kit fox occur in association with their prey base which is primarily cottontail rabbits, ground squirrels, kangaroo rats, and various species of insects, lizards, or birds (Zeiner et al. 1988). Kit foxes are primarily nocturnal, and friable soils are necessary for the construction of dens, which are used throughout the year for cover, thermoregulation, water conservation, and rearing pups (Ahlborn 2000. Kit foxes typically produce one litter of about four pups per year, with most pups born February through April (Ahlborn 2000). While the desert kit fox is not listed as a special-status species by the State of California or the USFWS, it is protected under Title 14, California Code of Regulations, Section 460. The California Fish and Game Code (§§ 4000 - 4012) defines kit fox as a furbearing mammal and restricts take of this species.

During the 2016 walk-over surveys, 13 single entrance kit fox dens and 7 natal den complexes were detected. One of the natal den complexes showed recent use from the 2015-2016 breeding season, with puppy scat and prey remains scattered at some of the den entrances. Some of the

single entrance dens had scat nearby less than a year old. The dens are distributed throughout the site and show a range of conditions and use, indicating that the entire site is being used by kit foxes, currently and historically.

3.3.1.5 WESTERN BURROWING OWL

Burrowing owls, a California Species of Special Concern, inhabit arid lands throughout much of the western United States and southern interior of western Canada (Haug et al. 1993). In the Mojave Desert this species has declined because of human-induced causes such as loss and/or fragmentation of habitat, diminished prey base, and high populations of species that prey on burrowing owl eggs and young (Haug et al. 1993). In this portion of its range, some owls are migratory, while some are year-round residents (Haug et al. 1993).

Burrowing owls are unique among the North American owls in that they nest and roost in abandoned burrows, especially those created by California ground squirrels, kit fox, desert tortoise, and other wildlife (Gervais et al. 2008, Haug et al. 1993). Burrowing owls have a strong affinity for previously occupied nesting and wintering habitats. They often return to burrows used in previous years, especially if they were successful at reproducing there in previous years (Gervais et al. 2008). The breeding season in southern California generally occurs from February to August with peak breeding activity from April through July (Haug et al. 1993).

In the Mojave Desert, burrowing owls generally occur at low densities in scattered populations, but they can be found in much higher densities near agricultural lands where rodent and insect prey tend to be more abundant (Gervais et al. 2008). Burrowing owls tend to be opportunistic feeders. Large arthropods, mainly beetles and grasshoppers, comprise a large portion of their diet, along with small mammals such as mice and voles (*Microtus*, *Peromyscus*, and *Mus* spp.) (Haug et al. 1993). Larger prey consumed includes reptiles and amphibians, young cottontail rabbits, bats, and birds. Consumption of insects increases during the breeding season (Haug et al. 1993).

During the 2009 biological reconnaissance survey (CH2M 2016), a pair of burrowing owls was observed in the southeastern corner of the parking lot of the existing correctional facility. The burrow was located on the north side of the berm that runs along the southern perimeter of the parking lot. The active burrows recorded in 2009 were revisited during the 2016 survey. No burrowing owls or active burrowing owl burrows were observed during this survey. Numerous burrows dug by kit foxes and other species occur on site and can serve as suitable burrows for the owls. The site contains suitable habitat for foraging and other uses.

As described in Section 2.2.2 of this report, protocol-level surveys were not conducted. Because field surveys began in late May, completion of a full complement of the four surveys was not

possible within the required time periods. The protocol calls for surveys to be conducted between February 15 and April 15, followed by three more surveys at least three weeks apart between April 15 and July 15. At least one survey must be conducted after June 15. Due to the timing of project initiation, surveys began on May 23, which was more than five weeks after the end of the first survey period (February 15 to April 15).

The survey conducted in May 2016 is considered to be the first step (habitat assessment) of the protocol, (pages 5 and 26; California Department of Fish and Wildlife 2012). Based on data collected, the 215-ac. site and the linears have suitable habitat for this species. Protocol surveys are recommended in the future for the undisturbed 215-ac. site (California Department of Fish and Wildlife 2012). Utility installation is anticipated to occur within the paved road surface and/or the adjacent denuded shoulder of the linears.

3.3.1.6 LOGGERHEAD SHRIKE

Loggerhead shrikes are uncommon residents throughout most of the southern portion of their range, including southern California (Humpel 2008). This species can be found within lowland, open habitat types, including creosote scrub and other desert habitats, sage scrub, non-native grasslands, chaparral, riparian, croplands, and areas characterized by open scattered trees and shrubs (Humpel 2008, Yosef 1996). In southern California they are generally much more common in interior desert regions than along the coast (Humpel 2008). In the Mojave Desert this species appears to be most numerous in flat or gently sloping deserts and desert/scrub edges, especially along the eastern slopes of mountainous areas (Humpel 2008). Loggerhead shrikes initiate their breeding season in February and may continue with raising a second brood as late as July; they often re-nest if their first nest fails or to raise a second brood (Yosef 1996).

Fences, posts, or other potential perches are typically present. In general, loggerhead shrikes prey upon large insects, small birds, amphibians, reptiles, and small rodents over open ground within areas of short vegetation, usually impaling prey on thorns, wire barbs, or sharp twigs to cache for later feeding (Yosef 1996).

A single loggerhead shrike was observed just outside of the project area, within 300 ft of the linear component of the project. Loggerhead shrikes are expected to occur in the vicinity; the vegetative communities present on site and in the surrounding area are suitable for their foraging and nesting needs.

3.3.2 Special-Status Plants

A complete list of special-status plant species known to occur in the project vicinity, with a summary of each species general and micro-habitat preferences, blooming period, and an assessment of their potential to occur on the project site is provided in Table 3, below. This includes plant species with a California Rare Plant Rank (CRPR; formerly CNPS) of 1B, 2B, and 4. A list of all plant species encountered during the floristic surveys is provided in Appendix B. Table 3, below. Limitations of the botanical surveys due to survey timing are described below under "Survey Limitations".

TABLE 3. SPECIAL-STATUS PLANTS POTENTIALLY OCCURRING IN THE PROJECT AREA

Scientific name	**Common Name**	**Status[1] Fed/State/ CNPS**	**Habitat Preference/ Requirements**	**Survey Results**	**Potential to Occur in the Project Area[2]**
Calochortus striatus	**alkali Mariposa lily**	--/--/1B.2	Chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps; 70-1595 m; mesic, alkaline areas. Perennial bulb, blooms May-October	Not found. No suitable habitat present.	**None**. Several nearby occurrences but all in moist alkaline habitats.
Canbya candida	**white pygmy-poppy**	--/--/--/4.2	Found in open sandy soils in the western Mojave and adjacent Sierra Nevada. Annual, blooms April-June.	Not found. May have bloomed earlier in season, if present, and tiny ephemeral easy to miss out of bloom.	**Possible.** Suitable habitat present and known occurrence near Mojave.
Chorizanthe spinosa	**Mojave spineflower**	--/--/--/4.2	Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas. Sometimes alkaline sites. Annual, blooms March-July.	Not found. Suitable habitat present. Surveys coincided with bloom period; however, drought or other adverse conditions can	**Possible.** Suitable habitat present and many documented occurrences in vicinity.

				preclude presence or detection of rare plants in a given year (CDFW 2009).	
Cryptantha clokeyi	**Clokey's cryptantha**	--/--/1B.2	Mojavean desert scrub, rocky slopes, peaks, and ridges. 725-1365 m. Annual, blooms April.	Not found. Unlikely to be detected in a May survey. Very little suitable habitat.	**Possible.** But suitable habitat limited to the rock outcrops in the northern portion of the project area.
Cymopterus deserticola	**desert cymopterus**	--/--/1B.2	Alluvial fans and basins, stabilized sand fields, and occasionally sandy slopes of desert dry lake basins, especially on the east side of desert playas where blowsand has accumulated. Substrate is loose, sandy soils. Found in Joshua tree woodland, saltbush scrub, and Mojavean desert scrub. Perennial, blooms early March to mid-May. NOTE: flowering can be irregular and the above-ground portion of the plant dies back after the flowering season.	Not found in the project area, and no suitable habitat in the project area. Not found at any of 5 nearby reference sites but these typically bloom in February to early March, and fruits heavily browsed by rabbits. Unlikely to be detected in a May survey per local botanists (LaBerteaux and Cloud-Hughes, pers. comm.)	**Possible.** Known occurrences nearby and small area of suitable habitat (coppice dunes, fine sandy) adjacent to Twenty Mule Team Pkwy towards the western end. However, the area closest to road edge generally too disturbed and weedy. Many local occurrences between California City and Boron.
Deinandra arida	**Red Rock tarplant**	--/**SR**/1B.2	Mojavean desert scrub; in clay soils of washes along ephemeral seeps and streams and on	Not found. At least marginally suitable habitat	**Unlikely but possible.** 2015/2016 rain adequate to

			adjacent sand flats in moist, subalkaline, gravelly sand; in wetter years also found on volcanic tuff at base and on lower slopes of ridges and cliffs. Annual, blooms April-November	present on episodic stream channels. Survey conducted during the bloom season and reference site visit indicated rainfall adequate for germination, despite lower than normal rainfall	support germination at reference site but drought or other adverse conditions can preclude presence or detection of rare plants in a given year (CDFW 2009) Occurrences nearby in Red Rock SP but generally associated with moister habitats. Known to occur in drier or more well-drained slopes and flats in wetter years.
Deinandra mohavensis	**Mojave tarplant**	-/**SE**/1B	Chaparral, coastal scrub, riparian scrub; 640-1600 m; low sand bars in river beds, along stream channels or in ephemeral grassy areas in riparian scrub and chaparral (mesic), generally in mountainous areas (Dudek and ICF 2012). Annual, blooms June to October.	Not found. No suitable habitat present.	**None.** No suitable habitat or occurrences in the vicinity.
Delphinium recurvatum	**recurved larkspur**	--/--/--/1B.2	Alkaline soils in chenopod scrub, cismontane woodland, valley and foothill grassland, poorly drained, fine, alkaline soils in grassland and *Atriplex* scrub. Perennial, blooms March-June.	Not found. Tall perennial easy to detect in fruit, identification based on seed characteristics.	**None.** No suitable habitat. Would have been detected during the May survey, if present.

Eremothera boothii ssp. *boothii*	**Booth's evening-primrose**	--/--/--/2B.3	Joshua tree woodland, pinyon and juniper woodland. Annual, blooms April-September.	Not found. Common subspecies *desertorum* observed on site.	**Possible.** Surveys coincided with bloom season, but drought or other adverse conditions can preclude presence or detection of rare plants in a given year (CDFW 2009).
Eriophyllum mohavense	**Barstow woolly sunflower**	--/--/1B.2	Bare areas with little soil. Substrate is sandy or rocky often containing a shallow subsurface caliche layer. Found in Chenopod scrub, Mojavean desert scrub, and Creosote bush scrub vegetation communities. Annual, blooms March to April or May.	Not found in the project area, or at a nearby reference site. Typically blooms in early to late March. Very tiny ephemeral unlikely to be detected in late May per local botanists (LaBerteaux and Cloud-Hughes, pers. comm.)	**Possible.** If present, most likely to occur on barren or sparsely vegetated granitic "balds" in eastern portion of 215-ac. site where there is little soil and/or exposed bedrock or caliche layer, but could potentially occur throughout the alluvial portions of the 215-ac. site and linears. Many local occurrences in the Kramer Junction area, about 15 mi. southeast.
Erythranthe rhodopetra	**Red Rock Canyon monkeyflower**	--/--/1B.1	Sandy, canyon washes in Mojavean desert scrub. endemic to the Red Rock Canyon region and is associated with sandy canyon washes at the base of the red sedimentary cliffs. Annual, blooms March to April.	Not found. No suitable habitat present (sedimentary or volcanic tuffs).	**Unlikely.** Many nearby occurrences but all on rocky cliffs and canyons and slopes of Red Rock Canyon SP. Tends to grow at higher elevations.

Eschscholzia minutiflora ssp. twisselmannii	**Red Rock poppy**	--/--/1B.2	Mojavean desert scrub; desert washes, flats, and slopes. Populations occur at elevations between 2300 and 3280 ft. Blooms March to May.	Not found. Common subspecies present throughout the 215-ac. site and in bloom and fruit at time of survey. Examined with higher magnification and ID made on basis of seed coat texture rather than petal size. Most occurrences are in the Red Rock Canyon SP, but the taxon is poorly understood.	**Possible.** Likely to have been detected, if present along the moister stream channels; as common subspecies was blooming and/or in fruit along stream channels during the survey. However, most annuals on the well-drained alluvial flats between stream channels were no longer identifiable during the late May surveys.
Goodmania luteola	**golden goodmania**	--/--/--/4.2	Alkaline or clayey soils in Mojavean desert scrub, meadows and seeps, playas, valley and foothill grassland. Annual, blooms April-August.	Not found. Blooms later so likely to have been detected if present.	**Unlikely.** No occurrences within 20 mi. and no suitable habitat present.
Muilla coronata	**crowned muilla**	--/--/--/4.2	Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Perennial bulb, blooms March-May.	Not found. Blooms early so likely to be missed, if present, in a late May survey.	**Possible**. Suitable habitat present and known occurrence in Kramer Junction area about 15 mi. to the southeast.
Loeflingia squarrosa var. *artemisiarum*	**sagebrush loeflingia**	--/--/2B.2	Found in desert dunes, Great Basin scrub and sandy. Sonoran desert	Not found. Likely to have been missed, if present, but no suitable	**Possible**. Suitable habitat in the loose sandy areas in the western

			scrub. Annual, blooms April-May.	habitat present on 215-ac. site. Very small area of suitable habitat (loose sandy soils) present along the linears.	portion of linears but no suitable habitat present on the 215-ac. site.
Mentzelia eremophila	**Solitary blazing star**	-/-/4.2	Mojavean desert scrub; sandy areas, including washes. 700-1160 m; Annual, blooms March to May.	Not found. Some species of *Mentzelia* still in bloom during May survey along stream channels and still in fruit and identifiable based on seed characteristics.	**Possible.** Suitable habitat present. Because most plants in fruit and dried, could have been missed if present on the well-drained flats between stream channels.
Mentzelia tridentata	**creamy blazing star**	-/-/1B.2	Mojavean desert scrub; 700-1160 m; rocky, gravelly, sandy areas. Annual, blooms March to May.	Not found. Some species of *Mentzelia* still in bloom during May survey, most still in fruit and identifiable based on seed characteristics. Over 10 collections made and identified as *Mentzelia affinis*, or *M. albicaulis*; both common species.	**Possible**. Suitable habitat present. Because plants small, in fruit and dried, could have been missed if present on the well-drained flats between stream channels.
Nemacladus gracilis	**graceful nemacladus**	--/--/4.3	Sandy or gravelly areas in cismontane woodland, valley and foothill grassland.	Not found. Likely to have bloomed earlier in the season. At least	**Unlikely.** No occurrences within 20 mi. or more

			Annual, blooms March-May.	marginally suitable habitat present on the rocky portions of the northern third of the project area.	
Phacelia nashiana	**Charlotte's phacelia**	--/--/1B.2	Sandy to rocky, granitic slopes. Pinyon/juniper woodland. Elevation 1920 -7040 ft.. Annual, blooms March to June.	Not found. No suitable habitat present. Sometimes found as late as June.	**Unlikely.** Many nearby occurrences but all in rocky canyons and slopes near Red Rock Canyon SP. Tends to grow at higher elevations.
Sclerocactus polyancistrus	**Mojave fish-hook cactus**	--/--/4.3	Great Basin scrub; Joshua tree woodland; Mojavean desert scrub, usually carbonate substrate. Perennial stem succulent, blooms April to July	Not found. Would have found it during the May surveys, if present.	**Unlikely.** Suitable habitat present on the rock outcrops in the northern portion of the project area, but these areas were surveyed comprehensively and surveys were adequate for detecting this perennial species, if present.

[1] STATUS CODES:

FEDERAL ESA: FT = Federally threatened; FE = Federally endangered
STATE ESA (CESA): SE = State endangered; ST = State threatened; SR = State Rare
CRPR CALIFORNIA RARE PLANT RANK (formerly CNPS California Native Plant Society Lists):
1B: Considered rare, threatened, or endangered in California and elsewhere.
2: Plants rare, threatened, or endangered in California, but more common elsewhere
Threat extensions: .1 - Seriously endangered in California, .2 – Fairly endangered in California, .3 – Not very endangered in California

[2] POTENTIAL RANKING: The potential for special-status species to occur in the Project area was categorized using the following criteria:

None: Project is well outside the known geographic or elevational range, or lacks suitable habitat necessary for the species. **Unlikely:** Project may contain suitable habitat for this species but is outside its known geographic or elevational range.
Possible: Project is within the geographic and elevational range and has suitable habitat for the species.
Present: The species was observed during limited field investigations.
Potentially suitable habitat was assessed using species-specific requirements:
Vegetation type (for example, shrublands)
Habitat components (for example, substrate type, vegetation density, slope/aspect, if known)
United States Department of Agriculture Soil Survey (if endemic to certain parent materials or soil texture or chemistry)

3.3.2.1 STATE OF FEDERALLY LISTED PLANT SPECIES

No state- or federal-listed plant species were observed on the 215-ac. site or linears during the May 23-27, 2016 botanical surveys; nor is suitable habitat present for the single listed plant species known from the nine-quadrangle region surrounding the project area – Mojave tarplant (*Deinandra mojavensis*). Suitable habitat is present for one state-designated rare plant species – Red Rock tarplant (*Deinandra arida*) – but it was not found. Surveys were conducted at a time of year adequate for detecting this late-blooming species, and an April 2016 survey of a Red Rock tarplant reference population (Chainey-Davis pers. obv.) suggests that rainfall was adequate to support germination, if present. Suitable habitats (seasonally moist areas; ephemeral stream channels) were surveyed at a 100 percent level on the 215-ac. site and linears.

The definition of plants designated by the state as "Rare" is a species that "…although not presently threatened with extinction, it is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts…."

3.3.2.2 CRPR 1B PLANT SPECIES

Plants with a CRPR rank of 1B are rare throughout their range, and most are endemic to California. Most plant species ranked 1B have declined significantly over the last century (CNPS 2016). The special-status plant species with a rank of 1B with the highest potential for occurrence on the project area – and that likely could not be identified during a late May survey if present -- is the Barstow woolly sunflower. This is based on observations of general and micro-habitat conditions made during the survey and at a known occurrence seven miles north of the project in the Desert Tortoise Natural Area (DTNA) (LaBerteaux 2011; LaBerteaux pers. comm.). A description of Barstow woolly sunflower, its life history, ecology, conservation status, and population trends is provided below. Relevant information on other CRPR Rank 1 species potentially occurring in the project area is provided in Table 3, above.

All CRPR Rank 1B species meet the definition of Sections 2062 and 2067 (California Endangered Species Act) of the California Fish and Game Code, and are eligible for state listing. Impacts to CRPR Rank 1B species are typically considered significant.

Barstow woolly sunflower (*Eriophyllum mojavense*)

Barstow woolly sunflower is a CRPR 1B.2 species that is not protected under the state or federal endangered species acts. It is a tiny annual in the aster family, typically less than an inch high, and blooms early March to early April (LaBerteaux pers. comm., Cloud-Hughes pers. comm.). Because these plants are annuals, they are almost impossible to spot once they have gone to fruit in May (NatureServe 2016). As an annual, germination and establishment of this species depends on the amount and timing of winter and spring rains (BLM 2005).

Barstow woolly sunflower prefers sandy or rocky areas in chenopod scrub, Mojavean desert scrub, creosote bush scrub, and also occurs on playas. This species prefers bare areas with little soil that frequently contain a shallow subsurface caliche layer (BLM 2005). The species' elevation range extends from 1,640 to 3,150 ft. (CNPS 2016).

Barstow woolly sunflower is distinguished from its locally common congeners (*E. pringlei, E. wallacei*) by its discoid flowers, sharp-pointed phyllary tips, 3-4 phyllaries, and short peduncle (<1 cm) (Jepson Flora Project 2016). There is no information available regarding pollinators, seed dispersal, seed germination, or seedling establishment, although a related common species is known to be pollinated by bees and beetles (Jepson Flora Project 2016).

This species is endemic to the west-central portion of California's Mojave Desert, restricted to a 30-mile radius of Barstow in San Bernardino and Kern counties. In 2006, there were approximately 10,600 known individuals (NatureServe 2016). The short-term population trend for this species is a decline of 10-30%, and a long-term trend for a decline of 50-60%.

Approximately 19,069 ac. of inhabited Barstow woolly sunflower habitat has been designated as the Barstow Woolly Sunflower ACEC in the Fremont Peak subregion. A total of 13-40 of the 63 known occurrences have a good viability and habitat integrity (Jepson Flora Project 2016).

The nearest occurrence is located in the DTNA) seven mi. north of the project area. The Lat/Long coordinates are 35.257009,-117.863878 (UTM 421416 E, 3901887 N). The occurrence is located in the extreme northeastern corner of Section 11, T31S, R38E. It occurs in a sparsely vegetated gravelly area with shallow soils, similar to the granitic “balds” that occur in the project area.

CRPR species with a threat rank of .2 are “seriously threatened in California, with 20% to 80% of occurrences threatened/moderate degree and immediacy of threat” (CNPS 2016). Impacts to this species, if present, would generally be considered significant under CEQA. An exception would be if only a small portion of the population onsite was directly and indirectly affected; there are numerous local populations in the project vicinity, including the nearby occurrence at the DTNA.

3.3.2.3 CRPR 2B PLANT SPECIES

Two CRPR Rank 2B species -- desert cymopterus (*Cymopterus deserticola*) and sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*) – have potential to occur on the linears but not on the 215-ac. site. Detailed species accounts for these two taxa are not provided here but are summarized in Table 3, above.

Suitable habitat for desert cymopterus and sagebrush loeflingia was found only along a small segment of Twenty Mule Team Pkwy where the soils were suitably fine, loose and sandy—mixed alluvial and aeolian (windblown) deposits in the western portion of the alignment. However, the habitat closest to the edge of pavement where the utilities are likely to be placed, within 10 ft. of the pavement, is generally too weedy and densely vegetated for these species. The sagebrush loeflingia occurrences in CNDDB that occur within 20 mi. of the project have not been documented since 1977 and "need fieldwork" (CNDDB 2016). However, sagebrush loeflingia was discovered on the U.S. Borax 2,350-ac. conservation easement near North Edwards in spring 2015 (GANDA 2015).

The CNPS Rare Plant Program defines CRPR 2B species "…except for being common beyond the boundaries of California, plants with a California Rare Plant Rank of 2B would have been ranked 1B.... {CRPR 2B species] meet the definitions of the California Endangered Species Act of the California Department of Fish and Game Code, and are eligible for state listing. Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380." (CNPS 2016)

Impacts to desert cymopterus or sagebrush loeflingia, if present, would be considered significant under CEQA. Because there is very little suitable habitat in the project area and only along the linears, it is anticipated that impact could be avoided by placing utility installations or updates within the paved roadway and/or the adjacent disturbed denuded shoulder.

3.3.2.4 CRPR 4 PLANT SPECIES

CRPR 4 (watch list) species with potential to occur based on suitable habitat and known occurrences nearby include: Mojave spineflower, pygmy poppy, crowned muilla, small-flowered androstephium, Mojave fish-hook cactus, and solitary blazing star.

CRPR 4 species are defined by CNPS "…of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly….Some of the plants constituting California Rare Plant Rank 4 meet the definitions of the California Endangered Species Act of the California Department of Fish and Game Code, and few, if any, are eligible for state listing."(CNPS 2016) These include the type locality, occurrences at the periphery of the species' range, exhibiting unusual morphology or habitat affinities, or occur in areas where the taxon has sustained major losses or are especially uncommon. CRPR Rank 4 species were considered during the surveys; however, all but two of these potentially occurring species could have been missed during the May surveys, if present (Table 3).

3.3.2.5 BOTANICAL SURVEY LIMITATIONS

Survey timing was adequate for detecting the four late season species with potential for occurrence, based on the presence of suitable habitat and known occurrences in the project vicinity: the CRPR rank 1B species Red Rock tarplant and Booth's evening-primrose, and two CRPR rank 4 species Mojave fish-hook cactus and Mojave spineflower. Although rainfall was below normal, a reference population of the state-designated rare species Red Rock tarplant indicated that rainfall was adequate for germination of that late season annual (Chainey-Davis pers. obv.). The common conspecific of Booth's evening-primrose (*Eremothera boothii* ssp. *desertorum*) was observed onsite and in bloom during the late May surveys, and the rare taxon typically blooms later than the common species.

However, it is unlikely that early season species such as Barstow woolly sunflower or desert cymopterus could be detected in late May. These species were observed in bloom in the Kramer Junction area reference populations in early March of this year by the project botanist and other area botanists (D. LaBerteaux, pers. comm., M. Cloud-Hughes, pers. comm.). Desert cymopterus were observed blooming in nearby reference populations in early to mid-March, and are often browsed by rabbits well before May (LaBerteaux pers. comm.). Other early season species with potential to occurrence could have been missed (Table 3). The only annuals still identifiable during the late May surveys were concentrated along the stream channels where soils are seasonally or episodically moist. A survey timed earlier in the season could potentially detect special status plants on the open drier flats between stream channels.

Survey timing coincided with the bloom period for the late-season species known to occur in the region; however, drought can preclude presence or detection in a given year (CDFW 2009), particularly for desert annuals. A survey conducted in April for early-season species when conditions are moister would also overlap with the bloom period for the late-season annuals shown in Table 3 (see "Additional Surveys and Recommended Mitigation", below).

3.3.2.6 ADDITIONAL SURVEYS AND RECOMMENDED MITIGATION

PRE-CONSTRUCTION SURVEYS

To ensure the proposed project does not have a significant and unmitigated impact to special-status plants, an additional early season survey should be conducted of the entire 215-ac. site and linears. The survey should be timed to coincide with the bloom season of the species with the highest potential for occurrence: CRPR Rank 1B Barstow woolly sunflower, CRPR Rank 2 species desert cymopterus and sagebrush loeflingia, and the CRPR Rank 4 white pygmy poppy. If timed for the later portion of these species bloom period (early April) surveys for several additional plants with at least some potential for occurrence could be conducted concurrently, such as Red Rock tarplant, Booth's evening-primrose, two rare blazing star species (*Mentzelia*

spp.), and Mojave spineflower. The late May surveys coincided with the blooming period for these late-season species but an additional survey in April during a moister time of year would overlap with the early portion of their bloom.

The survey should be conducted by a qualified botanist experienced with the local special-status plant species, and in accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009). Local reference populations of the potentially occurring species should be visited, or local experts consulted to determine whether rainfall was adequate for germination based on their observations of local reference populations in the same survey year.

If found, impacts to CRPR Rank 1B or 2 species would be considered significant, unless only a small portion of the project area population is directly or indirectly affected (e.g., less than 10 percent). Additionally, impacts to CRPR rank 4 species may be considered significant if the occurrence represents the type locality, occurs at the periphery of the species' range, exhibits unusual morphology or habitat affinities, or occurs in areas where it has sustained major losses or is especially uncommon.

Mitigation for significant impacts to special-status plants, if found, shall include a combination of avoidance, minimization, and compensation measures, as outlined below:

POTENTIAL AVOIDANCE AND MINIMIZATION MEASURES

To mitigate for significant direct impacts to special-status plant occurrences, including their habitat integrity, one or more of the following mitigation measures could be implemented:

a. ***Modify construction techniques***: Incorporate modifications to construction techniques to avoid accidental and indirect impacts to special-status plants around the project perimeter. Examples include: limiting the width of the work area; adjusting the location of staging areas, lay downs, secondary access roads; and modifying the location of discharge points of any diverted channels to maintain existing surface drainage patterns.

b. ***Establish Environmentally Sensitive Areas (ESAs).*** Prior to the start of any ground- or vegetation-disturbing activities, establish preserved special-status plant occurrences as temporary Environmentally Sensitive Areas (ESAs) to protect from accidental impacts during construction and operation. The occurrences shall be marked at the project boundary with temporary construction fencing during construction activities in close proximity to the offsite occurrences.

c. ***Worker Environmental Awareness***. Employees and contractors shall be informed about the presence of special-status plant occurrences, methods for reducing impacts, and mitigation measures.

d. ***Avoid Weed Contaminated Erosion and Sediment Control Materials***. Any seed mixes used for erosion control shall not include invasive plants. Erosion-control seed mixes, straw, and other mulches, if used, shall be certified weed-free.

e. ***Locate Staging, Parking, Spoils, and Storage Areas Away from Special-Status Plant Occurrences***. Spoil piles, equipment, vehicles, and materials storage areas, parking areas, equipment and vehicle maintenance areas shall be placed at least 100 feet from preserved special-status plant occurrences.

COMPENSATION FOR SIGNIFICANT UNAVOIDABLE IMPACTS

To mitigate for unavoidable significant impacts to special-status plants, as described in the sections above, one or more of the following mitigation options could be implemented to offset the impact to a level less than significant:

a. ***Acquisition*** of mitigation lands containing viable occurrences or that enhance the sustainability of the occurrences by protecting buffer lands, and protecting those occurrences in perpetuity under a conservation easement or in fee title, and transferred to a qualified land trust or public agency. Mitigation lands for special-status plants may be the same as compensatory mitigation for impacts to wildlife, if habitat that includes both the plants and wildlife species in need of mitigation are set-aside.
b. ***Restoration*** of at-risk occurrences according to the criteria and performance standards described below. This may include occurrences on private land under conservation easement, or public lands, subject to review and approval of the landowner. Restoration may include undertaking or funding the following activities: removal of invasive species; fencing and signage to protect from unauthorized off-road vehicles; protection from livestock, wild burros, or other herbivores if damaging to the occurrence; restoring previously diverted stream flows essential to the occurrences viability, or removing obstructions to wind sand transport. Ex-situ mitigation through transplanting or replacement planting is not an acceptable mitigation option due to the high rate of failure.

3.3.3 CDNPA Species and Kern County Species

The purpose of the California Desert Native Plants Act (CDNPA) is to protect certain species of California desert native plants from unlawful harvesting on both public and privately owned lands. The CDNPA only applies within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono,

Riverside, San Bernardino, and San Diego counties. Within these counties, the CDNPA prohibits the harvest, transport, sale, or possession of specific native desert plants unless a person has a valid permit or wood receipt, and the required tags and seals. The appropriate permits, tags and seals must be obtained from the sheriff or commissioner of the county where collecting will occur, and the county will charge a fee.

In addition to the property owners contact information, the application must include the amount and species of native plants to be harvested, and a legal property description.

An inventory of CDNPA-covered species was made during the surveys for special-status plants. CDNPA-covered plants found in the project area are provided in Table 4, below.

TABLE 4. CDNPA-COVERED PLANTS IN THE PROJECT AREA

Common name	Scientific name	Quantity
California barrel cactus	*Ferocactus cylindraceus*	9
Cottontop cactus	*Echinocactus polycephalus*	2
Silver cholla	*Cylindropuntia echinocarpa*	8

3.3.4 Noxious Weeds

An inventory of noxious weeds that occur in the project area was not part of the scope of this biological survey. However, noxious weeds recognized by the California Department of Food and Agriculture (CDFA) were noted during the surveys for special-status plants.

No noxious weeds were observed on the 215-ac. site except along the tortoise fencing at the eastern edge of the existing facility. Seedlings of the annual Russian thistle (*Salsola tragus)*, also known as "tumbleweed", were scattered along the entire length of the tortoise fencing. They did not appear to be spreading into the undisturbed habitat.

A large infestation (>100 plants) of Russian thistle and barbwire Russian thistle (*Salsola paulsenii*) seedlings was observed on the linears in the western portion of the 4-mile segment of Twenty Mule Team Pkwy. on the south side of the road. Another small occurrence (<10 plants) was noted at the intersection of Twenty Mule Team Pkwy and 145th St.

Plants in the genus *Salsola* typically infest sandy soils on disturbed sites, waste places, roadsides, cultivated and abandoned fields, and disturbed natural and semi-natural plant communities. Russian-thistle can impede traffic, create fire hazards, and is a host of the beet leaf-hopper, an agricultural insect pest.

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APPENDIX A

List of Wildlife Species Observed in the Project Area

Appendix A. List of Animal Species Observed in the Project Area

**Surveys conducted May 23-26, 2016*

Family	Scientific Name	Common Name
	MAMMALS	
Leporidae		
	Lepus californicus	Black-tailed jackrabbit
Sciuridae		
	Ammospermophilus leucurus	White-tailed antelope squirrel
Cricetidae		
	Neotoma lepida	Desert woodrat
Canidae		
	Canis latrans	Coyote
	Vulpes macrotis arsipus	Desert kit fox
	BIRDS	
Charadriidae		
	Charadrius vociferous	Killdeer
Columbidae		
	Zenaida macroura	Mourning dove
Caprimulgidae		
	Chordeiles acutipennis	Lesser nighthawk
Tyrannidae		
	Contopus cooperi	Olive-sided flycatcher
Laniidae		
	Lanius ludovicianus	Loggerhead shrike
Corvidae		
	Corvus corax	Common raven
	Corvus brachyrhychos	American crow
Alaudidae		
	Eremophila alpestris	Horned lark
Emberizidae		
	Chondestes grammacus	Lark sparrow

Family	Scientific Name	Common Name
Fringillidae		
	Haemorhous mexicanus	House finch
	REPTILES	
Crotaphytidae		
	Gambelia wislizenii	Long-nosed leopard lizard
Phrynosomatidae		
	Phrynosoma platyrhinos	Desert horned lizard
	Sceloporus uniformis	Yellow-backed spiny lizard
	Uta stansburiana	Common side-blotched lizard
Teiidae		
	Aspidoscelis tigris	Tiger whiptail
Colubridae		
	Lampropeltis californiae	California kingsnake

APPENDIX B

List of Plant Species Observed in the Project Area

Appendix B. List of Plant Species Observed in the Project Area

California City, Kern County, CA

Surveys conducted May 23-27, 2016 –

**Plants marked with an asterisk are non-native and naturalized species*

Family	Scientific Name	Common Name
	EUDICOTS	
Amaranthaceae		**AMARANTH FAMILY**
	*Amaranthus albus**	pigweed
Apiaceae		**CARROT FAMILY**
	Lomatium mohavense	Mojave wild parsley
Asteraceae		**ASTER FAMILY**
	Acamptopappus sphaerocephalus var. *hirtellus*	hairy goldenhead
	Ambrosia acanthicarpa	annual burrweed
	Ambrosia dumosa	burrobush, white bursage
	Ambrosia dumosa	white bursage
	Ambrosia salsola var. *salsola*	cheesebush
	Chaenactis carphoclinia var. *carphoclinia*	pebble pincushion
	Chaenactis stevioides	desert pincushion
	Ericameria cooperi var. *cooperi*	Cooper's goldenbush
	Ericameria nauseosa var. *hololeuca*	white rubber rabbitbrush
	Ericameria nauseosa var. *leiosperma*	smooth-fruit rabbitbrush
	Lasthenia gracilis	slender goldfields
	Logfia depressa	cotton rose
	Malacothrix coulteri	snake's head
	Malacothrix glabrata	desert dandelion
	Stephanomeria exigua ssp. *exigua*	mitra
	Stephanomeria parryi	Parry's rock pink
	Stephanomeria pauciflora	wire lettuce
	Tetradymia stenolepis	narrow-scaled horsebrush
	Xylorhiza tortifolia var. *tortifolia*	Mojave aster
Boraginaceae		**BORAGE or WATERLEAF FAMILY**

Family	Scientific Name	Common Name
	Amsinckia intermedia	common fiddleneck
	Amsinckia tessellata var. t*essellata*	bristly fiddleneck, devil's lettuce
	Cryptantha angustifolia	narrow-leaved cryptantha
	Cryptantha dumetorum	bush-loving cryptantha
	Cryptantha micrantha	red-root cryptantha
	Pectocarya linearis ssp. ferocula	Slender comb seed
	Phacelia ramosissima	branching phacelia
	Phacelia tanacetifolia	tansy-leaved phacelia
Brassicaceae		**MUSTARD FAMILY**
	Caulanthus inflatus	desert candle
	Caulanthus lasiophyllus	California mustard
	Descurainia pinnata	yellow tansy mustard
	*Hirschfeldia incana**	shortpod mustard
	Lepidium dictyotum	net peppergrass
	Lepidium flavum	yellow peppergrass
	Lepidium nitidum	shining peppergrass
	*Sisymbrium altissimum**	tumble mustard
	*Sisymbrium orientale**	Indian hedge mustard
	Tropidocarpum gracile	slender tropidocarpum
Cactaceae		**CACTUS FAMILY**
	Cylindropuntia echinocarpa	silver cholla
	Echinocactus polycephalus	cottontop cactus
	Ferocactus cylindraceus	barrel cactus
Chenopodiaceae		**GOOSEFOOT FAMILY**
	Atriplex polycarpa	allscale
	Grayia spinosa	hop sage
	*Salsola paulsenii**	Paulsen's Russian thistle
Euphorbiaceae		**SPURGE FAMILY**
	Croton setiger	turkey-mullein
	Euphorbia albomarginata	rattlesnake sandmat
	Euphorbia polycarpa	smallseed sandmat
Fabaceae		**LEGUME FAMILY**

Family	Scientific Name	Common Name
	Astragalus layneae	Layne's milk-vetch
	Lupinus microcarpus	chick lupine
	Lupinus shockleyi	Shockley's lupine
Geraniaceae		**GERANIUM FAMILY**
	*Erodium botrys**	big heron bill
	*Erodium cicutarium**	red-stemmed filaree
Lamiaceae		**MINT FAMILY**
	Salvia carduacea	thistle sage
	Salvia columbariae	chia sage
Loasaceae		**LOASA FAMILY**
	Mentzelia affinis	yellow comet
	Mentzelia albicaulis	white-stemmed blazing star
Malvaceae		**MALLOW FAMILY**
	Sphaeralcea ambigua var. *rugosa*	rough-leaved apricot globemallow
Nyctaginaceae		**FOUR O'CLOCK FAMILY**
	Abronia turbinata	transmontane sand verbena
	Mirabilis laevis var. *retrorsa*	wishbone bush
Onagraceae		**EVENING-PRIMROSE FAMILY**
	Camissonia campestris	field sun cup
	Camissonia sp.	evening-primrose
	Chylismia claviformis ssp. *claviformis*	brown eyes
	Eremothera boothii ssp. *desertorum*	Booth's evening-primrose
	Oenothera deltoides ssp. *deltoides*	bird cage evening-primrose
Papaveraceae		**POPPY FAMILY**
	Eschscholzia minutiflora ssp. *covillei*	Coville's poppy
Plantaginaceae		**PLANTAIN FAMILY**
	Plantago ovata var. *fastigiata*	desert plantain
Polemoniaceae		**PHLOX FAMILY**
	Eriastrum eremicum ssp. *eremicum*	desert woolly star
	Eriastrum densifolium ssp. *mojavense*	perennial woolly star
	Gilia sp.	gilia
Polygonaceae		**BUCKWHEAT FAMILY**

Family	Scientific Name	Common Name
	Chorizanthe brevicornu var. *brevicornu*	brittle spineflower
	Chorizanthe rigida	rigid spineflower
	Eriogonum angulosum	angle-stemmed buckwheat
	Eriogonum fasciculatum var. *polifolium*	California buckwheat
	Eriogonum gracillimum	rose and white buckwheat
	Eriogonum inflatum	desert trumpet
	Eriogonum trichopes	little desert buckwheat
	Eriogonum viridescens	bright green buckwheat
	Oxytheca perfoliata	roundleaf puncturebract
Solanaceae		**NIGHTSHADE FAMILY**
	Datura wrightii	jimsonweed
	Lycium andersonii	Anderson's wolfberry
	Lycium cooperi	Cooper's wolfberry
Zygophyllaceae		**CALTROP FAMILY**
	Larrea tridentata	creosote bush
	MONOCOTS	
Poaceae		**GRASS FAMILY**
	*Bromus madritensis ssp. rubens**	red brome
	*Bromus tectorum**	cheat grass
	*Festuca myuros**	rattail fescue
	*Schismus arabicus**	Arabian schismus
	*Schismus barbatus**	Mediterranean grass
	Stipa hymenoides	Indian rice grass
	Stipa speciosa	desert needle grass

Notes: Scientific nomenclature follows *The Jepson Manual: Vascular Plants of California, Second Edition*, Baldwin et al. (2012).

**Plants marked with an asterisk are non-native and naturalized species that persist without cultivation*

August 9, 2017

Brad Wiggins
CoreCivic
10 Burton Hills Boulevard
Nashville, Tennessee 37215

VIA EMAIL
brad.wiggins@corecivic.com

Subject: Results of Special Status Plant Surveys for the Correctional Development Facility Project in Kern County, California

Dear Mr. Wiggins:

This Letter Report presents the findings of special status plant surveys conducted for the Correctional Development Facility Project (hereinafter referred to as "the Project") located in California City, Kern County, California. The purpose of the surveys was to determine the presence or absence of special status plant species on the 215-acre Project site.

PROJECT LOCATION AND DESCRIPTION

The Project is located in California City in Kern County, California (Exhibit 1). The main Project area consists of a 215-acre property adjacent to the existing California City Correctional Facility (CCCF). Off-site areas include an approximate ten-mile-long proposed utility alignment, which generally runs from an existing water tank to the north of the Project site, along Twenty Mule Team Parkway and along Mendiburu Road to Yerba Boulevard; it includes connections through the adjacent existing CCCF via Virginia Boulevard, Gordon Boulevard, and 145th Street. These off-site utility improvements are planned to be within the existing road rights-of-way; therefore, the special status plant survey included only the 215-acre property.

CoreCivic proposes to construct 2 separate but adjacent, 1-level correctional facilities with a total of 3,024 beds on the Project site. The Project would include a shared administration building and common parking area. The Project site would be improved to include an approximate 159-acre building pad to accommodate the facilities and structures described above; manufactured slopes with ancillary drainage improvements would be located along the perimeter of the building pad. A series of five retention basins would be located along the length of the western site boundary to accommodate surface water runoff from the rest of the site. No improvements are proposed for the City's road rights-of-way located along the northern, southern, or eastern edges of the 215-acre Project site. A new private two-lane road would provide access to the parking lot and the Project Site along the alignment of Gordon Boulevard; it would start from Virginia Boulevard and connect to the northwestern corner of the Project site.

ENVIRONMENTAL SETTING

The Project site is located in the Fremont Valley portion of the California Desert Province's Western Mojave subregion. It is located on the U.S. Geological Survey's (USGS') Galileo Hill 7.5-minute quadrangle (Exhibit 2). Topography on the Project site is generally moderately sloping and undulating. Elevations on the Project site range from approximately 2,700 feet above mean sea level (msl) in the northeast corner to 2,550 feet above msl in the southwest corner. Soils are mapped as Muroc-Randsburg sandy loam, 5 to 9 percent slopes; Neuralia sandy loam, 2 to 5 percent slopes; and Torriorthents-Rock outcrop complex, very deep (Exhibit 3).

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. The Project site is crossed by a network of small off-highway vehicle (OHV) roads. The existing CCCF is located along the western boundary of the Project site; undeveloped open space and dirt roads are located to the north, east, and south.

METHODS

Botanical surveys were floristic in nature and consistent with the protocols created by the California Department of Fish and Wildlife (CDFW) (CDFG 2009). Prior to the 2017 field surveys, a literature search was conducted to identify special status plant species reported from the vicinity of the Project site. Sources reviewed include the USGS Boron, Boron NW, California City North, California City South, Cantil, Galileo Hill, Johannesburg, Mojave NE, North Edwards, Saltdale SE, and Sanborn 7.5-minute quadrangles in the California Native Plant Society's (CNPS') Inventory of Rare and Endangered Plants (CNPS 2017) and the CDFW's California Natural Diversity Database (CNDDB) (CDFW 2017a).

Rainfall received in the winter and spring determines the germination of many annual and perennial herb species. The Mojave Desert is a wedge-shaped basin that experiences precipitation primarily in the winter, with occasional summer thunderstorms. According to the Western Regional Climate Center, the region (data taken from Mojave) received approximately 1.36 inches of precipitation between October 1, 2016 and April 30, 2017; the average precipitation over this time period is 5.34 inches (WRCC 2017). The region has received below average precipitation for 13 consecutive years.

Reference populations were monitored for annual and difficult-to-detect target species to ensure that the surveys were valid. This is especially important during periods of unusual rainfall patterns or below average rainfall. If conditions at a nearby reference population are suitable for germination and growth, then it can be inferred that conditions would also be suitable on the Project site. A population of desert cymopterus (*Cymopterus deserticola*) was monitored at North Edwards on March 28, 2017; the species was detectable at that time. Reference populations were not monitored for species with a California Rare Plant Rank (CRPR) of 3 or 4; perennials (e.g., Mojave fish-hook cactus [*Sclerocactus polyancistrus*]), which would be identifiable throughout the year; or for species with no extant, publicly accessible reference population in the Project region. Based on the reference survey results, the surveys were conducted during a timeframe when the target plant species were observable.

Early spring surveys were not possible in 2016 due to timing of Project initiation. A late spring survey was conducted by Garcia and Associates Botanist Carolyn Chainey-Davis between May 23 and 27, 2016. This survey covered the 215-acre site and the eastern portion of the utility alignment (GANDA 2016). Therefore, the 2017 special status plant surveys were focused on the detection of species that are identifiable in the early spring. The 2017 surveys covered the 215-acre site only; the utility alignment was not included because anticipated utility improvements are expected to be placed entirely within the roadway's existing disturbed footprint.

Surveys were conducted by Psomas Senior Biologist Allison Rudalevige and Botanist Ian Cain on March 29 and 30, 2017; Psomas Senior Biologist Lindsay Messett and Biologist Jonathan Aguayo assisted on March 30, 2017. The total number of person-hours spent was 32.75 hours in 2017. A systematic survey was conducted throughout the Project site by walking transects spaced at approximately 50-foot intervals. All plant species observed were recorded in field notes. Plant species were identified in the field or collected for later identification. Plants were identified using taxonomic keys, descriptions, and illustrations in Jepson Flora Project (2016), Baldwin et al. (2012), Hickman (1993), and Munz (1974) to the taxonomic level necessary to determine whether or not they are a special status species. Nomenclature of plant taxa conform to the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2017b) for special status species and the Jepson eFlora (Jepson Flora Project 2016) for all other taxa.

Any special status plant species observed were mapped and data were collected on the number and phenology of individuals (estimated for large populations), microsite characteristics such as slope, aspect, soil texture, surrounding habitat, and associated species. Representative photographs are included as Attachment A.

It should be noted that a mapping error was discovered following the survey visits; the Project boundary used for the 2016 surveys by Garcia and Associates (GANDA 2016) and the current survey was slightly shifted approximately 100 feet to the north and 120 feet to the west. Once the maps were corrected, it was discovered that an approximate 15-acre area was not surveyed for special status plant species in either 2016 or 2017 (Exhibit 4).

SURVEY RESULTS

Table 1 identifies the special status plants reported from the literature review with their status, their potential to occur on the Project site, and the survey results. Mojave spineflower (*Chorizanthe spinosa*) was observed on the Project site and is discussed further below. A list of all plants observed on the Project site in 2017 is included in Attachment B.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys	
	USFWS	CDFW	CRPR			Surveyed Area	Boundary Shift Area
Calochortus striatus alkali mariposa-lily	—	—	1B.2	Alkaline meadows, moist creosote-bush scrub, chenopod scrub, Mojavean desert scrub, and chaparral; 2,625–4,593 feet above msl. Blooms April–June.	Reported approximately 5 miles southwest of the Project site (CDFW 2017a). No suitable moist alkaline habitat present on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Not expected to occur.
Canbya candida white pygmy-poppy	—	—	4.2	Sandy gravelly, or granitic soils in Joshua tree woodland, pinyon and juniper woodland, and Mojavean desert scrub; 1,969–4,429 feet above msl. Blooms April–May.	Reported approximately 8.5 miles northeast of California City (CCH 2017). Suitable desert scrub habitat present on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.
***Chorizanthe spinosa* Mojave spineflower**	**—**	**—**	**4.2**	**Sandy or gravelly, sometimes alkaline, soil in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas; 1,969–4,265 feet above msl. Blooms April–July.**	**Reported along SR-58 approximately 10 miles south of the Project site (CCH 2017). Suitable desert scrub habitat present on the Project site.**	**Incidentally observed during 2017 burrowing owl survey (Psomas 2017).**	**May occur.**
Cryptantha clokeyi Clokey's cryptantha	—	—	1B.2	Rocky to gravelly slopes and ridge crests in desert woodland and Mojavean desert scrub; 2,789–5,413 feet above msl. Blooms April–May.	Reported approximately 13 miles northeast of the Project site (CDFW 2017a). Suitable rocky habitat in the northern portion of the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Limited potential to occur.

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FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys	
	USFWS	CDFW	CRPR			Surveyed Area	Boundary Shift Area
Cymopterus deserticola desert cymopterus	—	—	1B.2	Sandy soil in Joshua tree woodland and Mojavean desert scrub; 2,297–4,921 feet above msl. Blooms April.	Reported approximately 4.5 miles south of the Project site (CDFW 2017a). Limited amounts of suitable soil on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Limited potential to occur.
Deinandra arida Red Rock tarplant	—	SR	1B.2	Clay and volcanic tuff in Mojavean desert scrub, washes, canyon slopes, and edges of springs and seeps; 1,969–3,281 feet above msl. Blooms April–November.	Reported approximately 10.6 miles northwest of the Project site (CDFW 2017a); known only from the Red Rock Canyon area. Marginally suitable habitat in washes on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Very limited potential to occur.
Deinandra mohavensis Mojave tarplant	—	SE	1B.3	Moist sites in openings of chaparral, desert scrub, woodland, coastal scrub, and riparian scrub; 1,509–5,249 feet above msl. Blooms May–June.	Reported approximately 12.5 miles northwest of the Project site (CDFW 2017a). No suitable moist habitat on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Not expected to occur.
Delphinium recurvatum recurved larkspur	—	—	1B.2	Poorly drained, fine, alkaline soils in grassland, chenopod scrub, and cismontane woodland; 98–1,969 feet above msl. Blooms March–June.	Reported approximately 13.5 miles south and southeast of the Project site (CDFW 2017a). No suitable alkaline soils on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Not expected to occur.
Eremothera boothii ssp. *boothii* Booth's evening-primrose	—	—	2B.3	Sandy flats, steep loose slopes of Joshua tree and pinyon/juniper woodland; 2,953–7,874 feet above msl. Blooms June–August.	Reported approximately 15 miles east of the Project site (CCH 2017). No suitable woodlands on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Not expected to occur.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys	
	USFWS	CDFW	CRPR			Surveyed Area	Boundary Shift Area
Eriophyllum mohavense Barstow woolly sunflower	—	—	1B.2	Creosote-bush scrub, chenopod scrub, and playas; 1,640–2,625 feet above msl. Blooms April–May.	Reported approximately 6 miles southwest of the Project site (CDFW 2017a). Suitable habitat throughout the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.
Erythranthe rhodopetra Red Rock Canyon monkeyflower	—	—	1B.1	Sandy canyon washes in Mojavean desert scrub; 2,001–3,002 feet above msl. Blooms March–April.	Reported approximately 12 miles northwest of the Project site (CDFW 2017a); known only from the El Paso Mountains (CNPS 2017). Suitable habitat on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Very limited potential to occur.
Eschscholzia minutiflora ssp. *twisselmannii* Red Rock poppy	—	—	1B.2	Volcanic tuff in Mojavean desert scrub; 2,231–4,035 feet above msl. Blooms March–May.	Reported approximately 10 miles northeast of the Project site (CDFW 2017a); known only from the Rand and El Paso Mountains (CNPS 2017). No suitable soils on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Not expected to occur.
Goodmania luteola golden goodmania	—	—	4.2	Clay or alkaline soil in Mojavean desert scrub, grassland, playas, meadows, and seeps; 230–7,218 feet above msl. Blooms April–August.	Reported approximately 10 miles south of the Project site (CCH 2017). No suitable soils on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Not expected to occur.
Loeflingia squarrosa var. *artemisiarum* sagebrush loeflingia	—	—	2B.2	Sandy soil in desert dunes, Great Basin scrub, and Sonoran desert scrub; 2,297–5,299 feet above msl. Blooms April–May.	Reported approximately 14 miles south of the Project site (CDFW 2017a). Limited amounts of suitable soil on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Limited potential to occur.

TABLE 1
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FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys	
	USFWS	CDFW	CRPR			Surveyed Area	Boundary Shift Area
Mentzelia eremophila solitary blazing star	—	—	4.2	Canyons, rocky slopes and washes in creosote bush scrub and roadsides; 1,969–4,101 feet above msl. Blooms March–May.	Reported approximately 9 miles south of the Project site (CCH 2017). Suitable habitat present on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.
Mentzelia tridentata creamy blazing star	—	—	1B.3	Rocky, gravelly, or sandy soil in creosote-bush scrub; 2,297–4,265 feet above msl. Blooms April–May.	Reported approximately 14 miles north of the Project site (CDFW 2017a). Suitable habitat present on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.
Muilla coronata crowned muilla	—	—	4.2	Open desert and woodland in chenopod scrub, Mojavean desert scrub, Joshua tree woodland, and pinyon and juniper woodland; 3,281–5,249 feet above msl. Blooms March–April.	Reported approximately 13.5 miles south of the Project site (CCH 2017). Suitable habitat present on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.
Nemacladus gracilis graceful nemacladus	—	—	4.3	Rocky or gravelly slopes and sandy washes in cismontane woodland and grassland; 0–6,234 feet above msl. Blooms March–April.	Reported approximately 14.5 miles southeast of the Project site (CCH 2017). Suitable habitat on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.
Phacelia nashiana Charlotte's phacelia	—	—	1B.2	Granitic, rocky, and sandy soils in Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; 0–7,874 feet above msl. Blooms February–June.	Reported approximately 7.5 miles west of the Project site (CDFW 2017a). Suitable habitat on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.

TABLE 1
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FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys	
	USFWS	CDFW	CRPR			Surveyed Area	Boundary Shift Area
Sclerocactus polyancistrus Mojave fish-hook cactus	—	—	4.2	Limestone soils in hills, canyons, and alluvial slopes in creosote-bush scrub, Great Basin scrub, and Joshua tree woodland; 2,461–6,890 feet above msl. Blooms April–June.	Reported approximately 15 miles north of the Project site (CCH 2017). Suitable habitat on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.

USFWS: U.S. Fish and Wildlife Service; CDFW: California Department of Fish and Wildlife; CRPR: California Rare Plant Rank; msl: mean sea level; SR: State Route.

LEGEND:

Federal (USFWS)
FE Endangered

State (CDFW)
SR Rare
SE Endangered

CRPR
1B Plants Rare, Threatened, or Endangered in California and elsewhere
2B Plants Rare, Threatened, or Endangered in California but more common elsewhere
4 Plants of limited distribution – A Watch List

CRPR Threat Code Extensions
.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
.2 Fairly threatened in California (20–80% of occurrences threatened; moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known)

Species that were observed on the Project site are shown in **boldface type**.

Mojave Spineflower

Mojave spineflower has a CRPR of 4.2. This annual herb typically blooms between April and July. This species occurs in sandy, gravelly, or sometimes alkaline soil in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas (Jepson Flora Project 2016; CNPS 2017). It is known from the Caliente Range of the southern Inner South Coast Ranges and the western Mojave Desert (Jepson Flora Project 2016). The nearest reported location is along State Route (SR) 58 in North Edwards, approximately ten miles south of the Project site (CCH 2017).

This species was incidentally observed during focused burrowing owl surveys on May 10, 2017 (Psomas 2017). Three individuals were observed near the southern edge of the Project site in creosote bush–white bursage scrub vegetation (Exhibit 4). The plants were in sandy loam soil and were associated with creosote bush (*Larrea tridentata*), common goldfields (*Lasthenia gracilis*), and desert fiddleneck (*Amsinckia tessellata* var. *tessellata*). A voucher specimen was collected for identification and will be deposited in the herbarium at Rancho Santa Ana Botanic Garden.

This observation was during a wildlife survey and was not the focus of that survey effort. Biologists surveying for burrowing owl may not be looking at plants and/or they may not know Mojave spineflower and therefore would be unable to detect it. Because there was no late spring plant survey in 2017 and because this species may not have been detectable on the Project site in 2016, there may be additional Mojave spineflower locations on the Project site. However, it is assumed to be a relatively low number of additional individuals because it was not detected in more locations during the 2016 late spring plant surveys, nor was it incidentally detected in more locations by Biologists walking transects to search for burrowing owl.

CONCLUSIONS

As discussed above, a small population of Mojave spineflower was observed on the 215-acre site. Given that the species was incidentally observed during a survey visit not targeted at plant species, it is unknown how many individuals are present on the Project site and the total number present cannot be reliably quantified without additional late spring plant surveys in future years. However, given the status of the species (CRPR 4.2) and the presence of other populations in the Project region, it is anticipated that the impacts, even if a larger population were affected, would be adverse but less than significant.

There is a 15-acre portion of the Project site that has not been surveyed for special status plant species by either GANDA or Psomas. Therefore, an additional early and late spring survey are recommended in order to determine whether special status plant species occur in that portion of the Project site. It should be noted that the area not surveyed due to the mapping error represents only seven percent of the Project site; therefore, even without results for this area, Project impacts can generally be assessed. Additionally, if any special status plant locations are observed in this area during future surveys, the Project could attempt to avoid or minimize impacts on them since they are at the edge of the Project site.

Although reference populations and regional rainfall amounts were monitored to ensure the scientific adequacy of these focused surveys, there is always a minimal potential for false negative survey results as species could possibly be present on a site but may not be detectable at the time of the surveys.

If you have any comments or questions, please call Amber Heredia at (714) 751-7373.

Sincerely,
PSOMAS

Amber O. Heredia
Senior Project Manager

Allison D. Rudalevige
Senior Biologist

Enclosures: Exhibit 1 – Project Location
Exhibit 2 – USGS 7.5-Minute Digital Quadrangle
Exhibit 3 – Soil Types
Exhibit 4 – Special Status Species Location
Attachment A – Representative Photographs
Attachment B – Plant Compendium

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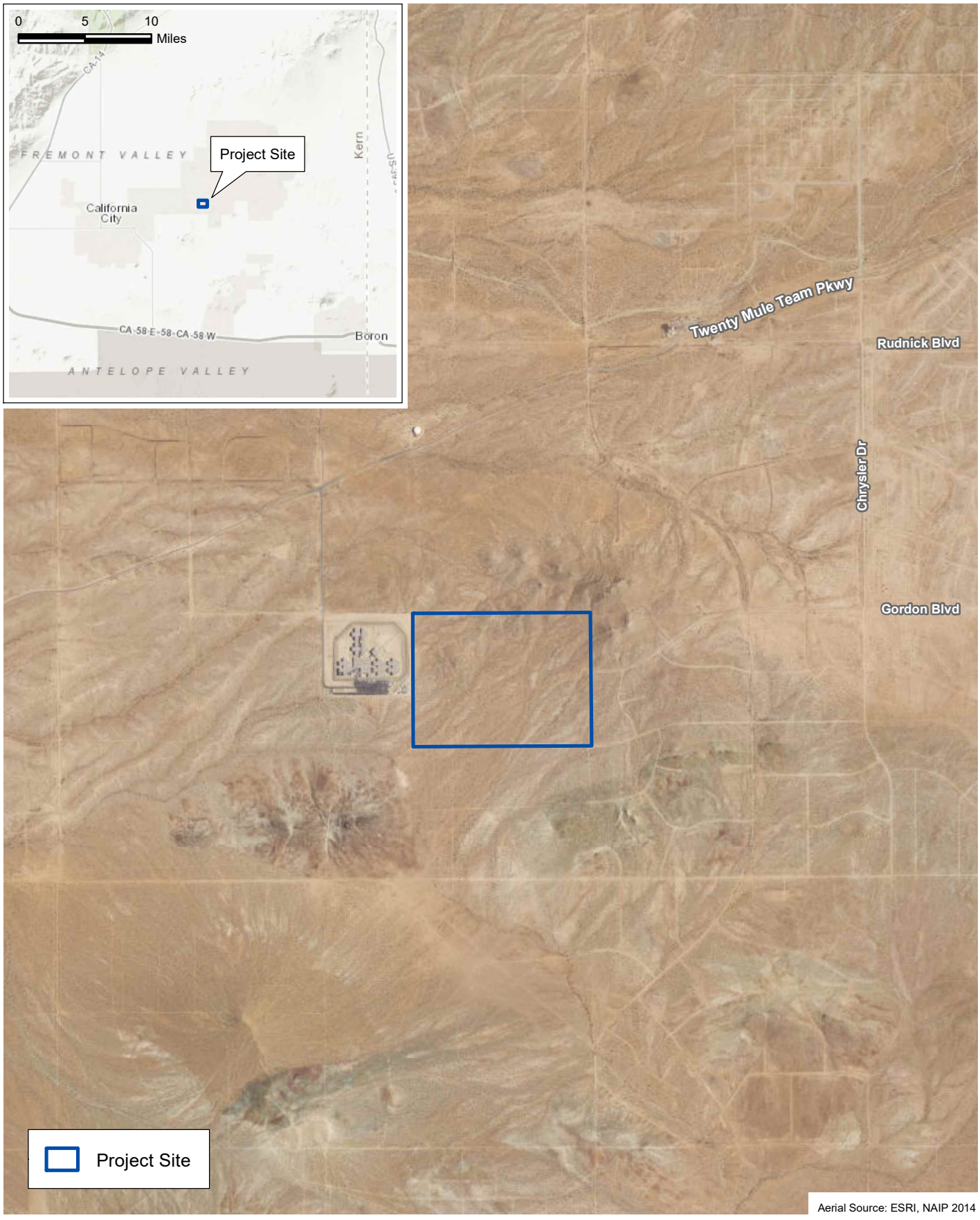

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Project Location

Exhibit 1

Correctional Development Facility at California City (CDFCC)

N W E S

0.5 0.25 0 0.5 Miles

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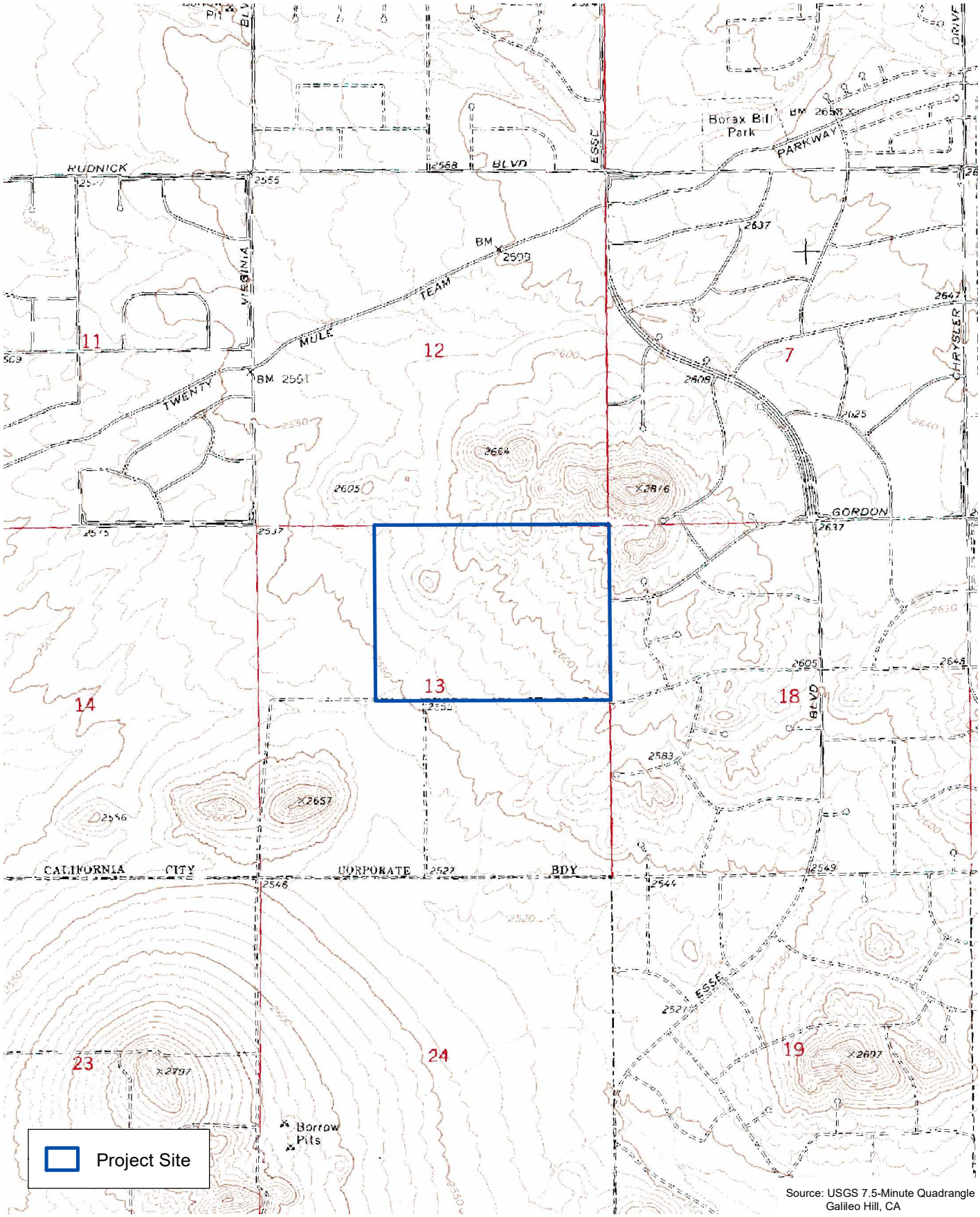

Source: USGS 7.5-Minute Quadrangle
Galileo Hill, CA

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USGS 7.5-Minute Digital Quadrangle

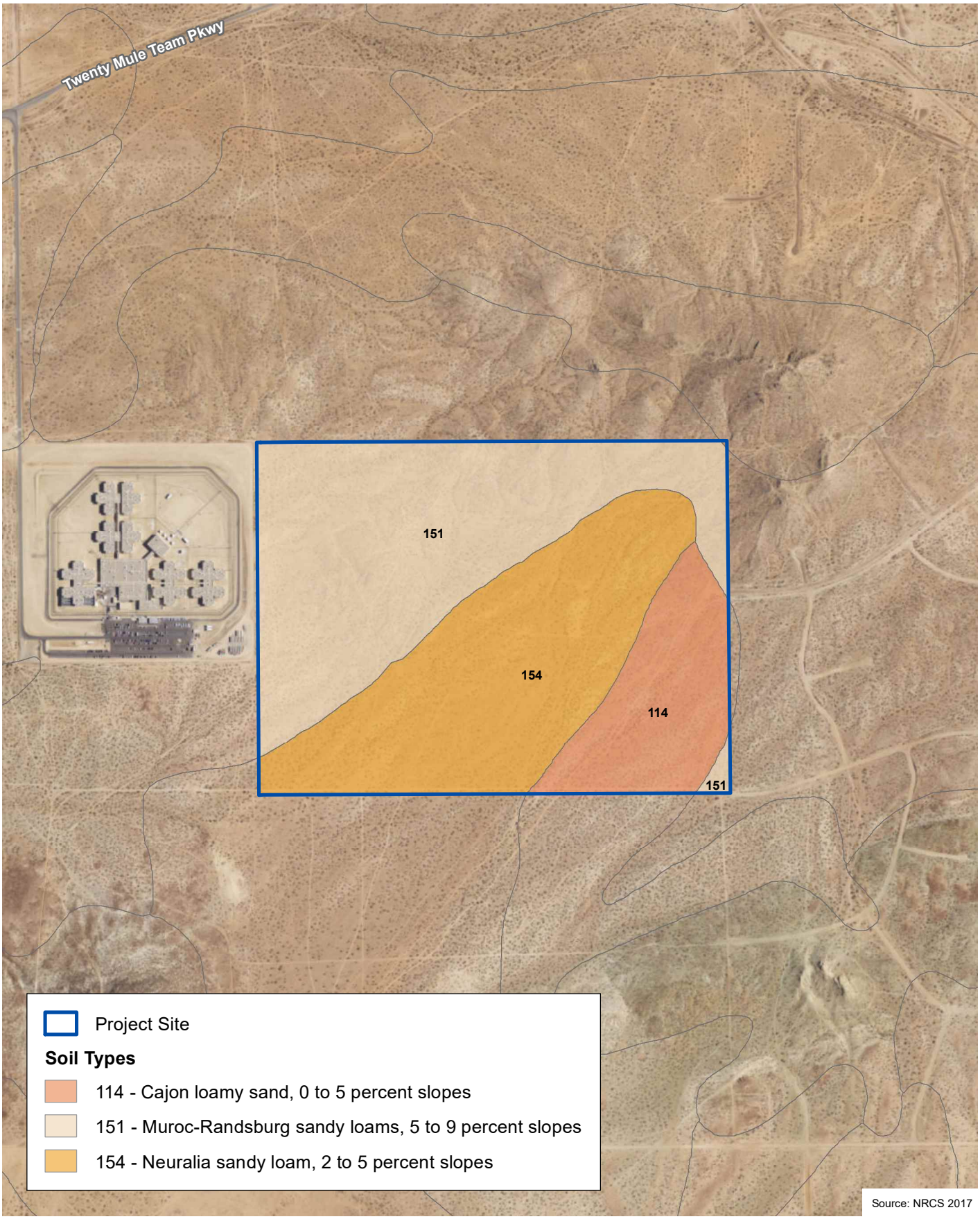
Exhibit 2

Correctional Development Facility at California City (CDFCC)

N
W E
S

2,000 1,000 0 2,000 Feet

PSOMAS



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Soil Types

Exhibit 3

Correctional Development Facility at California City (CDFCC)

N W E S

1,000 500 0 1,000 Feet

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Source: USGS 7.5-Minute Quadrangle
Galileo Hill, CA

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Special Status Species Locaion

Exhibit 4

Correctional Development Facility at California City (CDFCC)

N
W E
S

600 300 0 600
Feet

PSOMAS

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ATTACHMENT A

REPRESENTATIVE PHOTOGRAPHS

Photo 1: Mojave spineflower voucher specimen collected from the Project site.

Photo 2: Representative photograph of habitat on the Project site.

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Site Photographs

Attachment A

Correctional Development Facility at California City (CDFCC)

PSOMAS

ATTACHMENT B

PLANT COMPENDIUM

PLANTS OBSERVED ON THE PROJECT SITE IN 2017

Species	
Scientific Name	**Common Name**
EUDICOTS	
APIACEAE – CARROT FAMILY	
Lomatium mohavense	Mojave lomatium
ASTERACEAE – SUNFLOWER FAMILY	
Acamptopappus sphaerocephalus var. sphaerocephalus	rayless goldenhead
Ambrosia dumosa	white bur-sage
Ambrosia salsola var. *salsola*	common burrobrush
Chaenactis fremontii	Fremont pincushion
Ericameria nauseosa var. *hololeuca*	white rabbitbrush
Eriophyllum wallacei	Wallace's woolly sunflower
Lasthenia gracilis	common goldfields
Leptosyne calliopsidea	calliopsis-like tickseed
Malacothrix coulteri	snake's-head
Rafinesquia californica	California chicory
Stephanomeria pauciflora	wire-lettuce
Tetradymia axillaris	axillary cottonthorn
Xylorhiza tortifolia var. *tortifolia*	Mojave-aster
BORAGINACEAE – BORAGE FAMILY	
Amsinckia tessellata var. *tessellata*	desert fiddleneck
Cryptantha nevadensis var. *nevadensis*	Nevada cryptantha
Cryptantha pterocarya var. *pterocarya*	winged-nut cryptantha
Pectocarya linearis ssp. *ferocula*	narrow-toothed pectocarya
Pectocarya platycarpa	wide-toothed pectocarya
Pectocarya setosa	round-nut pectocarya
Phacelia fremontii	Fremont's phacelia
Phacelia tanacetifolia	lacy phacelia
BRASSICACEAE – MUSTARD FAMILY	
Caulanthus inflatus	desert candle
Caulanthus lasiophyllus	California mustard
Lepidium flavum	yellow peppergrass
Lepidium nitidum	shining peppergrass
*Sisymbrium irio**	London rocket
Tropidocarpum gracile	slender tropidocarpum
CACTACEAE – CACTUS FAMILY	
Cylindropuntia echinocarpa	silver cholla
Ferocactus cylindraceus	California barrel cactus
CHENOPODIACEAE – GOOSEFOOT FAMILY	
Grayia spinosa	thorny hop-sage
EUPHORBIACEAE – SPURGE FAMILY	
Euphorbia albomarginata	rattlesnake sandmat
FABACEAE – LEGUME FAMILY	
Acmispon strigosus	strigose deervetch
Astragalus didymocarpus var. *dispermus*	paired two-seeded milkvetch
Astragalus layneae	Layne milkvetch

PLANTS OBSERVED ON THE PROJECT SITE IN 2017

Species	
Scientific Name	**Common Name**
Lupinus microcarpus var. *horizontalis*	plane chick lupine
Lupinus shockleyi	desert lupine
GERANIACEAE – GERANIUM FAMILY	
*Erodium cicutarium**	redstem filaree
LOASACEAE – BLAZING STAR FAMILY	
Mentzelia affinis	similar blazing star
NYCTAGINACEAE – FOUR O'CLOCK FAMILY	
Mirabilis laevis var. *retrorsa*	reflexed smooth four o'clock
ONAGRACEAE – EVENING PRIMROSE FAMILY	
Camissonia campestris ssp. *campestris*	field sun cup
Chylismia claviformis ssp. *claviformis*	club-shaped chylismia
Tetrapteron palmeri	Palmer's tetrapteron
PAPAVERACEAE – POPPY FAMILY	
Eschscholzia minutiflora	minute-flowered eschscholzia
PLANTAGINACEAE – PLANTAIN FAMILY	
Plantago ovata var. *fastigiata*	tall ovate plantain
POLEMONIACEAE – PHLOX FAMILY	
Gilia brecciarum ssp. *brecciarum*	break gilia
Linanthus bigelovii	Bigelow's linanthus
Linanthus dichotomus	evening snow
Linanthus parryae	Parry's linanthus
Loeseliastrum matthewsii	desert calico
POLYGONACEAE – BUCKWHEAT FAMILY	
Chorizanthe brevicornu var. *brevicornu*	brittle spineflower
Chorizanthe rigida	devil's spineflower
Chorizanthe spinosa	Mojave spineflower
Eriogonum angulosum	angle-stem wild buckwheat
Eriogonum fasciculatum var. *polifolium*	Mojave Desert California buckwheat
Eriogonum inflatum	desert trumpet
SOLANACEAE – NIGHTSHADE FAMILY	
Lycium andersonii	Anderson's box-thorn
ZYGOPHYLLACEAE – CALTROP FAMILY	
Larrea tridentata	creosote bush
MONOCOTS	
POACEAE – GRASS FAMILY	
Bromus madritensis ssp. *rubens**	red brome
*Poa annua**	annual blue grass
*Schismus barbatus**	barbed Mediterranean grass
Stipa speciosa	desert needle grass
THEMIDACEAE – BRODIAEA FAMILY	
Dichelostemma capitatum ssp. *capitatum*	blue dicks
* non-native species	

July 20, 2020

Mr. Brad Wiggins
CoreCivic
10 Burton Hills Boulevard
Nashville, Tennessee 37215

VIA EMAIL
brad.wiggins@corecivic.com

Subject: Results of 2020 Special Status Plant Survey for the Correctional Facility at California City in Kern County, California

Dear Mr. Wiggins:

This Letter Report presents the findings of special status plant surveys conducted in 2020 for the Correctional Facility at California City (hereinafter referred to as "the Project") located in Kern County, California. The purpose of the surveys was to determine the presence or absence of special status plant species on the 215-acre Project site. Portions of the site were previously surveyed in 2016 (GANDA 2016), 2017 (Psomas 2017), 2018, and 2019 (Psomas 2020). The 2020 special status plant survey represents the first year the entire Project site has been surveyed throughout the blooming periods for all special status plants in the same year.

PROJECT LOCATION AND DESCRIPTION

The Project is located in California City in Kern County, California (Exhibit 1). The main Project area consists of a 215-acre property adjacent to the existing California City Correctional Facility (CCCF). Off-site areas include an approximate ten-mile-long proposed utility alignment, which generally runs from an existing water tank to the north of the Project site, along Twenty Mule Team Parkway and along Mendiburu Road to Yerba Boulevard; it includes connections through the adjacent existing CCCF via Virginia Boulevard, Gordon Boulevard, and 145th Street. These off-site utility improvements are planned to be within the existing road rights-of-way; therefore, the special status plant survey included only the 215-acre property.

CoreCivic proposes to construct two separate but adjacent, one-level correctional facilities with a total of 3,024 beds on the Project site. The Project would include a shared administration building and common parking area. The Project site would be improved to include an approximate 159-acre building pad to accommodate the facilities and structures described above; manufactured slopes with ancillary drainage improvements would be located along the perimeter of the building pad. A series of five retention basins would be located along the length of the western site boundary to accommodate surface water runoff from the rest of the site. No improvements are proposed for the City's road rights-of-way located along the northern, southern, or eastern edges of the 215-acre Project site. A new private two-lane road would provide access to the parking lot and the Project site along the alignment of Gordon Boulevard; it would start from Virginia Boulevard and connect to the northwestern corner of the Project site.

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ENVIRONMENTAL SETTING

The Project site is located in the Fremont Valley portion of the California Desert Province's Western Mojave subregion. It is located on the U.S. Geological Survey's (USGS') Galileo Hill 7.5-minute quadrangle (Exhibit 2). Topography on the Project site is generally moderately sloping and undulating. Elevations on the Project site range from approximately 2,700 feet above mean sea level (msl) in the northeast corner to 2,550 feet above msl in the southwest corner. Soils are mapped as Muroc-Randsburg sandy loam, 5 to 9 percent slopes; Neuralia sandy loam, 2 to 5 percent slopes; and Torriorthents-Rock outcrop complex, very deep (Exhibit 3).

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. Sheep grazing has occurred throughout the Project site. The Project site is crossed by a network of small off-highway vehicle (OHV) roads. The existing CCCF is located along the western boundary of the Project site; undeveloped open space and dirt roads are located to the north, east, and south.

METHODS

Botanical surveys were floristic in nature and consistent with the protocols created by the California Department of Fish and Wildlife (CDFW 2018). Prior to the 2020 field surveys, the 2017 literature search was updated to identify special status plant species reported from the vicinity of the Project site. Sources reviewed include the USGS Boron, Boron NW, California City North, California City South, Cantil, Galileo Hill, Johannesburg, Mojave NE, North Edwards, Saltdale SE, and Sanborn 7.5-minute quadrangles in the California Native Plant Society's (CNPS') Inventory of Rare and Endangered Plants (CNPS 2020) and the CDFW's California Natural Diversity Database (CNDDB) (CDFW 2020a).

Rainfall received in the winter and spring determines the germination of many annual and perennial herb species. The Mojave Desert is a wedge-shaped basin that experiences precipitation primarily in the winter, with occasional summer thunderstorms. According to the National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service Forecast Office (data reported from nearby Lancaster, California), the region received approximately 10.64 inches of precipitation between October 1, 2019 and April 30, 2020; the average precipitation over this time period is 6.90 inches (NOAA 2020). Prior to this, the region had received below-average precipitation for 13 consecutive years.

Reference populations of species with potential to occur on the Project site were monitored for annual and difficult-to-detect target species to ensure that the surveys were valid. This is especially important during periods of unusual rainfall patterns or below average rainfall. If conditions at a nearby reference population are suitable for germination and growth, then it can be inferred that conditions would also be suitable on the Project site. Populations of desert cymopterus (*Cymopterus deserticola*) and Barstow woolly sunflower (*Eriophyllum mohavense*) were monitored at a reference site near Hinkley on March 22, 2020; both species were blooming at that time. Reference populations were not monitored for species with a California Rare Plant Rank (CRPR) of 3 or 4; perennial species (e.g., Mojave fish-hook cactus [*Sclerocactus polyancistrus*]) that would be identifiable throughout the year; or for species with no extant, publicly-accessible reference population in the Project region. Based on the reference survey results, the surveys were conducted during a timeframe when the target plant species were observable.

Surveys were conducted by Psomas Senior Biologist Allison Rudalevige and Biologist Sarah Thomas on March 31, April 2, May 22, and May 26, 2020. The total number of person-hours spent was 51.5 hours. A systematic survey was conducted throughout the Project site by walking transects spaced at approximately 50-foot intervals. All plant species observed were recorded in field notes. Plant species were identified in the field or collected for later identification. Plants were identified using taxonomic keys, descriptions, and illustrations in Jepson Flora Project (2019), Baldwin et al. (2012), Hickman

(1993), and Munz (1974) to the taxonomic level necessary to determine whether or not they are a special status species. Nomenclature of plant taxa conform to the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2020b) for special status species and the Jepson eFlora (Jepson Flora Project 2019) for all other taxa.

Any special status plant species observed would be mapped and data would be collected on the number and phenology of individuals (estimated for large populations), microsite characteristics such as slope, aspect, soil texture, surrounding habitat, and associated species.

SURVEY RESULTS

Table 1 identifies the special status plants reported from the literature review with their status, their potential to occur on the Project site, and the survey results. No special status plant species were observed during the 2020 surveys. Mojave spineflower (*Chorizanthe spinosa*) was observed on the Project site in 2017 and is discussed further below. A list of all plants observed on the Project site in 2020 is included in Attachment A.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys
	USFWS	CDFW	CRPR			
Calochortus striatus alkali mariposa-lily	—	—	1B.2	Alkaline meadows, moist creosote-bush scrub, chenopod scrub, Mojavean desert scrub, and chaparral; 2,625–4,593 feet above msl. Blooms April–June.	Reported approximately 5 miles southwest of the Project site (CDFW 2020a). No suitable moist alkaline habitat present on the Project site.	Not expected to occur based on lack of suitable habitat (moist alkaline soils). Not observed during 2020 surveys.
Canbya candida white pygmy-poppy	—	—	4.2	Sandy gravelly, or granitic soils in Joshua tree woodland, pinyon and juniper woodland, and Mojavean desert scrub; 1,969–4,429 feet above msl. Blooms April–May.	Reported approximately 4.5 miles north of the Project site (CCH 2020). Suitable desert scrub habitat present on the Project site.	Not expected to occur; not observed during 2020 surveys.
***Chorizanthe spinosa* Mojave spineflower**	**—**	**—**	**4.2**	**Sandy or gravelly, sometimes alkaline, soil in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas; 1,969–4,265 feet above msl. Blooms April–July.**	**Reported along SR-58 approximately 10 miles south of the Project site (CCH 2020). Suitable desert scrub habitat present on the Project site.**	**Incidentally observed during 2017 burrowing owl survey (Psomas 2017). Not observed during 2020 surveys.**
Cryptantha clokeyi Clokey's cryptantha	—	—	1B.2	Rocky to gravelly slopes and ridge crests in desert woodland and Mojavean desert scrub; 2,789–5,413 feet above msl. Blooms April–May.	Reported approximately 13 miles northeast of the Project site (CDFW 2020a). Suitable rocky habitat in the northern portion of the Project site.	Not expected to occur; not observed during 2020 surveys.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys
	USFWS	CDFW	CRPR			
Cymopterus deserticola desert cymopterus	—	—	1B.2	Sandy soil in Joshua tree woodland and Mojavean desert scrub; 2,297–4,921 feet above msl. Blooms April.	Reported approximately 4.5 miles south of the Project site (CDFW 2020a). Limited amounts of suitable soil on the Project site.	Not expected to occur; not observed during 2020 surveys.
Deinandra arida Red Rock tarplant	—	SR	1B.2	Clay and volcanic tuff in Mojavean desert scrub, washes, canyon slopes, and edges of springs and seeps; 1,969–3,281 feet above msl. Blooms April–November.	Reported approximately 10.6 miles northwest of the Project site (CDFW 2020a); known only from the Red Rock Canyon area. Marginally suitable habitat in washes on the Project site.	Not expected to occur; not observed during 2020 surveys.
Deinandra mohavensis Mojave tarplant	—	SE	1B.3	Moist sites in openings of chaparral, desert scrub, woodland, coastal scrub, and riparian scrub; 1,509–5,249 feet above msl. Blooms May–June.	Reported approximately 12.5 miles northwest of the Project site (CDFW 2020a). No suitable moist habitat on the Project site.	Not expected to occur based on lack of suitable habitat (moist habitat). Not observed during 2020 surveys.
Delphinium recurvatum recurved larkspur	—	—	1B.2	Poorly drained, fine, alkaline soils in grassland, chenopod scrub, and cismontane woodland; 98–1,969 feet above msl. Blooms March–June.	Reported approximately 13.5 miles south and southeast of the Project site (CDFW 2020a). No suitable alkaline soils on the Project site.	Not expected to occur based on lack of suitable habitat (alkaline soils). Not observed during 2020 surveys.
Dudleya abramsii ssp. *calcicola* limestone dudleya	—	—	4.3	Carbonate soils in chaparral and pinyon and juniper woodland; 1,640–8,530 feet above msl. Blooms April–August.	Reported approximately 14 miles northwest of the Project Site (CCH 2020). No suitable habitat on the Project site.	Not expected to occur based on lack of suitable habitat. Not observed during 2020 surveys.
Eremothera boothii ssp. *boothii* Booth's evening-primrose	—	—	2B.3	Sandy flats, steep loose slopes of Joshua tree and pinyon/juniper woodland; 2,953–7,874 feet above msl. Blooms June–August.	Reported approximately 15 miles east of the Project site (CCH 2020). No suitable woodlands on the Project site.	Not expected to occur based on lack of suitable habitat (woodlands). Not observed during 2020 surveys.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys
	USFWS	CDFW	CRPR			
Eriophyllum mohavense Barstow woolly sunflower	—	—	1B.2	Creosote-bush scrub, chenopod scrub, and playas; 1,640–2,625 feet above msl. Blooms April–May.	Reported approximately 6 miles southwest of the Project site (CDFW 2020a). Suitable habitat throughout the Project site.	Not expected to occur; not observed during 2020 surveys.
Erythranthe rhodopetra Red Rock Canyon monkeyflower	—	—	1B.1	Sandy canyon washes in Mojavean desert scrub; 2,001–3,002 feet above msl. Blooms March–April.	Reported approximately 12 miles northwest of the Project site (CDFW 2020a); known only from the El Paso Mountains (CNPS 2020). Suitable habitat on the Project site.	Not expected to occur; not observed during 2020 surveys.
Eschscholzia minutiflora ssp. *twisselmannii* Red Rock poppy*	—	—	1B.2	Volcanic tuff in Mojavean desert scrub; 2,231–4,035 feet above msl. Blooms March–May.	Reported approximately 10 miles northeast of the Project site (CDFW 2020a); known only from the Rand and El Paso Mountains (CNPS 2020). No suitable soils on the Project site.	Not expected to occur based on lack of suitable habitat (volcanic soils). Not observed during 2020 surveys.
Euphorbia vallis-mortae Death Valley sandmat	—	—	4.2	Sandy or gravelly soil in Mojavean desert scrub; 755–4,790 feet above msl. Blooms May–October.	Reported approximately 1 mile north of the Project Site (CCH 2020). Suitable habitat on the Project site.	Not expected to occur; not observed during 2020 surveys.
Goodmania luteola golden goodmania	—	—	4.2	Clay or alkaline soil in Mojavean desert scrub, grassland, playas, meadows, and seeps; 230–7,218 feet above msl. Blooms April–August.	Reported approximately 10 miles south of the Project site (CCH 2020). No suitable soils on the Project site.	Not expected to occur based on lack of suitable habitat (clay or alkaline soils). Not observed during 2020 surveys.
Loeflingia squarrosa var. *artemisiarum* sagebrush Loeflingia*	—	—	2B.2	Sandy soil in desert dunes, Great Basin scrub, and Sonoran desert scrub; 2,297–5,299 feet above msl. Blooms April–May.	Reported approximately 14 miles south of the Project site (CDFW 2020a). Limited amounts of suitable soil on the Project site.	Not expected to occur; not observed during 2020 surveys.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys
	USFWS	CDFW	CRPR			
Mentzelia eremophila solitary blazing star	—	—	4.2	Canyons, rocky slopes and washes in creosote bush scrub and roadsides; 1,969–4,101 feet above msl. Blooms March–May.	Reported approximately 9 miles south of the Project site (CCH 2020). Suitable habitat present on the Project site.	Not expected to occur; not observed during 2020 surveys.
Mentzelia tridentata creamy blazing star	—	—	1B.3	Rocky, gravelly, or sandy soil in creosote-bush scrub; 2,297–4,265 feet above msl. Blooms April–May.	Reported approximately 14 miles north of the Project site (CDFW 2020a). Suitable habitat present on the Project site.	Not expected to occur; not observed during 2020 surveys.
Muilla coronata crowned muilla	—	—	4.2	Open desert and woodland in chenopod scrub, Mojavean desert scrub, Joshua tree woodland, and pinyon and juniper woodland; 3,281–5,249 feet above msl. Blooms March–April.	Reported approximately 13.5 miles south of the Project site (CCH 2020). Suitable habitat present on the Project site.	Not expected to occur; not observed during 2020 surveys.
Nemacladus gracilis graceful nemacladus	—	—	4.3	Rocky or gravelly slopes and sandy washes in cismontane woodland and grassland; 0–6,234 feet above msl. Blooms March–April.	Reported approximately 14.5 miles southeast of the Project site (CCH 2020). Suitable habitat on the Project site.	Not expected to occur; not observed during 2020 surveys.
Phacelia nashiana Charlotte's phacelia	—	—	1B.2	Granitic, rocky, and sandy soils in Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; 0–7,874 feet above msl. Blooms February–June.	Reported approximately 7.5 miles west of the Project site (CDFW 2020a). Suitable habitat on the Project site.	Not expected to occur; not observed during 2020 surveys.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys
	USFWS	CDFW	CRPR			
Sclerocactus polyancistrus Mojave fish-hook cactus	—	—	4.2	Limestone soils in hills, canyons, and alluvial slopes in creosote-bush scrub, Great Basin scrub, and Joshua tree woodland; 2,461–6,890 feet above msl. Blooms April–June.	Reported approximately 15 miles north of the Project site (CCH 2020). Suitable habitat on the Project site.	Not expected to occur; not observed during 2020 surveys.

USFWS: U.S. Fish and Wildlife Service; CDFW: California Department of Fish and Wildlife; CRPR: California Rare Plant Rank; msl: mean sea level; SR: State Route.

LEGEND:

Federal (USFWS)
FE Endangered

State (CDFW)
SR Rare
SE Endangered

CRPR
1B Plants Rare, Threatened, or Endangered in California and elsewhere
2B Plants Rare, Threatened, or Endangered in California but more common elsewhere
4 Plants of limited distribution – A Watch List

CRPR Threat Code Extensions
.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
.2 Fairly threatened in California (20–80% of occurrences threatened; moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known)

Species that were observed on the Project site are shown in **boldface type**.

* Subspecies/variety not currently recognized by the Jepson Flora Project (2019).

Mojave Spineflower

Mojave spineflower has a CRPR of 4.2. This annual herb typically blooms between April and July. This species occurs in sandy, gravelly, or sometimes alkaline soil in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas (Jepson Flora Project 2019; CNPS 2020). It is known from the Caliente Range of the southern Inner South Coast Ranges and the western Mojave Desert (Jepson Flora Project 2019). The nearest reported location is along State Route (SR) 58 in North Edwards, approximately 10 miles south of the Project site (CCH 2020).

This species was incidentally observed during focused burrowing owl surveys on May 10, 2017 (Psomas 2017). Three individuals were observed near the southern edge of the Project site in creosote bush–white bursage scrub vegetation. The plants were in sandy loam soil and were associated with creosote bush (*Larrea tridentata*), common goldfields (*Lasthenia gracilis*), and desert fiddleneck (*Amsinckia tessellata* var. *tessellata*).

This observation was made during a wildlife survey and was incidental to that survey effort. Biologists surveying for burrowing owl were not focusing on plants and/or may not know Mojave spineflower and therefore would be unable to detect it. At the time of the observation in 2017, it was hypothesized that additional Mojave spineflower locations may be present on the Project site because there was no late spring plant survey in 2017 to document the extent of the population during the peak of its blooming. However, given that this species was not observed during 2016 late spring surveys nor during 2020 surveys, it is assumed that the Project site supports a relatively small number of individuals.

CONCLUSIONS

As discussed above, a small population of Mojave spineflower was observed on the 215-acre Project site during 2017 burrowing owl surveys. Given the low number of individuals incidentally observed during 2017 and the lack of individuals observed in 2016 and 2020, it is assumed that the Project site supports a relatively low population size of this species. Given the status of the species (CRPR 4.2) and the presence of other populations in the Project region, the loss of this small population would be considered adverse but less than significant.

Although reference populations and regional rainfall amounts were monitored to ensure the scientific adequacy of these focused surveys, there is always a minimal potential for false negative survey results as species could possibly be present on a site but may not be detectable at the time of the surveys.

If you have any comments or questions, please contact Amber Heredia at Amber.Heredia@psomas.com or 714.751.8049.

Sincerely,
PSOMAS

Amber O. Heredia
Senior Project Manager

Allison D. Rudalevige
Senior Biologist

Enclosures: Exhibit 1 – Project Location
Exhibit 2 – USGS 7.5-Minute Digital Quadrangle
Exhibit 3 – Soil Types
Attachment A – Representative Photos
Attachment B – Plant Compendium

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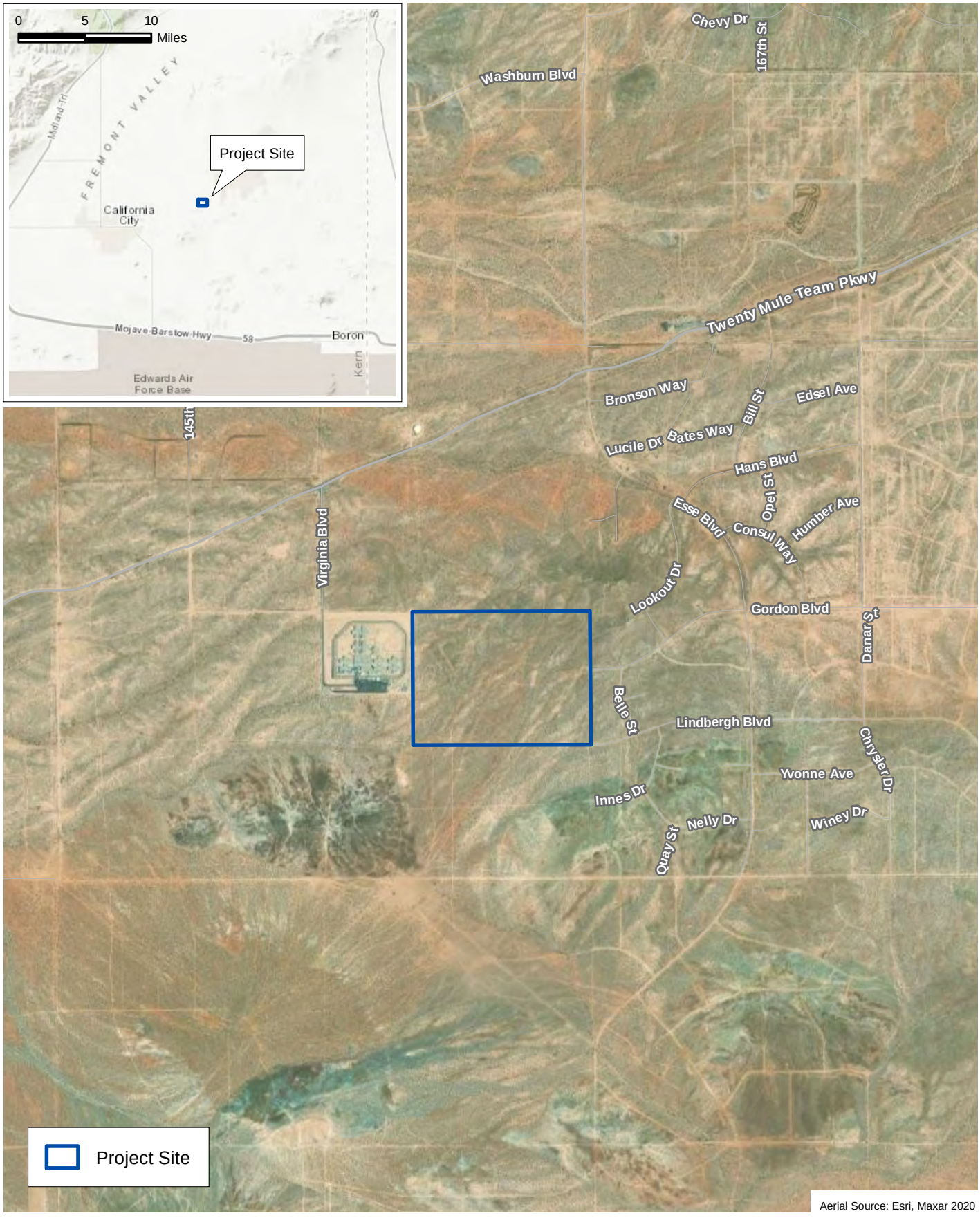

Aerial Source: Esri, Maxar 2020

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Project Location

Exhibit 1

Correctional Facility at California City (CFCC)

N
W
E
S

0.5 0.25 0 0.5 Miles

PSOMAS

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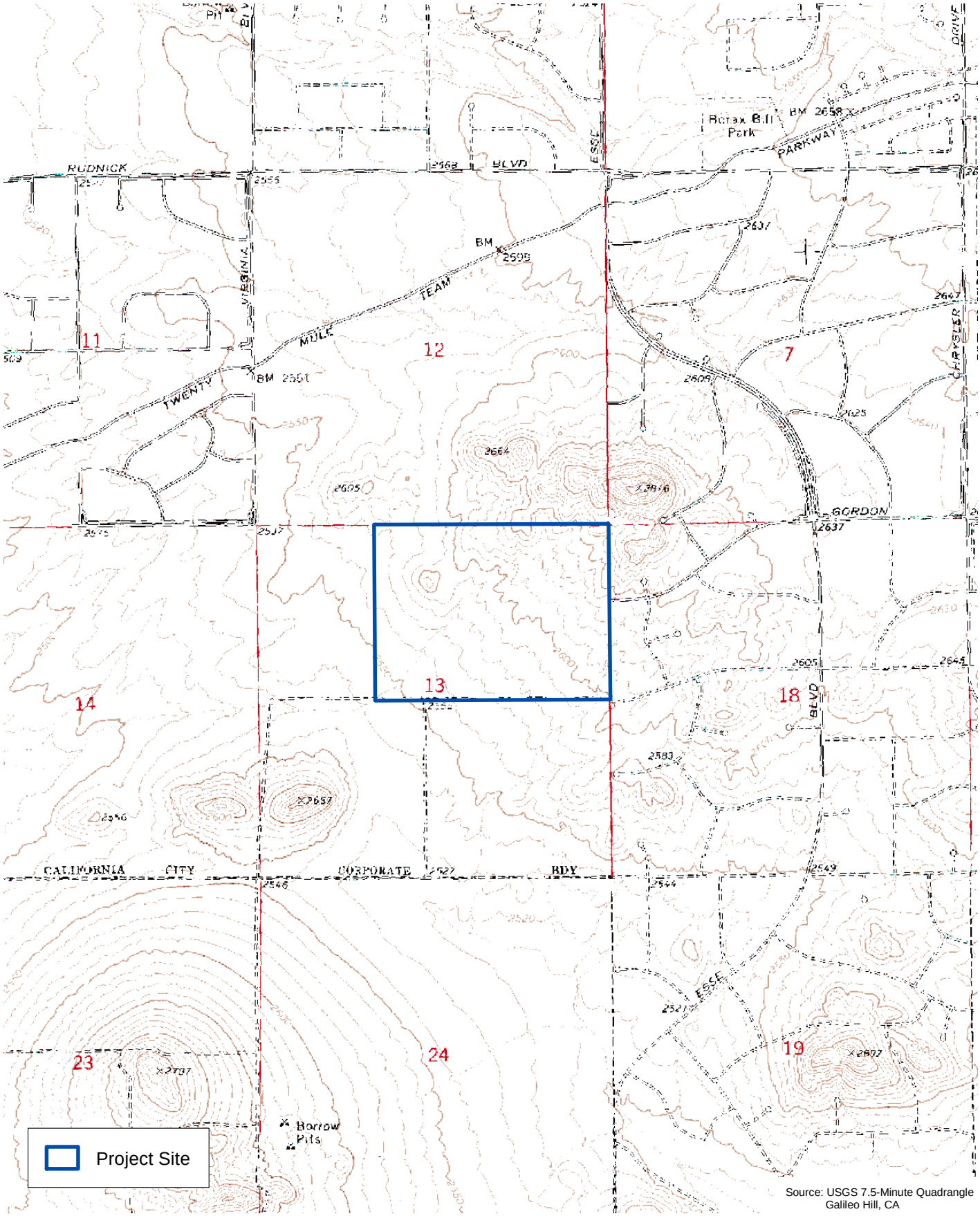

Source: USGS 7.5-Minute Quadrangle
Galileo Hill, CA

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USGS 7.5-Minute Digital Quadrangle

Exhibit 2

Correctional Facility at California City (CFCC)

N W E S

2,000 1,000 0 2,000 Feet

PSOMAS

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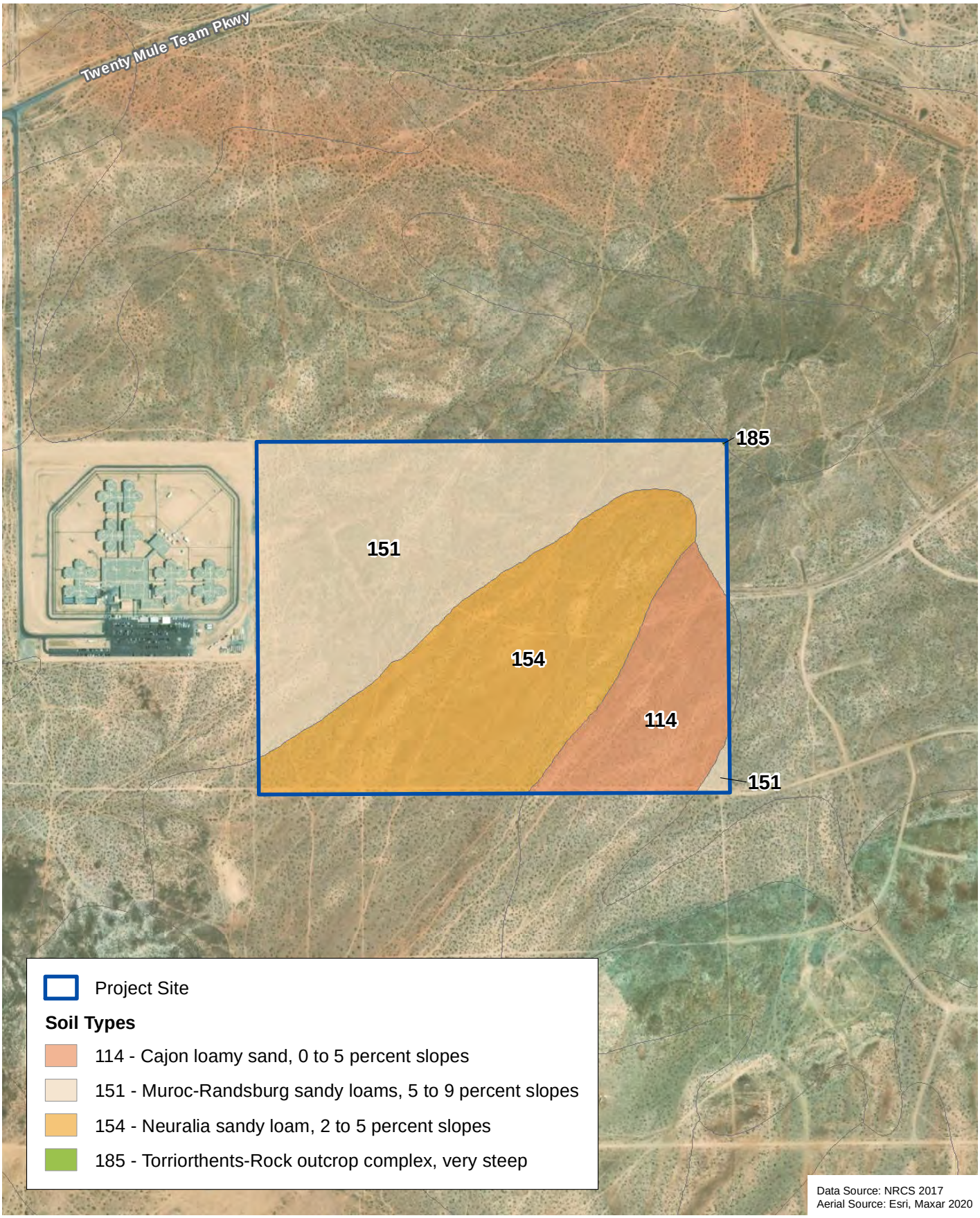

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Soil Types

Exhibit 3

Correctional Facility at California City (CFCC)

N W E S

1,000 500 0 1,000 Feet

PSOMAS

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ATTACHMENT A

REPRESENTATIVE PHOTOS

Representative photo of the Project site on March 31, 2020.

Representative photo of the Project site on May 26, 2020.

D:\Projects\3CRC\010100\GRAPHICS\Plants_2020\AttA-1_RepresentativePhotographs.ai

Representative Photos

Attachment A-1

Correctional Facility at California City (CFCC)

PSOMAS

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Representative photo of the rocky, northern portion of the Project site on May 26, 2020.

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Representative Photos

Attachment A-2

Correctional Facility at California City (CFCC)

PSOMAS

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ATTACHMENT B

PLANT COMPENDIUM

PLANT SPECIES OBSERVED DURING 2020 SURVEYS

Species	
Scientific Name	**Common Name**
EUDICOTS	
APIACEAE – CARROT FAMILY	
Lomatium mohavense	Mojave lomatium
ASTERACEAE – SUNFLOWER FAMILY	
Acamptopappus sphaerocephalus	rayless goldenhead
Ambrosia dumosa	white bur-sage
Ambrosia salsola var. *salsola*	common burrobrush
Chaenactis carphoclinia var. *carphoclinia*	pebble pincushion
Ericameria cooperi var. *cooperi*	Cooper's goldenbush
Ericameria nauseosa	rubber rabbitbrush
Lasthenia gracilis	common goldfields
Leptosyne calliopsidea	calliopsis-like tickseed
Logfia depressa	hierba limpia
Malacothrix coulteri	snake's-head
Malacothrix glabrata	desert dandelion
Stephanomeria exigua ssp. exigua	little stephanomeria
Syntrichopappus fremontii	Fremont’s syntrichopappus
Tetradymia stenolepis	narrow-scaled cottonthorn
Xylorhiza tortifolia var. *tortifolia*	Mojave-aster
BORAGINACEAE – BORAGE FAMILY	
Amsinckia tessellata var. *tessellata*	desert fiddleneck
Cryptantha angustifolia	narrow-leaved cryptantha
Pectocarya linearis ssp. *ferocula*	narrow-toothed pectocarya
Pectocarya setosa	round-nut pectocarya
Phacelia tanacetifolia	lacy phacelia
Plagiobothrys cf. *canescens*	valley popcornflower
BRASSICACEAE – MUSTARD FAMILY	
Caulanthus lasiophyllus	California mustard
*Hirschfeldia incana**	grayish shortpod mustard
Lepidium flavum	yellow peppergrass
Lepidium nitidum	shining peppergrass
*Sisymbrium irio**	London rocket
*Sisymbrium orientale**	eastern sisymbrium
Tropidocarpum gracile	slender tropidocarpum
CACTACEAE – CACTUS FAMILY	
Cylindropuntia echinocarpa	silver cholla
Echinocactus polycephalus var. polycephalus	many-headed clustered barrel cactus
Ferocactus cylindraceus	California barrel cactus
CHENOPODIACEAE – GOOSEFOOT FAMILY	
*Salsola paulsenii**	barbwire Russian thistle
EUPHORBIACEAE – SPURGE FAMILY	
Croton setiger	turkey-mullein
Euphorbia albomarginata	rattlesnake sandmat

PLANT SPECIES OBSERVED DURING 2020 SURVEYS

Species	
Scientific Name	**Common Name**
FABACEAE – LEGUME FAMILY	
Acmispon strigosus	strigose deervetch
Astragalus acutirostris	sharp-beaked milkvetch
Astragalus didymocarpus var. *dispermus*	paired two-seeded milkvetch
Astragalus layneae	Layne milkvetch
Lupinus microcarpus	chick lupine
Lupinus microcarpus var. horizontalis	plane chick lupine
GERANIACEAE – GERANIUM FAMILY	
*Erodium cicutarium**	redstem filaree
LOASACEAE – BLAZING STAR FAMILY	
Mentzelia affinis	similar blazing star
MALVACEAE – MALLOW FAMILY	
Eremalche exilis	white mallow
NYCTAGINACEAE – FOUR O'CLOCK FAMILY	
Mirabilis laevis var. *retrorsa*	reflexed smooth four o'clock
ONAGRACEAE – EVENING PRIMROSE FAMILY	
Camissonia campestris ssp. *campestris*	field sun cup
Eremothera boothii ssp. *desertorum*	desert Booth's evening-primrose
Tetrapteron palmeri	Palmer's tetrapteron
PAPAVERACEAE – POPPY FAMILY	
Eschscholzia minutiflora ssp. *covillei*[a]	minute-flowered eschscholzia
PLANTAGINACEAE – PLANTAIN FAMILY	
Plantago ovata var. *fastigiata*	tall ovate plantain
POLEMONIACEAE – PHLOX FAMILY	
Eriastrum eremicum ssp. *eremicum*	desert eriastrum
Gilia brecciarum ssp. *brecciarum*	break gilia
Gilia minor	little gilia
Linanthus bigelovii	Bigelow's linanthus
Linanthus dichotomus	evening snow
Linanthus parryae	Parry's linanthus
Loeseliastrum matthewsii	desert calico
Loeseliastrum schottii	Schott’s loeseliastrum
POLYGONACEAE – BUCKWHEAT FAMILY	
Chorizanthe brevicornu var. brevicornu	brittle spineflower
Chorizanthe rigida	devil's spineflower
Eriogonum fasciculatum var. *polifolium*	Mojave Desert California buckwheat
Eriogonum gracillimum	rose-and-white wild buckwheat
Eriogonum inflatum	desert trumpet
Eriogonum trichopes	little desert trumpet
Eriogonum viridescens	two-toothed wild buckwheat
Oxytheca perfoliata	round-leaf puncturebract
SOLANACEAE – NIGHTSHADE FAMILY	
Lycium andersonii	Anderson's box-thorn

PLANT SPECIES OBSERVED DURING 2020 SURVEYS

Species	
Scientific Name	**Common Name**
ZYGOPHYLLACEAE – CALTROP FAMILY	
Larrea tridentata	creosote bush
MONOCOTS	
POACEAE – GRASS FAMILY	
*Bromus rubens**	red brome
*Bromus tectorum**	cheat grass
*Schismus arabicus**	Arabian Mediterranean grass
*Schismus barbatus**	barbed Mediterranean grass
Stipa speciosa	desert needle grass
THEMIDACEAE – BRODIAEA FAMILY	
Dichelostemma capitatum ssp. *capitatum*	blue dicks

* non-native species

cf. conforms to; species cannot be confirmed

[a] Subspecies not currently recognized by the Jepson Flora Project.

JURISDICTIONAL DELINEATION REPORT FOR THE CORRECTIONAL FACILITY AT CALIFORNIA CITY IN KERN COUNTY, CALIFORNIA

PREPARED FOR

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December 2020

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TABLES

ATTACHMENTS

EXECUTIVE SUMMARY

The purpose of this report is to provide data concerning the type and extent of potential jurisdictional water resources for CoreCivic's Correctional Facility at California City (CFCC) (hereinafter referred to as the "Project"), the associated utility alignment, and Wastewater Treatment Plant (WWTP) improvements. The Project is located on a 215-acre property and along an approximate 10.8-mile-long proposed utility alignment in Kern County, California.

Jurisdictional water resources considered for this report include "waters of the U.S."(WOTUS) under the regulatory authority of the U.S. Army Corps of Engineers (USACE); "waters of the State" under the regulatory authority of the Regional Water Quality Control Board (RWQCB); and the bed, bank, and channel of all lakes, rivers, and/or streams (and associated riparian vegetation) under the regulatory authority of the California Department of Fish and Wildlife (CDFW).

The jurisdictional delineation field work was performed by Psomas in January 2017 and October 2020. It was determined that no wetland or non-wetland WOTUS are present in the survey area. The limits of non-wetland "waters of the State" were identified by the presence of an ordinary high water mark (OHWM). Potential wetland "waters of the State" were assessed using a two-parameter approach (presence of wetland-associated plants and presence or evidence of hydrology). For streams with well-defined bed and banks, the limits of CDFW jurisdictional waters were identified as the top of bank or the outer drip line of riparian vegetation. For episodic streams with indistinct bed and banks, the Mapping Episodic Stream Activity (MESA) guidelines were used to determine the extent of CDFW jurisdictional waters.

Based on the results of the field work, it was determined that the potential jurisdictional water resources in the survey area are as follows:

- **RWQCB Jurisdiction:** 10.659 acres (2.989 acres on the Project site; 0.022 acre along the utility alignment; 7.648 acres at the WWTP).
- **CDFW Jurisdiction:** 16.745 acres (2.989 acres on the Project site; 0.414 acre along the utility alignment; 13.342 acres at the WWTP).

Based on the results of the data analysis, it was determined that the total impacts on potential jurisdictional water resources in the survey area are as follows:

- **RWQCB Jurisdiction:** 10.637 acres (2.989 acres on the Project site; 7.648 acres at the WWTP).
- **CDFW Jurisdiction:** 16.334 acres (2.989 acres on the Project site; 0.003 acre along the utility alignment; 13.342 acres at the WWTP).

1.0 INTRODUCTION

This Jurisdictional Delineation Report (report) was prepared to provide data concerning the type and extent of resources potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW) for CoreCivic's Correctional Facility at California City (CFCC) (hereinafter referred to as the "Project").

1.1 PROJECT LOCATION AND ENVIRONMENTAL SETTING

The Project is located in California City in Kern County, California (see Exhibit 1 in Attachment A). The main Project area consists of a 215-acre property ("Project site") adjacent to the existing California City Correctional Center (CCCC). CoreCivic owns a total of 320 acres at this location. Off-site survey areas include an approximate 10.8-mile-long proposed utility alignment ("utility alignment"), which generally runs from an existing water tank to the north of the Project site, along Twenty Mule Team Parkway, Randsburg Mojave Road, and California City Boulevard to Yerba Boulevard; it includes connections through the adjacent existing CCCC via Virginia Boulevard, Gordon Boulevard, and 145th Street. The City's Wastewater Treatment Plant (WWTP) is located on Nelson Drive at the northeastern section of the City's central core.

The Project is located in the Fremont Valley portion of the California Desert Province's Western Mojave subregion. The majority of land in this portion of the Mojave Desert is privately owned or part of Edwards Air Force Base. The Mojave Desert is a wedge-shaped basin that experiences precipitation primarily in the winter, with occasional summer thunderstorms. The average annual precipitation in the vicinity of the Project is 6.67 inches with approximately half of this falling in the winter. Temperatures in this region average 80.6 degrees Fahrenheit (°F) in the summer and 46.1°F in the winter (Arguez et al. 2010).[1]

The predominant vegetation community in the Project area is creosote bush–white bur-sage scrub. The Project site is crossed by a network of small off-highway vehicle (OHV) roads. The existing CCCC is located along the western boundary of the Project site; undeveloped open space and dirt roads are located to the north, east, and south. The eastern half of the utility alignment is surrounded by undeveloped open space while a mix of vacant lots, residential development, and commercial development occur along the western half. Undeveloped open space is located to the north of the WWTP and residential development is located to the south.

1.2 PROJECT DESCRIPTION

CoreCivic proposes to construct two separate but adjacent correctional centers with a total of 3,024 beds on approximately 215 acres of a 320-acre property located south of the alignment of Gordon Boulevard, east of Virginia Boulevard, and north of Lindberg Boulevard. The Project would include two separate facilities, with up to 1,512 beds each, a shared administration building, and a common parking area.

1.2.1 On-Site Facility Structures

The Project involves the construction of a one-level, 1,512-bed correctional center on the northern portion of the site and an identical 1,512-bed correctional center on the southern portion of the site. Building heights would not exceed 45 feet. Each facility contains seven secure housing structures that are located in a semi-circular arrangement around a central open area with indoor and outdoor recreational facilities and open areas. West of the housing and recreational area

[1] Seasons are climatological; winter is considered to be December, January, and February and summer is considered to be June, July, and August.

would be a central building for various inmate services and programs, such as intake, food service, medical, education, maintenance, laundry, chaplain, library, visitation, and other support areas. A common surface parking area would be located between the buildings on the east and a series of five retention basins on the west, with an administration building and warehouse building near the access road to the Project site.

Each correctional center would include the following:

- Seven secure housing buildings, constructed of precast concrete panels, would house up to 216 inmates each. Housing units would be equipped with staff and inmate support facilities, including meeting areas, restrooms and a commissary. Two of these buildings would also have attached segregation units.
- The outdoor area at the center of the housing buildings would be segregated/fenced into four recreation areas that would each include games courts, gymnasiums (with full and half basketball courts, restrooms, and storage/maintenance rooms), fixed exercise stations, and a running track/walkway around the perimeter. Two additional large, outdoor recreation areas (e.g., soccer fields and/or game areas) would be provided west of this outdoor area.
- A central program building would provide space for intake and support areas, educational programs, libraries, chapels, medical services, food service and dining areas, laundry areas, commissaries, visitation areas, maintenance, storage and communication rooms, a lobby, two family visitation areas, and other ancillary uses. The perimeter of the central building would be surrounded by a walkway that contains several gates to restrict access.
- A double perimeter fence would surround each facility, with razor wire along the top and bottom of each fence. A third inner electro-fence may be installed per customer requirements. Twelve observation posts/towers would surround each facility just outside of the perimeter fences, along with an outer perimeter road. The perimeter of each facility would also be equipped with a motion detection system and nighttime security lights on various height masts/posts up to 100-feet tall. The primary objective of exterior lighting will be to illuminate entrances and to provide adequate site lighting for security.

The western section of the site includes facilities shared by both proposed correctional centers, including:

- An administration building for management offices, armory, maintenance, and sorting and storage areas would be located at the northwestern corner of the site. This building would have a 100,000-square-foot (sf) warehouse for equipment and supply storage and a 25,000 sf administration area.
- A common parking lot with 2,105 surface parking spaces would be located immediately south of the administration building, extending the entire length of the property to the southern site boundary.
- A new private two-lane road would provide access to the parking lot and the Project site along the alignment of Gordon Boulevard and starting from Virginia Boulevard to the northwestern corner of the site.
- A series of five retention basins would be located along the length of the western site boundary to accommodate surface water runoff from the rest of the site.
- A maintenance access road, up to 15-feet wide, would surround the developed pad to provide access for the manufactured slopes, retention basins, and drainage structures.

The 215-acre Project site would be improved to include an approximate 159-acre building pad to accommodate the facilities and structures described above; manufactured slopes with ancillary drainage improvements would be located along the perimeter of the building pad. No improvements are proposed for the City's road rights-of-way located along the north, south or east edges of the 215-acre Project site.

1.2.2 On-Site Grading and Utility Infrastructure

The Project site is currently undeveloped with no water, wastewater, storm drainage, or utility infrastructure. As such, development of the Project site will require mass grading to create a building pad; installation of new on-site stormwater-control facilities; and the extension of existing water, wastewater, natural gas, and electrical infrastructure into the Project site.

Grading would be conducted in accordance with the Kern County Grading Code. The anticipated earthwork on the Project site would be balanced on site, requiring the movement of approximately 1,900,000 cubic yards (cy) of cut and fill material, not including any over excavation that may be required for re-engineering and recompaction of fill material. No import or export of soils is anticipated.

Under existing conditions, stormwater generally percolates into the ground with runoff sheetflowing across the site in a general westerly and southwesterly direction. The Project would direct stormwater at a 1-percent slope toward the southwestern portion of the graded pad area. Drainage conveyance infrastructure would encircle the perimeter of the improved Project site, delivering stormwater to one of the five proposed on-site retention basins that have a combined capacity of 71,200 cy of volume. Stormwater would be captured in these retention basins for infiltration and/or evaporation. No off-site storm drainage improvements are needed to serve the Project.

Potable water would be conveyed to the Project site via a new 12-inch-diameter water line at the access road in the northwest corner of the site along the Gordon Boulevard extension and would serve the Project facilities through a network of on-site water distribution lines.

The Project can be served by two alternative sewer alignments which would ultimately transmit sewage from the Project site to the existing pipeline in Twenty Mule Team Parkway. Sewage flows from the on-site correctional facilities would be contained within a network of sewage pipes that converge in the southwest area of the Project site, where the collected sewage will be run through an on-site grinder. From this point, one alternative sewer alignment (Option 1) would convey sewage via a new on-site 12-inch-diameter sewer line that would extend between two of the retention basins, and continue west via gravity flow westerly along the south edge of the adjacent existing CCCC parking lot towards the Twenty Mule Team Parkway main line. The other alternative sewer alignment (Option 2) requires an on-site sewer lift station to pump sewage from the southwest area of the Project site (lowest point on the site for gravity flows), to the northwest corner of the site to the Project access road in a pressurized force main line, where it would extend westward off site along the Gordon Road alignment.

1.2.3 Off-Site Infrastructure Improvements

Water Infrastructure

California City's existing water system includes approximately 1 mile of 12-inch-diameter water line along Virginia Boulevard and Twenty Mule Team Parkway which serves the existing CCCC from a booster pump station (Phase 1 BPS) that is connected to a 2.5-million-gallon water tank (Phase 1 Tank) located approximately 0.7 mile north of the Project site off Twenty Mule Team Parkway. The Phase 1 BPS consists of two 50 horsepower pumps, each with a design flow of

500 gallons per minute (gpm), which pump potable water to the existing CCCC as well as the Phase 2 tank. Two additional booster pump stations provide potable water from the Phase 2 tank to the Silver Saddle Ranch community approximately 7.2 miles northeast of the Project site.

The required maximum day capacity for the Phase 1 BPS must be increased to approximately 1,040 gpm in order to serve the Project, in addition to the existing demands and the approved/yet to be built 2,200 bed prison project. Therefore, an additional 550-gpm pump is required at the Phase 1 BPS. The Phase 1 BPS is located within an existing structure with a concrete pad that is capable of accommodating the new pump; no grading or earthwork is anticipated for this pump installation.

The existing 12-inch water pipeline from the Phase 1 BPS has sufficient capacity to meet the demand of the Project. However, to connect the water supply from this line to the Project site, a 12-inch pipeline would be extended eastward from the line in Virginia Boulevard along the proposed access road and the eastern extension of the Gordon Boulevard alignment, which traverses the northern boundary of the adjacent CCCC.

Sewer Infrastructure

Pipeline Conveyance

California City's sewer system serves the existing CCCC, which discharges from the site into a 12-inch sewer pipeline within the parking lot located in the southern end of the property. The sewage is run through an on-site grinder and then transmitted through approximately 8,500 feet of 12-inch pipeline into an 18-inch sewer pipeline in Twenty Mule Team Parkway at 145th Street. The 12-inch pipeline conveying flows from CCCC extends west to Virginia Boulevard, then north along Virginia Boulevard to Gordon Boulevard, west along Gordon Boulevard to 145th Street, and north on 145th Street to the connection at Twenty Mule Team Parkway. The sewer pipelines within the CCCC parking lot, Virginia Boulevard, Gordon Boulevard, and 145th Street do not have sufficient capacity and are not adequately sized to accommodate the sewer flows from the Project, in addition to the sewer flows from the neighboring approved 2,200-bed prison project.

The 18-inch sewer pipeline in Twenty Mule Team Parkway extends southwesterly approximately 2 miles, then increases in diameter to 24 inches. The 24-inch pipeline continues southwesterly along Twenty Mule Team Parkway another 1.4 miles to near the intersection with Randsburg Mojave Road. At this point the pipeline turns westerly and increases in diameter to 27 inches, where it continues to the City's 1.0-million-gallon-per-day (MGD) WWTP on Nelson Drive (at the northeastern section of the City's central core). This pipeline is adequately sized to accommodate the sewer flows from the Project, as well as the sewer flows from the approved 2,200-bed prison project and other known cumulative development along the route; no upgrades to this pipeline are required.

The Project can be served by two alternative off-site sewer alignments that would transmit sewage from the Project site to the pipeline in Twenty Mule Team Parkway. Based on the existing capacity limitations described above, both off-site alternatives would require installing 12-inch diameter pipe parallel to the existing sewer pipe in Gordon Boulevard, west of Virginia Boulevard.

One alternative alignment (Option 1) would connect the new 12-inch pipeline from the Project boundary, through the southern portion of the CCCC property and along the southern edge of the CCCC parking lot. New trenching along the sewer pipelines within Virginia Boulevard, Gordon Boulevard, and 145th Street would be required for the new parallel 12-inch diameter pipeline needed to transmit the Project sewage to the pipeline in Twenty Mule Team Parkway. The benefit of this alternative is avoiding the installation and long-term operation of a sewer lift station on the Project site.

The second alternative alignment (Option 2) would connect the new 12-inch pipeline from the northern Project boundary, through the northern boundary of the existing CCCC site, extending westward within the proposed Gordon Boulevard access road alignment. This would require new off-site trenching along the Gordon Boulevard right-of-way to the Project access road. The benefit of this alternative is avoiding additional off-site trenching within the CCCC property and up Virginia Boulevard to the Gordon Boulevard alignment. As an alternative to installing parallel pipelines to meet flow capacity requirements, an approximate 28,000-gallon holding tank could be constructed on site, along with the sewer lift station and force main for Option 2, in order to pump and discharge sewage from the site during off-peak hours and potentially eliminate the need for constructing parallel sewer lines on Gordon Boulevard and 145th Street.

City Wastewater Treatment Plant

The City's WWTP has an approved capacity of 1.0 MGD based on permits issued by the Lahontan RWQCB. According to City staff, the treatment facility is currently operating at approximately 0.65 MGD and has reached its effective maximum operating capacity, without factoring the future wastewater flow of approximately 0.20 MGD from the approved but not yet constructed 2,200-bed prison facility and flows from other planned/permitted projects in the City. Therefore, in order to accommodate the Project's estimated sewage flows of 0.28 MGD, additional treatment and disposal/storage capacity will be required at the City's WWTP, including increased seasonal storage and/or percolation pond capacity to accommodate the Project's expected sewage flow. When considering the Project's future wastewater flow of 0.28 MGD in combination with the other planned and approved projects in the City, an increase of 0.5 MGD of additional treatment and disposal/storage capacity will be required at the City's WWTP for cumulative development purposes.

An assessment of the City's WWTP was conducted which evaluated the existing operating conditions and provided recommendations for potential improvements that would restore the WWTP's treatment capacity its 1.0 MGD rated capacity and add needed redundancy so the City can confidently meet its permit requirements and allow for future expansion to 1.5 MGD to accommodate the flows associated with General Plan growth, septic system conversions and other developments. Two sets of recommendations were developed, (1) functional improvements and (2) reliability improvements, which cover items of work needed to enable the WWTP to function at its existing permitted and potentially expanded treatment capabilities. A preliminary implementation schedule and work activity estimate was prepared for the recommended improvements.

Functional improvements are identified as needed at facilities that are not properly functioning and require replacement to restore the desired level of plant performance; whereas, Reliability improvements are identified as needed at facilities that are currently functioning but are in imminent danger of failure and should be replaced to maintain the security of plant performance. Functional improvements at the City WWTP would occur with the aeration basins, clarifiers, tertiary filtration system, and sludge dewatering. While reliability improvements would occur with several operational systems associated with disinfection, grit removal, electrical and control, pumping, and solids dewatering. Additionally, improvements to expand the capacity and operational efficiency of the existing percolation and recycled water ponds would occur which would also enhance the overall operational capacity of the WWTP. All improvements would be within the current operating boundaries of the developed WWTP site and would not encroach into adjacent property. Importantly, the Project would contribute approximately 0.28 MGD of new demand to the City's WWTP operation; however, improvements are required to provide an additional 0.5 MGD of capacity at the facility, as noted above. Not all of the facility improvements at the City's WWTP would be attributable to the Project's sewage generation. The Project would

be responsible for its pro rata share of impacts related to WWTP improvements based on the anticipated sewage flow for 0.28 MGD of new treatment capacity.

Electricity

Southern California Edison (SCE) provides electrical power services to the Project area and has a 33-kilovolt vault and underground line along Virginia Boulevard that serve the CCCC Electrical power service to the Project would be provided through a connection to the existing vault located on the east side of Virginia Boulevard, approximately 320 feet north of Gordon Boulevard or through connection to the existing vault in the CCCC parking lot. If the Project connects to the vault in the CCCC parking lot, a new underground power line would be installed along the south edge of the CCCC parking lot to the Project site. Underground power lines would then extend to individual buildings on the site. Back-up generators would be located on the Project site to ensure continuous power to the Project in the event of an SCE power failure. No off-site SCE facility upgrades are anticipated.

Natural Gas

Southern California Gas (SoCalGas) provides natural gas service to the Project area but currently no gas lines exist near the Project site. Natural gas service to the Project would require the extension of a 6-inch-diameter gas line from the intersection of Yerba Boulevard and California City Boulevard. The new gas line and related equipment (e.g., pressure regulator station) would be constructed within the disturbed City road right-of-way from Yerba Boulevard east along California City Boulevard for approximately 3.5 miles to Randsburg Mojave Road, then northeast along Randsburg Mojave Road to its intersection with Twenty Mule Team Parkway. The new gas line would continue along Twenty Mule Team Parkway, turning south on 145th Street, and then east along Gordon Boulevard and onward along the proposed access road to the Project site. Gas lines would then extend to individual buildings on the site. The off-site gas line to serve the Project would be approximately 9.3 miles in length.

Communication Systems

Frontier Communications (formerly Verizon) provides telephone service in the Project area. Telephone lines would be extended underground from the existing line on Virginia Boulevard, along the proposed access road, and then extend to individual buildings on the site.

1.2.4 Project Construction

The Project would be designed to meet American Correctional Association standards and all applicable building codes and regulations. The Project would be implemented in two phases. Phase 1 would include the construction of one of the 1,512-bed correctional centers, which is anticipated to overlap with the construction of the off-site infrastructure, including the improvements at the City's WWTP and installation of an additional pump at the Phase 1 BPS. Phase 1 is anticipated to be entirely completed and occupied prior to the commencement of Phase 2, unless facility demands dictate otherwise.

Construction activities are anticipated to occur six days per week over the course of an 11-hour workday (7:00 AM to 6:00 PM) and as otherwise allowed in the City's Noise Ordinance. Because the Project site contains areas of relatively shallow bedrock that may not be ripped by mechanical means during the grading phase; blasting may be required.

CoreCivic does not have a specific client or corresponding occupancy date for either phase of the Project, Therefore, while construction activity durations presented are roughly accurate, the Project scheduling is provided for planning and environmental analysis purposes only. Phase 1

construction activities could potentially begin in January 2024, and be completed by December 2025**,** totaling approximately 24 months. Occupancy of Phase 1 of the Project, if construction were to be completed in December 2024, would be expected to occur in early 2025.

The timing of the construction and occupation of Phase 2 is unknown. However, Phase 2 is assumed to begin within 6 to 8 months of completion of Phase 1. Site preparation, clearing, grubbing, and rough grading will have occurred during Phase 1 and is not required for Phase 2. Additionally, all off-site utilities and improvements at the WWTP will be completed. As such, the total construction schedule for Phase 2 is expected to require approximately 18 months.

For on-site construction activities during Phase 1 and Phase 2, it is estimated that an average of 96 construction workers would be on-site during construction activities, with a peak time period of approximately 3 months when as many as 238 construction workers may be on-site. Based on the construction contractor's experience and the remote location for the Project site, it is estimated that approximately 25 percent of the construction workers would carpool.

1.2.5 Project Operations

As many as 3,024 inmates could be housed at the Project. Staffing would be on-site for seven days per week and would include security/sworn staff, civilian staff, counselors, maintenance personnel, physicians, registered nurses, contractors, and other employees. The Project would be staffed by approximately 500 to 600 full-time equivalent employees or a total of 1,000 to 1,200 individuals, depending on the operating scenario and the occupancy rate. Approximately 65 percent of the staff will be working during the morning shift (6:00 AM to 2:00 PM); with approximately 25 percent of staff during the afternoon shift (2:00 PM to 10:00 PM); and approximately 10 percent of staff during the evening shift (10:00 PM to 6:00 AM). Administrative and medical staff would work from 8:00 AM to 5:00 PM for seven days per week.

1.2.6 Future Inmates

The Project will provide a total of 3,024 beds for male inmates, depending on future agreements with governmental agencies. Inmates housed at the Project may include those under federal and/or State custody. The Project will be designed and constructed according to the standards and requirements necessary to house inmates at various security levels and a combination of security levels, including but not limited to minimum, low-, medium- and/or high-security.

As part of standard facility operations, inmates would be transported to and from the CFCC on a weekly basis, although more frequent transports may occur. Inmates would be brought to and from the Project site in a secured van or other vehicle for the expressed purpose of providing a safe and secure transport for both inmates and officers.

1.3 REGULATORY AUTHORITY

This section summarizes the federal and State agencies' regulatory jurisdiction over activities that have a potential to impact jurisdictional resources. A detailed explanation of each agency's regulatory authority is provided in Attachment B.

1.3.1 U.S. Army Corps of Engineers

The USACE Regulatory Branch regulates activities that discharge dredged or fill materials into waters of the U.S. (WOTUS) under Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. The USACE's authority applies to all WOTUS where the material (1) replaces any portion of a WOTUS with dry land or (2) changes the bottom elevation of any portion of any WOTUS. Activities that result in fill or dredge of WOTUS require a

permit from the USACE. Examples of features that qualify under this category include various types of waters and wetlands listed in the *Code of Federal Regulations* (33 CFR Section 328) (e.g., territorial seas, interstate waters, adjacent wetlands, etc.). However, the list of features covered under the CWA and implementing regulations was changed in 2001 as the result of a January 9, 2001, ruling by the U.S. Supreme Court (*Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al*.; hereinafter referred to as the SWANCC decision) and a subsequent guidance memorandum issued by the USACE (USACE 2001).

In 2015, the USACE and the U.S. Environmental Protection Agency (USEPA) published a final rule (2015 Rule) clarifying the scope of WOTUS protected under the CWA. The 2015 Rule expanded the regulatory jurisdiction of WOTUS. One of the major changes was to make all tributaries and adjacent waters jurisdictional, by rule.

On January 23, 2020, the USEPA and USACE finalized Step One of the Navigable Waters Protection Rule (Step One Rule), which repeals the 2015 Rule and recodifies the regulatory text defining WOTUS that existed prior to the 2015 Rule. The Navigable Waters Protection Rule (Step Two Rule) was published in the Federal Register on April 21, 2020; it became effective 60 days after publication in the Federal Register (June 22, 2020). The Step Two Rule provides new regulatory text defining WOTUS. One of the major changes to the definition of WOTUS is that ephemeral waters are no longer subject to USACE regulation under the CWA.

Presently, WOTUS are defined to include territorial seas and Traditional Navigable Waters (TNWs)[2]; perennial and intermittent tributaries that contribute surface water flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to other jurisdictional waters (USACE and USEPA 2010).

1.3.2 Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB), in conjunction with the nine RWQCBs, is the primary agency responsible for protecting water quality in California through the regulation of discharges to surface waters under the CWA and the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The SWRCB's and RWQCBs' jurisdictions extend to all WOTUS (including wetlands), as well as to waters of the State that are outside federal jurisdiction.

On August 28, 2019, the Office of Administrative Law (OAL) approved the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to waters of the State. The procedures went into effect on May 28, 2020. These procedures consist of four main elements: (1) a wetland definition, (2) a framework to determine if a wetland is a water of the State, (3) wetland delineation procedures, and (4) procedures for submitting and approval of applications for Water Quality Certifications and Waste Discharge Requirements. Under these new regulations, the SWRCB and its nine RWQCBs assert jurisdiction over all existing WOTUS and all waters that would have been considered WOTUS under the 2015 Rule (i.e., ephemeral waters). Thus, the WOTUS that are no longer be under USACE jurisdiction following repeal of the 2015 rule are still under the SWRCB's jurisdiction.

1.3.3 California Department of Fish and Wildlife

The CDFW regulates activities that may affect rivers, streams, and lakes pursuant to the *California Fish and Game Code* (§§1600–1616). According to Section 1602 of the *California Fish and Game Code,* the CDFW has jurisdictional authority over any work that will (1) substantially divert or

[2] Traditional Navigable Waters are "all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide" (33 *Code of Federal Regulations* § 328.3).

obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

2.0 METHODS

The survey area discussed in this report includes the Project site, a 50-foot buffer on either side of the utility alignment's centerline, and a portion of the WWTP. The jurisdictional extent of USACE and RWQCB waters are based on the OHWM; the extent of CDFW waters is based on the presence of bed, bank, or riparian vegetation, where present, or indicators of fluvial activity and inactivity. Methods for delineating the jurisdictional resources included (1) in-house review of literature, (2) modeling of potential jurisdictional features, and (3) field verification of potential features.

2.1 INITIAL CONSULTATION

Psomas (Jim Hunter, Kristin Starbird, Brad Blood, PhD, and Amber Heredia) conducted a pre-application meeting with CDFW (Charles Walbridge and Benessa Espino) on November 8, 2016. The meeting was convened at California City's City Hall and finished with a walking tour of the Project site. While in the field, Psomas and the CDFW discussed the CDFW's jurisdiction in arid landscapes. The CDFW stated that its jurisdiction follows the highest horizontal extent of flows and includes more than just the definable bed and bank, but also includes the adjacent floodplain. Psomas stated that its biologists are familiar with the Mapping Episodic Stream Activity (MESA) guidelines for delineation of CDFW jurisdiction in the desert, and would apply the MESA principles to the jurisdictional delineation of the Project site.

2.2 JURISDICTIONAL EXTENT

Non-wetland WOTUS are delineated based on the limits of the OHWM, which can be determined by a number of factors, including the presence of a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; and the presence of litter and debris. The OHWM limits (i.e., active floodplain) occurring in the survey area were further verified using methods contained in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*, *A Delineation Manual* (Lichvar and McColley 2008) and the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Curtis and Lichvar 2010).

A two-parameter approach based on vegetation and hydrology wetland criteria defined by the USACE (2008), in conjunction with a review of aerial and site photographs, topographic maps, and field data, was employed to make an initial assessment of the presence of wetlands. Areas containing hydrophytic vegetation and one or more indicators of wetland hydrology were considered to be potential wetlands. In the case of a potential wetland, a soil test pit would have been dug in order to identify the presence/absence of hydric soil and to determine whether or not wetlands are present.

It should be noted that the RWQCB shares USACE jurisdiction unless isolated conditions are present. If isolated waters are present, the RWQCB takes jurisdiction using the USACE's definition of the OHWM and/or the three-parameter wetlands method pursuant to the 1987 Wetlands Manual. Isolated conditions were assessed prior to the field delineation using aerial imagery from Google Earth and the National Hydrography Dataset (USGS 2016a). In 2019, the SWRCB adopted a new wetland definition, which includes areas with (1) continuous or recurrent saturation of the upper substrate of sufficient duration to cause anaerobic conditions and (2) vegetation dominated by hydrophytes or lacking vegetation (SWRCB 2019). This new definition went into effect on May 28, 2020.

The CDFW's jurisdiction generally extends to the top of the bank and adjacent floodplain of the stream, channel, or basin or to the outer limit of riparian vegetation located within or immediately adjacent to the river, stream, creek, pond, lake, or other impoundment. In arid and semi-arid environments, streams may be episodic with indistinct bed, banks, and floodplains. The MESA field guide is a science-based protocol for identifying and mapping these dryland episodic streams (Vyverberg and Brady 2013). Therefore, the MESA guidelines were used to delineate and/or confirm the CDFW jurisdiction of most jurisdictional features in the survey area. This method uses a combination of Geographic Information Systems (GIS)-based hydrologic assessment, aerial photo interpretation, and field indicators of fluvial activity and inactivity to map watercourses.[3] The MESA protocol consists of three steps:

1. Recognizing the stream forms and processes and gathering information on a site's physical characteristics.
2. Documenting the extent of on-the-ground indicators of fluvial activity and inactivity.
3. Mapping the watercourse, including any subordinate features such as low-flow and secondary channels or floodplains.

2.2.1 Wetland Analysis

The potential presence of wetlands was assessed based on a two-parameter approach using the USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008).

Vegetation

Hydrophytic vegetation (or hydrophytes) is defined as any macrophytic plant that "grows in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content; plants typically found in wet habitats" (Environmental Laboratory 1987). Specifically, these plant species have specialized morphological, physiological, or other adaptations for surviving in permanently saturated to periodically saturated soils where oxygen levels are very low or the soils are anaerobic.

The USACE—as part of an interagency effort with the U.S. Environmental Protection Agency (USEPA), the U.S. Fish and Wildlife Service (USFWS), and the U.S. Department of Agriculture's Natural Resources Conservation Service (USDA NRCS)—has approved a National Wetland Plant List (NWPL) that provides the current indicator status for plant species. The NWPL is used to determine whether the hydrophytic vegetation parameter is met when conducting wetland determinations.

The following three procedures are used for determining whether the hydrophytic vegetation criterion is met: Indicator 1, "Dominance Test", using the "50/20 Rule"; Indicator 2, "Prevalence Index"; or Indicator 3, "Morphological Adaptation", as identified in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008). The hydrophytic vegetation criterion is met if any indicator is satisfied. If none of the indicators are satisfied, then hydrophytic vegetation is absent unless (1) indicators of hydric soil and wetland hydrology are present and (2) the site meets the requirements for a problematic wetland situation.

[3] Watercourse is defined as "the course over which water currently flows, or has flowed as defined by the topography that confines the water to this course when the water rises to its highest level" (Vyverberg and Brady 2013).

Hydrology

Wetland hydrology indicators provide evidence that a site has a continuing wetland hydrologic regime. Wetlands hydrology is represented by either (1) all of the hydrological elements or characteristics of areas permanently or periodically inundated or (2) areas containing soils that are saturated for a sufficient duration of time during the growing season to create hydric soils suitable for the establishment of plant species that are typically adapted to anaerobic soil conditions. The presence of wetland hydrology is evaluated at each intersect by recording the extent of observed surface flows; the depth of inundation; the depth to saturated soils; and the depth to free water in soil test pits. In instances where stream flow is divided into multiple channels with intervening sandbars, the entire area between the channels is considered to be within the "Active Floodplain" and within the OHWM. Therefore, an area containing these features would meet the indicator requirements for wetland hydrology.

2.3 LITERATURE REVIEW

Prior to conducting the delineation and during the course of preparing this report, the following data were reviewed to identify areas that may fall under USACE, RWQCB, and/or CDFW jurisdiction: the U.S. Geological Survey's (USGS') 7.5-minute topographic quadrangle maps; color aerial photography provided by the National Agriculture Imagery Program (NAIP) (flown in 2014) and Google Earth (various dates); the National Hydric Soils List (USDA NRCS 2017); soil data provided by the USDA NRCS; and the National Wetlands Inventory's (NWI) Wetlands Mapper.

USGS Topographic Quadrangle. USGS quadrangle maps show geological formations and their characteristics and describe the physical settings of an area through topographic contour lines and other major surface features. These features include lakes, streams, rivers, buildings, roadways, landmarks, and other features that may fall under the jurisdiction of one or more regulatory agencies. In addition, the USGS maps provide topographic information that is useful in determining elevations, latitude and longitude, and Universal Transverse Mercator Grid coordinates for a project site.

Color Aerial Photography. Color aerial photographs were reviewed prior to conducting the field delineation to identify the extent of any drainages and riparian vegetation occurring in the survey area.

U.S. Department of Agriculture, Natural Resources Conservation Service. The presence of hydric soils is one of the chief indicators of jurisdictional wetlands. Psomas reviewed U.S. Department of Agriculture (USDA) soil data for the survey area.

U.S. Fish and Wildlife Service, National Wetlands Inventory: The Wetlands Mapper shows wetland and riparian resources available from the Wetlands Spatial Data Layer of the National Spatial Data Infrastructure (USFWS 2014). This resource provides the classification of known wetlands following the *Classification of Wetlands and Deepwater Habitats of the United States* (FGDC 2013). This classification system is arranged in a hierarchy of (1) Systems that share the influence of similar hydrologic, geomorphologic, chemical, or biological factors (i.e., Marine, Estuarine, Riverine, Lacustrine, and Palustrine); (2) Subsystems (i.e., Subtidal and Intertidal; Tidal, Lower Perennial, Upper Perennial, and Intermittent; or Littoral and Limnetic); (3) Classes, which are based on substrate material and flooding regime or on vegetative life forms; (4) Subclasses; and (5) Dominance Types, which are named for the dominant plant or wildlife forms. In addition, there are modifying terms applied to Classes or Subclasses. Riparian habitats are defined by *A System for Mapping Riparian Areas in the United States* (USFWS 2009).

The mapped water resources are used to provide additional guidance on planning the field surveys. Given that wetland features mapped by the NWI may or not exist at a site because of changing conditions and development, this resource provides only preliminary data and historic data based on aerial photographic interpretation and, therefore, must be ground-truthed.

2.4 MODELING POTENTIAL RESOURCES

Prior to the field survey, a GIS-based model of flow accumulation lines was used to identify the location of potential stream channels. Topographic data was available as two-foot contour lines provided by the Corrections Corporation of America. These contour lines were incorporated into ArcGIS for use in modeling flow accumulation. Flow accumulation was approximated by utilizing a digital terrain model (DTM) to determine which direction water would flow on each point within the Project site. This data was then used to model where water would accumulate. Areas with higher flow accumulations represent areas of concentrated water flow.

2.5 FIELD VERIFICATION

A field survey was conducted by Psomas Senior Biologists Allison Rudalevige and Lindsay Messett in order to ground-truth the modeling results and map the jurisdictional boundaries. Surveys of the Project site and utility alignment were performed on January 24, 25, and 26, and June 8, 2017. Ms. Rudalevige performed a survey at the WWTP on October 22, 2020.

Due to the large number of potential jurisdictional features on the Project site, it was not feasible to take longitudinal measurements along the path of every individual watercourse. Therefore, prior to the field survey, eight site transects were established that spanned the Project site. Site transects were spaced 500 feet apart and oriented approximately perpendicular to the path of stream flow. The path of the streamflow was based on the flow accumulation model. Ms. Rudalevige and Ms. Messett navigated along the site transects using Apple iPads with Avensa PDF Maps GPS software loaded with aerial imagery, the site transects, and flow accumulation lines generated by the computer model. Location accuracy was enhanced with an iSXBlue II Global Navigation Satellite System (GNSS) receiver and antenna capable of collecting data at submeter accuracy. Where a flow accumulation line crossed the site transect, the line was classified according to its geomorphic form (e.g., watercourse, swale, upland). Modeled flow lines were considered uplands or swales if they were dominated by non-fluvial (i.e., terrestrial) processes, with swales having concave topography. Flow lines dominated by fluvial processes were considered watercourses. If field conditions at the intercept lacked indicators of fluvial activity (i.e., the area was a swale or upland), the flow line was considered non-jurisdictional and was eliminated from further analysis. If field conditions at the intercept exhibited indicators of fluvial activity, then the flow line was considered jurisdictional and the width of the watercourse was measured. In addition, watercourses observed in the field that were not associated with an established flow accumulation line were recorded and measured.

Episodic Stream Indicator Data Sheets were completed for four non-random, representative MESA transects roughly perpendicular to four drainages on the Project site to document fluvial activity and boundaries. Cross-sections were sketched to show the various geomorphic forms and vegetation characteristics along each MESA transect. Substrate particle size was noted as well as the presence of terrestrial; fluvial; transportation, deposition, and flow transition; and erosion indicators.

Following the field survey, flow accumulation lines were attributed using GIS as upland, swale, or watercourse (with associated width). Aerial imagery was used to make coarse adjustments where the flow accumulation lines deviated dramatically from drainage patterns observable on the aerial. Otherwise, the flow accumulation lines were used as a proxy for stream flow. Additional watercourses noted in the field were also added.

Along the utility alignment, jurisdictional features were mapped on aerial photographs at a scale of 1 inch equals 300 feet (1″ = 300′). At the WWTP, jurisdictional features were mapped on an aerial photograph at a scale of 1 inch equals 200 feet (1″ = 200′). Jurisdictional water resources were either delineated as a drainage centerline with corresponding width measurements or, for waterbodies and wide and/or braided drainages clearly visible on aerial imagery, as a polygon.

3.0 RESULTS

Jurisdictional resources observed in the survey area are described in detail below. Attachment C provides datasheets that summarize the overall condition of the individual drainages/waterbodies and indicators of OHWM and episodic stream fluvial processes. Representative photographs of individual features and indicators of fluvial activity and inactivity are provided in Attachment D.

3.1 LITERATURE REVIEW

USGS Topographic Quadrangle. The Project site is shown on the USGS' Galileo Hill 7.5-minute quadrangle, the utility alignment extends from that quadrangle to the California City North and Mojave NE quadrangles, and the WWTP is located on the California City North quadrangle (see Exhibit 3 in Attachment A).

Topography on the Project site is generally moderately sloping and undulating. Elevations on the Project site range from approximately 2,700 feet above mean sea level (msl) in the northeast corner to 2,550 feet above msl in the southwest corner. Elevation along the utility corridor range from approximately 2,575 feet above msl at the eastern end to 2,445 feet above msl at the intersection of Yerba Boulevard and California City Boulevard. The elevation at the WWTP is approximately 2,331 feet above msl.

The most prominent waterbodies occurring in the vicinity of the survey area are Koehn Lake, approximately 9 miles to the north, and Rogers Lake, approximately 11 miles to the south. One named drainage, Cache Creek, and seven blueline tributaries cross the utility alignment. One blueline stream is mapped on the Project site. The basins at the WWTP are identified as "sewage disposal ponds" on the quadrangle map. The identified blueline streams and waterbodies were used to provide guidance on planning the field surveys.

The survey area is located in the 3,368-square-mile Antelope-Fremont Valleys Watershed (Cataloging Unit 18090206) (USGS 2017, 2016b). This area is part of the Northern Mojave closed desert basin in South Central California.

Color Aerial Photography. Throughout the survey area, numerous potential drainage features were evident from the aerial imagery. Most of them appear to flow through upland vegetation (e.g., desert scrub). The larger drainage features (i.e., those crossing the utility alignment) appear to have defined bed and banks and associated vegetation. The basins at the WWTP appear to have defined bed and banks. Surface water was not observed on the aerial images for drainages on the Project site or along the utility alignment. Surface water was observed in various basins at the WWTP. In most historic imagery, surface water was present in some of the basins; all the basins were inundated in 2004 imagery.

U.S. Department of Agriculture, Natural Resources Conservation Service. The survey area occurs in the following soil survey area: Kern County, California, Southeastern Part. Within this survey area, the USDA NRCS has delineated the boundaries of "soil map units", which often contain components of multiple soil types that may be classified as hydric or non-hydric. The following soil types are mapped in the survey area: Alko-Neuralia sandy loams (0 to 9 percent slopes), Cajon loamy sand (0 to 5 percent slopes), Garlock loamy sand (2 to 9 percent slopes), Muroc-Randsburg sandy loams (5 to 9 percent slopes), Neuralia sandy loam (2 to 5 percent slopes), Torriorthents-rock outcrop complex (very steep) (see Exhibit 4 in Attachment A). Descriptions of these soil series are provided in Attachment E. The National Hydric Soils List identifies a soil map unit as "hydric" if it contains either a major or minor component that is at least in part hydric. In the survey area, no map units are listed as hydric on the National List (USDA NRCS 2017).

U.S. Fish and Wildlife Service, National Wetlands Inventory: Two mapped wetlands, as defined by the NWI, occur on the Project site and are shown in Exhibit 5 of Attachment A. They are classified in the Riverine System, Intermittent Subsystem, and Streambed Class that is intermittently flooded water regime (R4SBJ). Multiple tributaries also mapped under this classification cross the utility alignment. In addition, an excavated channel (R4SBJx) crosses the alignment. The basins at the WWTP are classified as excavated features in the Palustrine System with the Streambed Class as either unconsolidated bottom that is semi-permanently flooded or unconsolidated shore that is seasonally flooded (PUBFx or PUSCx). Descriptions of these wetlands are provided in Attachment E.

3.2 MODELING POTENTIAL RESOURCES

Multiple drainage features were mapped on the Project site and along the utility alignment and multiple basins were mapped at the WWTP. These features are potentially under the regulatory authority of the RWQCB and/or the CDFW; the regulatory agencies make the final determination on their jurisdictional extent.

Approximately 79,760 linear feet of potential watercourses were identified in the flow accumulation model of the Project site (Table 1; Exhibit 6 of Attachment A). Field verification eliminated 11,940 linear feet as non-jurisdictional swales and 39,327 linear feet as uplands lacking indicators of fluvial activity. Due to deviations in the drainage alignment observed in the field, 3,411 linear feet of watercourses were added. Therefore, approximately 31,904 linear feet of jurisdictional water resources occur on the Project site. In addition, drainage features totaling 307 linear feet were observed along the utility alignment (Drainages 6 through 14)[4].

[4] Drainages 1 through 5 were mapped as part of an alternative utility alignment and are not included in the current survey area boundary.

TABLE 1
SUMMARY OF JURISDICTIONAL RESOURCES IN THE SURVEY AREA

Jurisdiction	Project Site			Utility Alignment		Wastewater Treatment Plant[a]		Total Impacted
	Modeled	Jurisdictional	Impacted	Jurisdictional	Impacted	Jurisdictional	Impacted	
Total USACE WOTUS								
Acres	–	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Linear Feet	–	0	0	0	0	n/a	n/a	n/a
Total RWQCB "waters of the State"[b]								
Acres	–	2.989	2.989	0.022	0.000	7.648	7.648	10.637
Linear Feet	79,760	31,904	31,904	307	0	n/a	n/a	31,904
Total CDFW Jurisdictional Resources								
Acres	–	2.989	2.989	0.414	0.003	13.342	13.342	16.334
Linear Feet	79,760	31,904	31,904	307	34	n/a	n/a	31,940

USACE: U.S. Army Corps of Engineers; WOTUS: waters of the U.S.; RWQCB: Regional Water Quality Control Board; CDFW: California Department of Fish and Wildlife; "–": not modeled; n/a: not applicable.

[a] Because the design of the improvements for the WWTP has not yet been completed, this document assumes that the entire area would be impacted; however, it is expected that the improvements would disturb less than shown.

[b] RWQCB jurisdictional boundaries are defined as those determined for the USACE under WOTUS; however, the RWQCB also takes jurisdiction over isolated waters.

3.3 U.S. ARMY CORPS OF ENGINEERS JURISDICTIONAL DETERMINATION

3.3.1 WOTUS Determination (Non-Wetland)

Connectivity to a Traditional Navigable Water

The drainage features mapped in the survey area are episodic streams that contain surface water only immediately following storm events. Some of these drainage features likely dissipate into uplands either on or off site. However, others are tributaries of larger streams. The drainages in the northwestern portion of the Project site and along the utility alignment are tributaries of Cache Creek, which ultimately drains into the area around Koehn Lake north of the survey area. The drainages in the southeastern portion of the Project site coalesce and drain to the south, near Rogers Lake. Both Koehn Lake and Rogers Lake are dry lakebeds. Because these drainages and dry lakebeds are not navigable “in-fact”, are not interstate waters, and/or do not have a role in foreign or interstate commerce, they are not considered WOTUS. Therefore, drainages in the survey area do not have connectivity to a TNW and so are not considered under the USACE’s jurisdiction. The artificial basins at the WWTP are isolated and do not have connectivity to a TNW. Therefore, they are not under the jurisdiction of the USACE.

3.4 REGIONAL WATER QUALITY CONTROL BOARD DETERMINATION

The survey area falls within the jurisdiction of the Lahontan RWQCB. The drainage features in the survey area exhibit an OHWM for at least a portion of their length, but dissipate into uplands through sheet flow or drain into a dry lake bed. Therefore, these features do not maintain a continuous surface connection with a TNW and are considered isolated waters of the State under the jurisdiction of the RWQCB. The basins at the WWTP exhibit an OHWM; these areas are also isolated waters that may be under the regulatory authority of the RWQCB.

Evidence of an OHWM was observed for all mapped water resources, though some features exhibited more pronounced indicators. The primary indicator of OHWM observed throughout the Project site was a change in sediment texture, though drift deposits, breaks in bank slope, and surface relief were observed in some areas. The drainages along the utility alignment were generally more pronounced than those on the Project site and exhibited bed and bank, drift deposits, ripples, and in some areas surface water due to the recent rainfall.

During the field delineation, each water resource in the survey area was assessed for evidence of wetland hydrology and hydrophytic vegetation. While various indicators of wetland hydrology (e.g., drainage patterns, drift deposits, surface water) were observed in drainage features throughout the survey area, vegetation consisted of upland plant species. Therefore, soil test pits were not dug.

The basin bottoms at the WWTP were unvegetated at the time of the survey and appear to be periodically mowed or tilled. Current RWQCB regulations considered unvegetated areas to be wetlands if they have continuous or recurrent saturation of the upper substrate of sufficient duration to cause anaerobic conditions. Three basins at the WWTP held surface water at the time of the field survey but various basins are inundated at different times based on historic aerial imagery. In addition, the NWI maps these areas as semi-permanently or seasonally flooded, providing evidence that they may hold water long enough to create anaerobic conditions. Therefore, soil test pits were not dug. Because the basins are inundated frequently through their use in water treatment, any of the basins could meet the RWQCB definition of wetland waters of the State.

Approximately 10.659 acres of isolated “waters of the State” under the jurisdiction of the RWQCB (2.989 acres on the Project site, 0.022 acre along the utility alignment, and 7.648 acres at the WWTP) occur in the survey area (Table 1; Exhibit 7 of Attachment A).

3.5 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DETERMINATION

Generally, the drainage features along the utility alignment exhibited evidence of bed and bank without an adjacent floodplain. Rubber rabbitbrush (*Ericameria nauseosa*) grew along many of these drainages. Therefore, these features were mapped using the top of the stream bank as the extent of CDFW jurisdiction.

The basins at the WWTP all had well-defined bed and banks. Rubber rabbitbrush and allscale saltbush (*Atriplex polycarpa*) grew along the banks most basins; one basin had lined banks. The basins were mapped using the top of the bank as the extent of CDFW jurisdiction.

Most of the drainage features on the Project site did not have defined bed and banks. Instead, these features were mapped according to indicators of fluvial activity or inactivity discussed in the MESA protocol. Data were collected at four representative areas on the Project site, but conditions were comparable across the site. Fluvially inactive “uplands” and “swales” in the survey area exhibited multiple terrestrial indicators such as bioturbation, relict coppice dunes, deflated surface, surface rounding of landform, and/or woody debris in place; areas with rocky substrate also exhibited rock fractured in place. The substrate consisted primarily of pebbles and granules. Areas mapped as “watercourse” varied in the indicators of transportation, deposition, flow transition, and erosion observed. Fluvial indicators such as bifurcated flow, out-of-channel flow, wrack, organic drift, sediment sorting, and/or mud cracks were observed in various watercourses. Erosion indicators such as cut banks, exposed roots, headcuts, rills, scour, and/or water-cut benches were observed in various drainages. The substrate in “watercourses” tended to be smaller granules and sand. Vegetative cover was very open across the Project site with bare areas between shrubs. As such, there was no apparent relationship between vegetation cover and fluvially active areas.

Approximately 16.745 acres of waters under the jurisdiction of the CDFW (2.989 acres on the Project site, 0.414 acre along the utility alignment, and 13.342 acres at the WWTP) occur in the survey area (Table 1; Exhibit 7 of Attachment A).

4.0 IMPACT ANALYSIS

The limits of Project impacts for the purposes of this analysis are considered to be the entire Project site. Anticipated utility improvements will occur in within existing road rights-of-way (i.e., within the paved road or bladed road shoulder). The utility line impact assessment is based on an assumed trench width of 5.0 feet (i.e., 2.5 feet on either side of the utility alignment centerline).

It is anticipated that 31,904 linear feet of jurisdictional resources on the Project site would be impacted by construction activities, as well as 34 linear feet of identified jurisdictional resources within a 5-foot wide trench along the utility alignment corridor. Based on the results of the data analysis, it was determined that the Project impacts on jurisdictional water resources on the Project site and along the utility corridor include:

- RWQCB Jurisdiction: 2.989 acres (2.989 acres on the Project site; 0.000 acre along the utility alignment).
- CDFW Jurisdiction: 2.992 acres (2.989 acres on the Project site; 0.003 acre along the utility alignment).

Improvements to expand the capacity of the WWTP would occur within the area shown as impacted. Because the design of the improvements has not yet been completed, this document assumes that the entire area would be impacted; however, it is expected that the improvements would disturb less than shown. If CDFW were to extend their jurisdiction to cover the operating WWTP ponds that would be upgraded/modified as part of the proposed Project, potential impacts on jurisdictional water resources at the WWTP could include up to:

- RWQCB Jurisdiction: 7.648 acres.
- CDFW Jurisdiction: 13.342 acres.

5.0 REGULATORY APPROVAL PROCESS

5.1 REGULATORY PERMIT REQUIREMENTS

This section summarizes the various permits, agreements, and certifications that may be required prior to initiation of Project activities that involve impacts to jurisdictional waters. The final determination of permitting needs would be in coordination with the regulatory agencies.

- RWQCB Report of Waste Discharge (RWD)
- CDFW Section 1602 Notification of Lake or Streambed Alteration

It should be noted that both regulatory permit applications can be processed concurrently.

5.1.1 Regional Water Quality Control Board

The RWQCB normally has regulatory jurisdiction over WOTUS equal to the jurisdiction of the USACE under the federal CWA; in these cases, the RWQCB issues a Water Quality Certification under Section 401 of the federal CWA. Without USACE jurisdiction, and if the drainage in question is isolated, the RWQCB has jurisdiction under the State's Porter-Cologne Water Quality Control Act. In the case of discharges into isolated waters, RWQCB authorization would be in the form of a RWD.

The RWQCB requires that the Applicant address urban stormwater runoff during and after construction in the form of Best Management Practices (BMPs). These BMPs are intended to address the treatment of pollutants carried by stormwater runoff and are required in all complete applications. The notification/application for a RWD must also address compliance with the Water Quality Control Plan for the Lahontan Region. Please note that the application would also require the payment of an application fee, which would be based on Project impacts.

5.1.2 California Department of Fish and Wildlife

Prior to construction, a Notification of Lake or Streambed Alteration (LSA) must be submitted to the CDFW that describes any proposed streambed alteration contemplated by the Project. If an LSA Agreement is required, the CDFW may want to conduct an on-site inspection.

In addition to the formal application materials and the fee, a copy of the appropriate environmental document should be included in the submittal, consistent with CEQA requirements. The CDFW will not deem the application to be complete until the application fees have been paid and the agency is provided with a certified CEQA document and a signed copy of the receipt of County Clerk filing fees for the Notice of Determination (NOD).

6.0 REFERENCES

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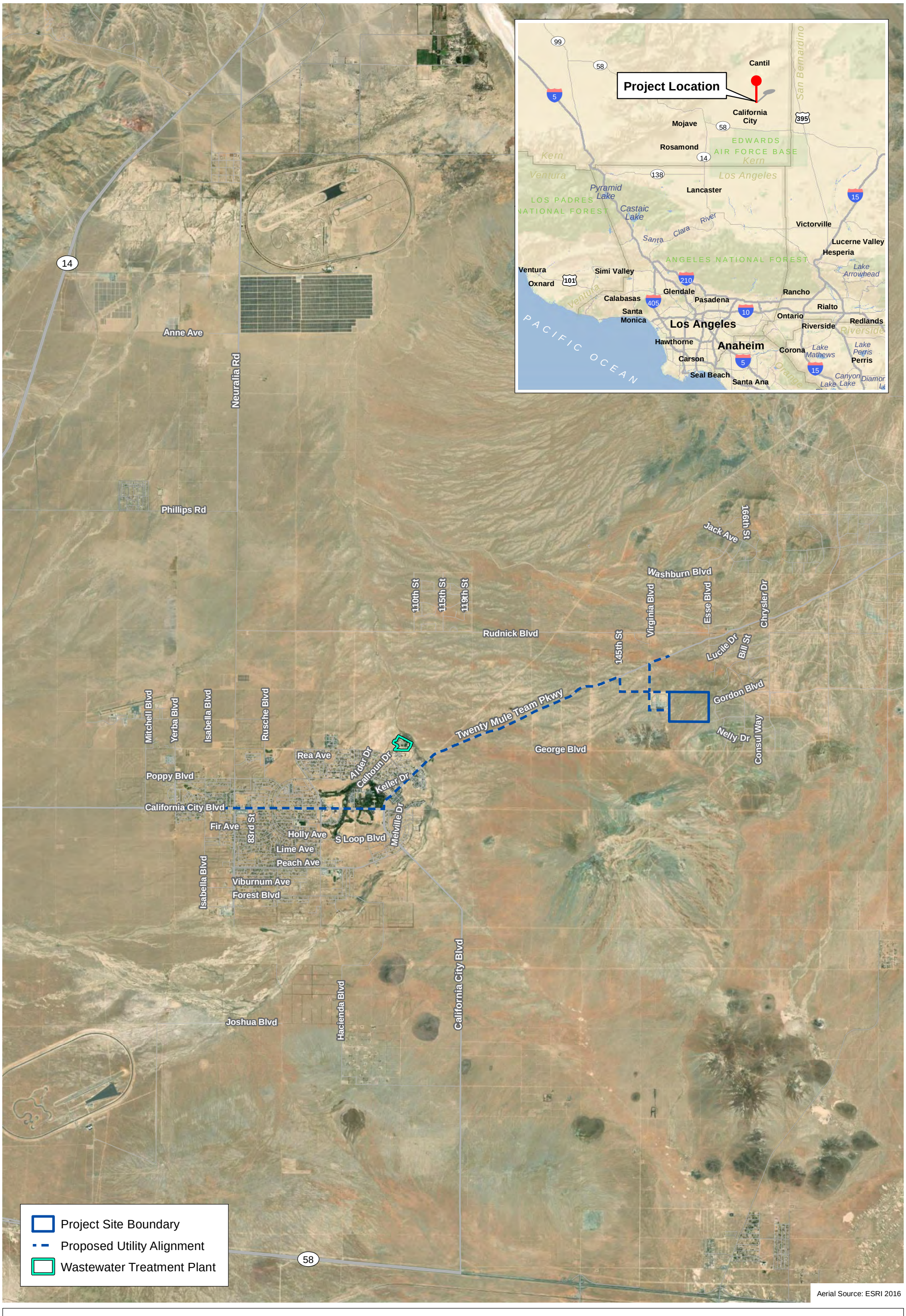
ATTACHMENT A

EXHIBITS



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Project Location

Exhibit 1

Correctional Facility at California City (CFCC)

N W E S

1.5 0.75 0 1.5 Miles

PSOMAS

(Rev: 11-04-2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\JD\ex_Project_Location.pdf

NEW PRIVATE ACCESS ROAD

EXISTING 67.46 ACRE CAL CITY CORRECTIONAL FACILITY

DETENTION BASIN NO. 2

AREA P
INMATE HOUSING
AREA N
AREA M
INMATE HOUSING
AREA L
AREA F
AREA B
AREA C
AREA H
AREA K
INMATE HOUSING
INMATE HOUSING
INMATE HOUSING
AREA E
ADMINISTRATION BUILDING
AREA A
AREA G
AREA J
ARMORY
AREA D

VACANT 35 ACRE PARCEL

ADMIN. 25,000sf
ARMORY
SORT
MAINT.
HIGH VOLTAGE YARD

Existing Cal City Prison Facility Area to be Demolished

PROPOSED 1,512 BED CORRECTIONAL CENTER

VISIT.
WRHS.
MAINT.
COMM.
INTAKE
MEDICAL
EDUCATION/ PROGRAMS
SUPPORT SERVICES/ OPERATIONS
CMMN LAUND
SERVICE YARD
FOOD SERVICE
DINING
CHAPEL
LIBRARY
M.C.
LAUND COMM
SUPPORT SERVICES/ OPERATIONS
LOBBY
FAMILY VISIT
PAROLEE VISIT
LOBBY
MEDICAL
EDUCATION/ PROGRAMS

216 BEDS CELL HOUSING
SEG
GYM
REC

0 50' 100' 200' 400'

Source: Psomas 2017

Preliminary Site Plan

Correctional Facility at California City (CFCC)

Exhibit 2

PSOMAS

(7/14/17 CJS) R:\Projects\CRC\3CRC010100\Graphics\JD\Ex3-1_site_plan_20170614.pdf

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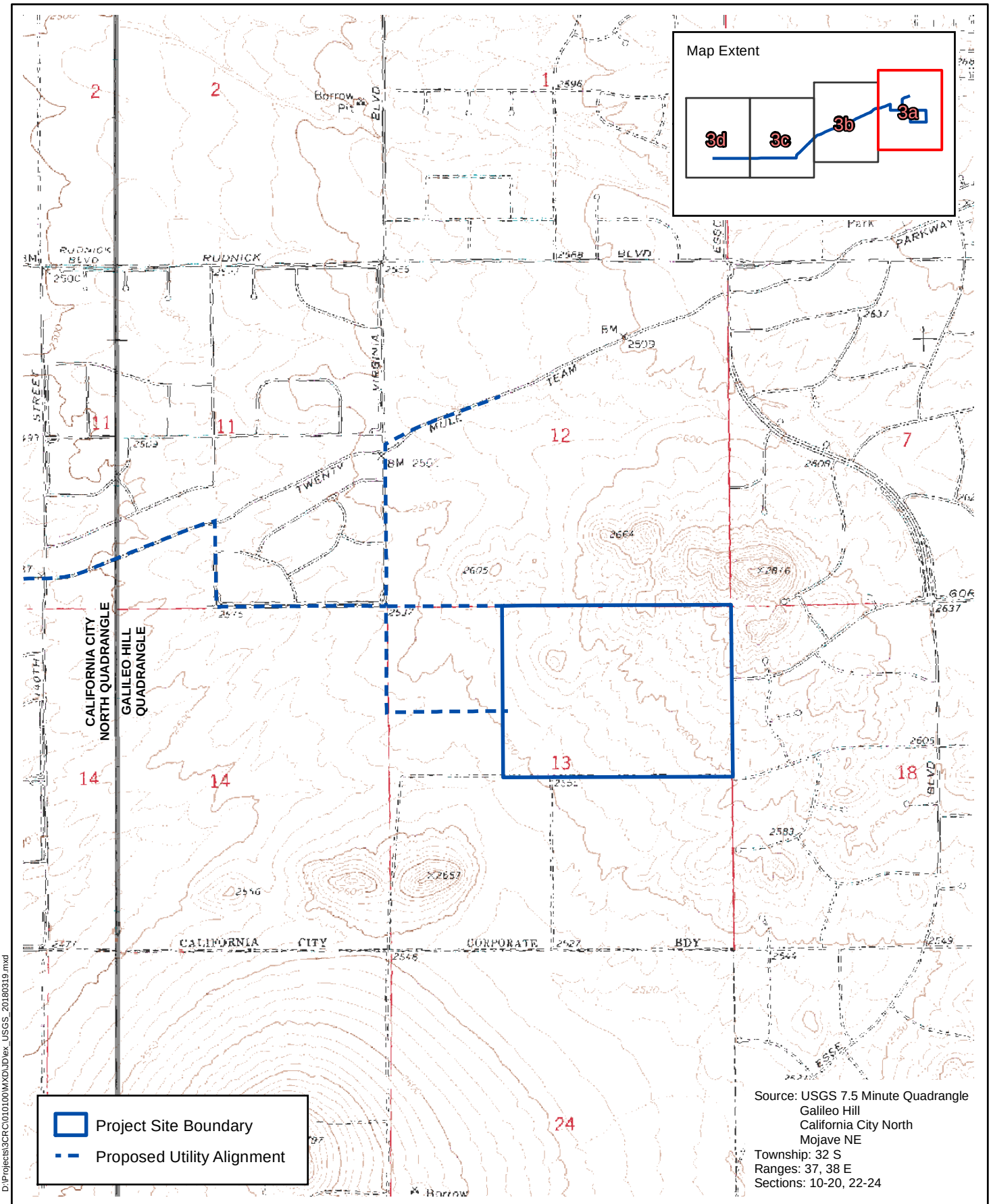

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USGS 7.5-Minute Digital Quadrangle

Exhibit 3a

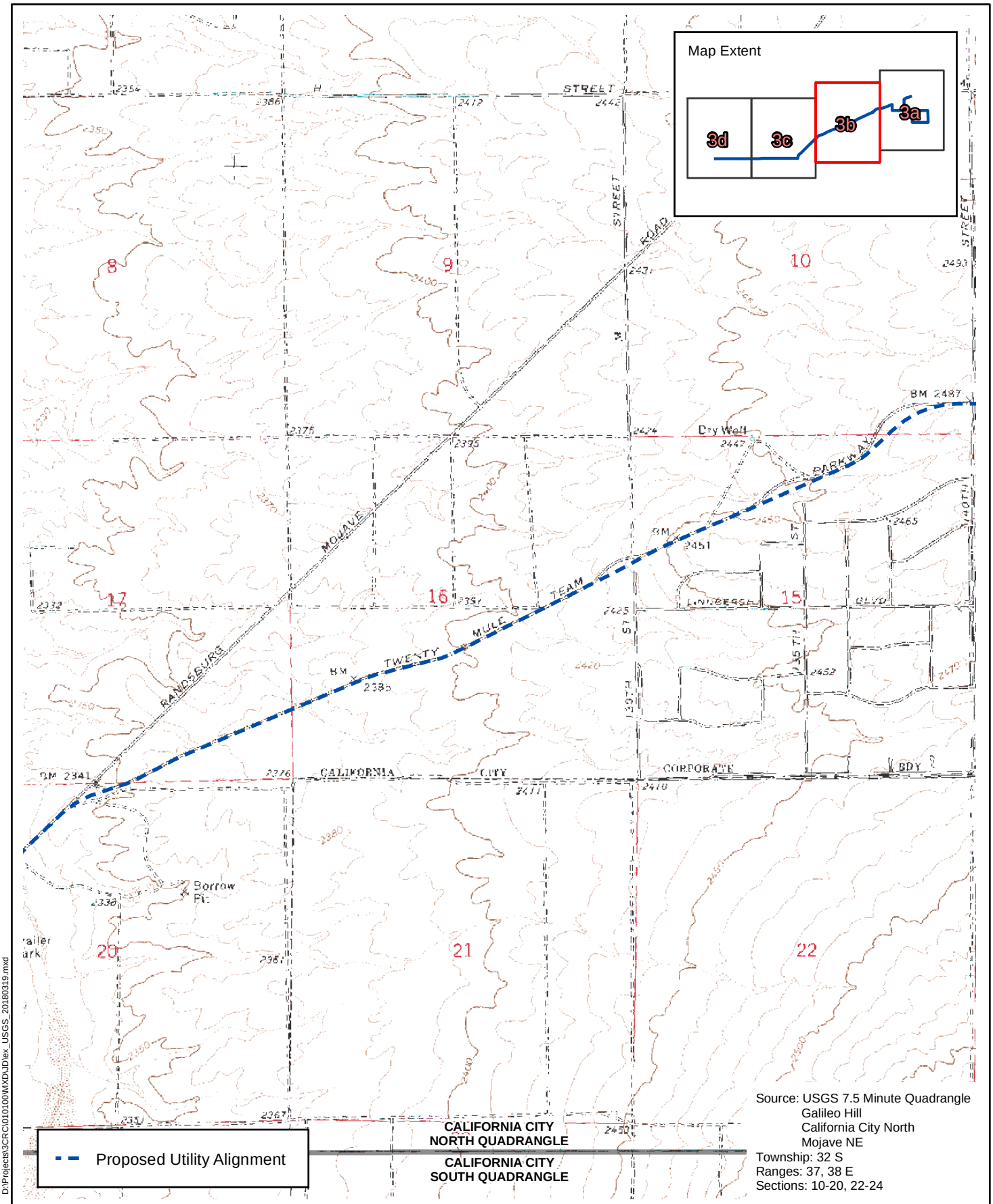
Correctional Facility at California City (CFCC)

N W E S

2,000 1,000 0 2,000

Feet

PSOMAS



Source: USGS 7.5 Minute Quadrangle
Galileo Hill
California City North
Mojave NE
Township: 32 S
Ranges: 37, 38 E
Sections: 10-20, 22-24

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USGS 7.5-Minute Digital Quadrangle

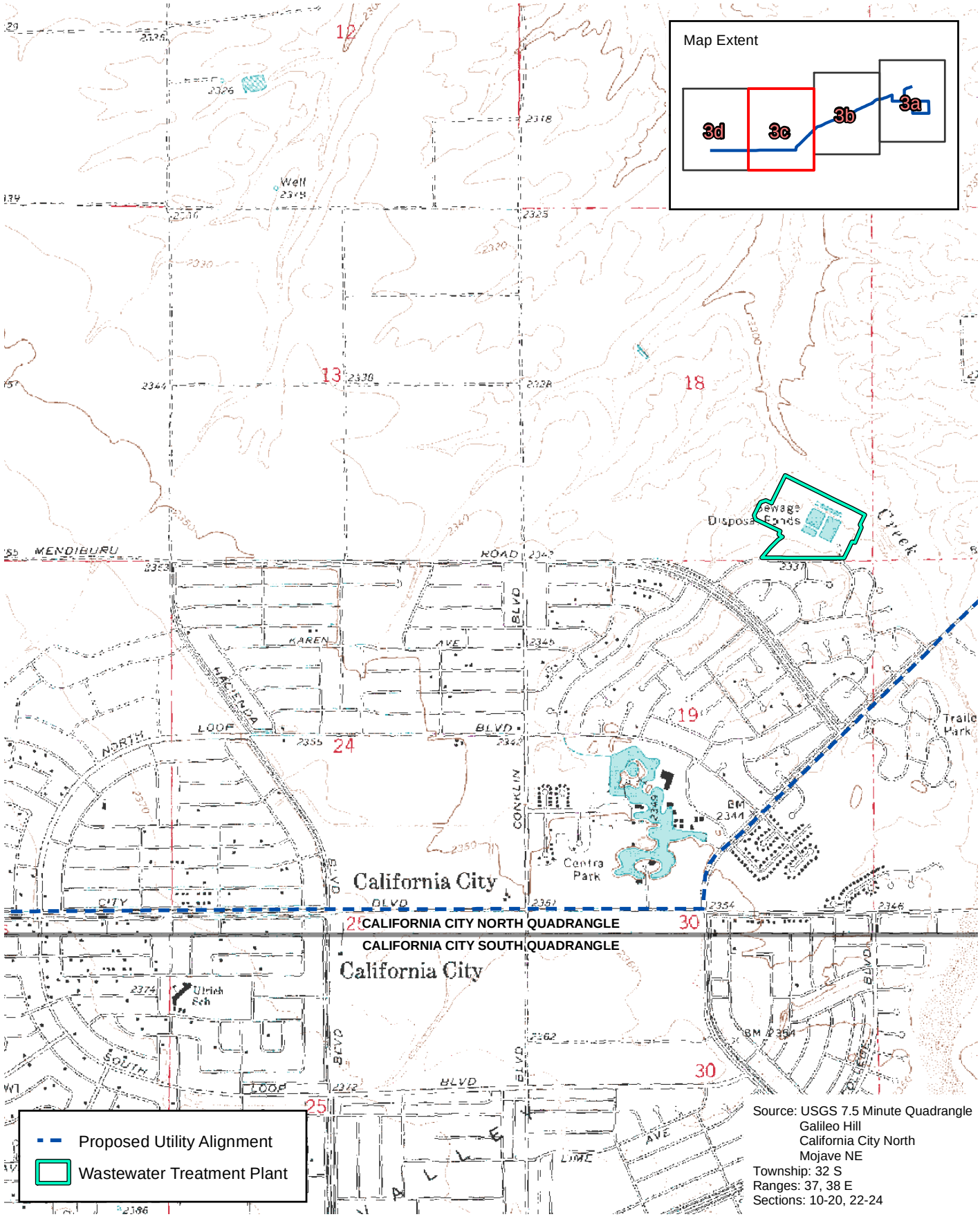
Exhibit 3b

Correctional Facility at California City (CFCC)

N W E S

2,000 1,000 0 2,000 Feet

PSOMAS



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USGS 7.5-Minute Digital Quadrangle

Exhibit 3c

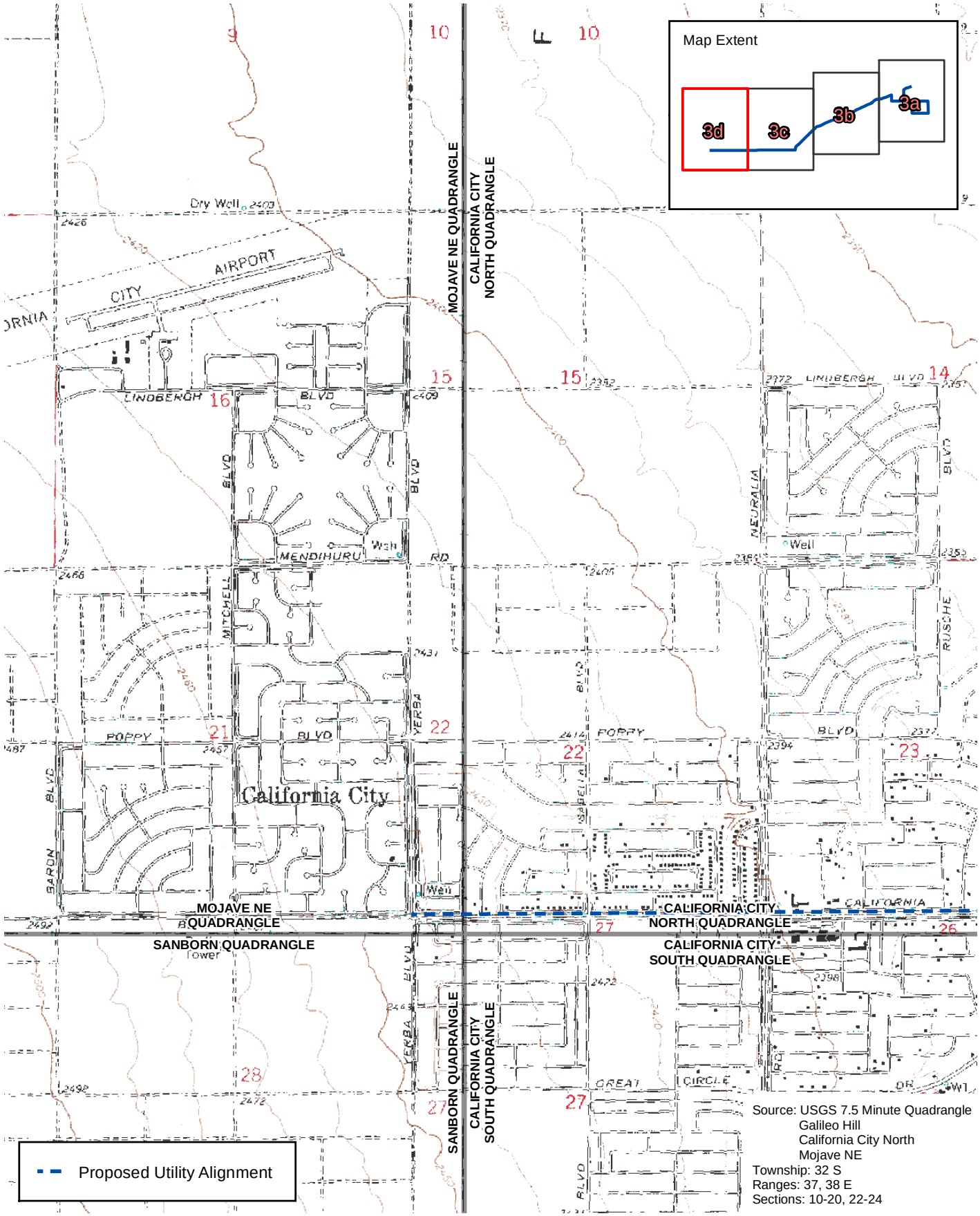
Correctional Facility at California City (CFCC)

N W E S

2,000 1,000 0 2,000

Feet

PSOMAS



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USGS 7.5-Minute Digital Quadrangle

Exhibit 3d

Correctional Facility at California City (CFCC)

N W E S

2,000 1,000 0 2,000

Feet

PSOMAS

Survey Area
Project Site Boundary
Proposed Utility Alignment

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes
114 - Cajon loamy sand, 0 to 5 percent slopes
137 - Garlock loamy sand, 2 to 5 percent slopes
151 - Muroc-Randsburg sandy loams, 5 to 9 percent slopes
154 - Neuralia sandy loam, 2 to 5 percent slopes
185 - Torriorthents-Rock outcrop complex, very steep

Map Extent
4a
4b
4c
4d
4e
4f
4g
4h

Match Line - Exhibit 4b

Lookout Dr
La Salle St
Gordon Blvd
Fay Ct
Belle St
Lindbergh Blvd
Imes Dr

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4a

N
W
E
S
500 250 0 500
Feet

PSOMAS

(Rev: 11-04-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area
Project Site Boundary
Proposed Utility Alignment

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes
114 - Cajon loamy sand, 0 to 5 percent slopes
137 - Garlock loamy sand, 2 to 9 percent slopes
151 - Muroc-Randsburg sandy loams, 5 to 9 percent slopes
154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent

4h 4g 4f 4e 4d 4c 4b 4a

145th St

Twenty Mule Team Pkwy

Match Line - Exhibit 4a

Match Line - Exhibit 4c

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4b

N W E S

500 250 0 500

Feet

PSOMAS

(Rev: 11-04-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4c

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-04-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area

Proposed Utility Alignment

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes

154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent

4a 4b 4c 4d 4e 4f 4g 4h

Match Line - Exhibit 4c

Match Line - Exhibit 4e

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4d

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-04-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area
Proposed Utility Alignment
Wastewater Treatment Plant

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes
114 - Cajon loamy sand, 0 to 5 percent slopes
154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent

4a 4b 4c 4d 4e 4f 4g 4h

Match Line - Exhibit 4d

Match Line - Exhibit 4f

Mendiburu Rd
Rea Ave
Evelyn Ave
Margery Ave
Karen Ave
Susan Ave
Irene Ave
Sally Ave
N Loop Blvd
99th St
101st St
Ethel St
Conklin Blvd
Alder Dr
Bancroft Dr
Calhoun Dr
Trumbull St
Darrow Dr
Everett Dr
Garibaldi Ct
Hooker Dr
Sheridan St
Dolphin Ct
Camille Ct
Jeremy Ct
Jeremy Dr
N Garibaldi Dr
Joan Ct
Lydia Dr
Everett Ct
S Garibaldi Dr
Electra Ct
Ives Ct
Ives Dr
Randsburg Mojave Rd
Camp Fire Dr
Desert Breeze Dr
Keller Dr

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4e

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-04-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area

Proposed Utility Alignment

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes

114 - Cajon loamy sand, 0 to 5 percent slopes

Map Extent

4a 4b 4c 4d 4e 4f 4g 4h

Match Line - Exhibit 4e

Match Line - Exhibit 4g

N Loop Blvd
Ives Dr
Keller Dr
Reed Pl
Lake Shore Dr
Randsburg-Mojave Rd
Crab Apple Ln
Applewood Dr
Rome Beauty Dr
Heather Ave
Conklin Ct
Heather Ct
Windsong St
Bancroft Ct
Calhoun Ct
Conklin Blvd
Proctor Blvd
Aspen Ave
Bay Ave
California City Blvd
S College Blvd
108th St
106th St
Harvard Ave
Princeton Ave
Cooper Dr
Georgetown St
107th St
Melville Dr
Fenimore Dr
Berkman Dr

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4f

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-04-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area

Proposed Utility Alignment

Soil Type

114 - Cajon loamy sand, 0 to 5 percent slopes

137 - Garlock loamy sand, 2 to 9 percent slopes

154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent

4a 4b 4c 4d 4e 4f 4g 4h

Hacienda Blvd
Heather Ave
Doris Slater Ct
Desert Jade Cir
Fuchsia Ave
94th St
Orchid Dr
Dogbane Ave
Walpole Ave
Columbine Ave
91st St
85th St
Xavier Ave
Match Line - Exhibit 4h
Match Line - Exhibit 4f
California City Blvd
California City Blvd
88th St
Aspen Ave
Sandy Ave
86th St
87th St
90th St
Lasky St
Bay Ave
84th St
W Lake Dr
Lakeview Dr
Catalpa Ave
Village Center Dr
Village Pkwy
Corwin St
92nd St
Dogwood Ave
Eucalyptus Ave
Fir Ave
Hickory Dr
Fernwood Ave
Great Circle Dr
S Loop Blvd
Grapewood Ave
Holly Ave
Cole St
93rd St

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Correctional Facility at California City (CFCC)

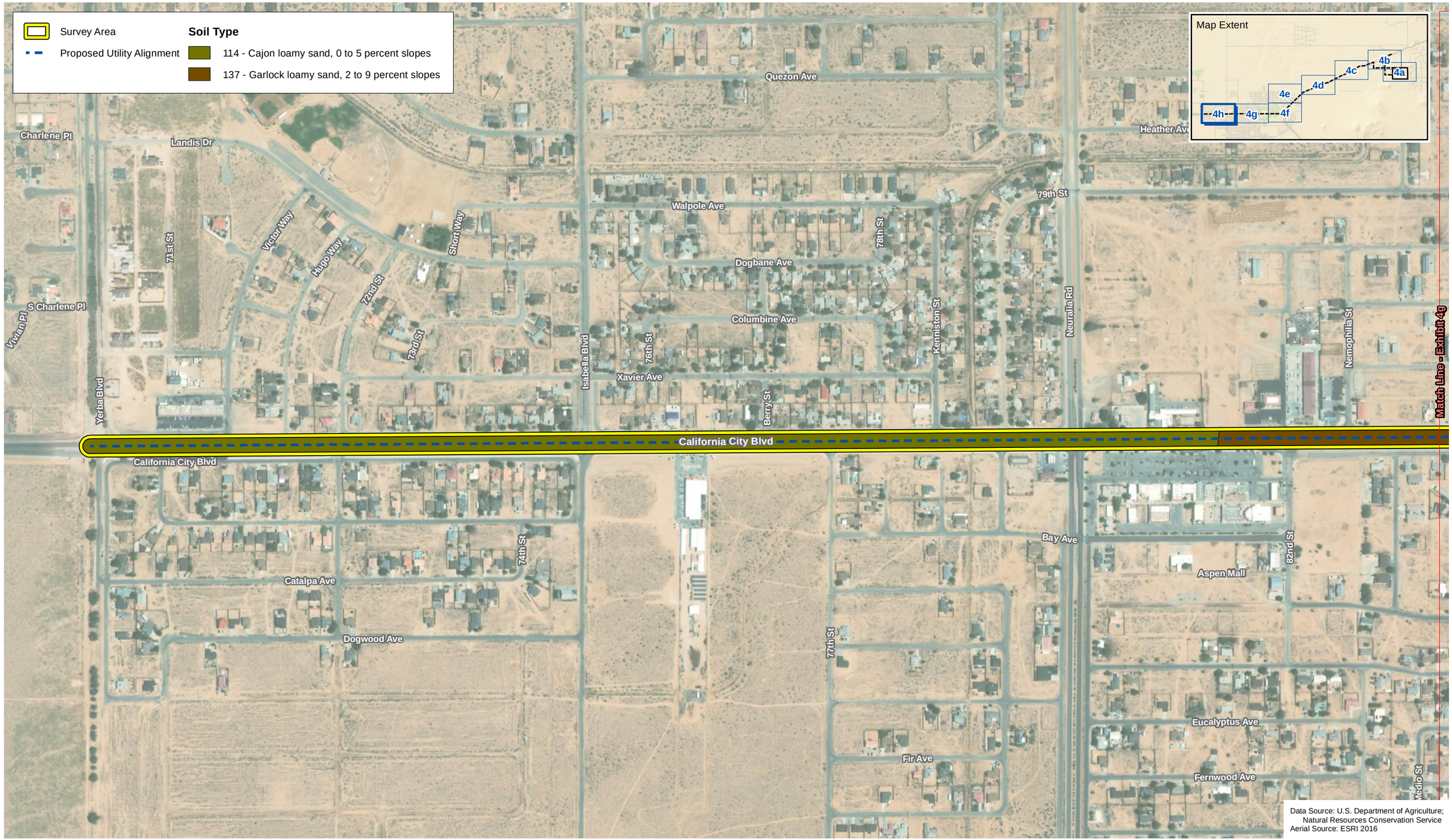
Exhibit 4g

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-04-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf



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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4h

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-04-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area

MESA Transect Location and Number

Site Transect

Topographic Contours (2-foot interval)

Flow Accumulation Classification

2

3 - 4

5 - 8

9 - 12

13 - 14

N

W E

S

300 150 0 300

Feet

Aerial Source: ESRI 2016

Modeling of Potential Resources

Exhibit 5

Correctional Facility at California City (CFCC)

PSOMAS

(Rev: 03/20/2018 MMD) \CRC\3CRC010100\Graphics\JD\Ex_flow_accum.pdf

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Survey Area
Project Site Boundary
Proposed Utility Alignment

Wetland Type

Riverine

Map Extent

6a
6b
6c
6d
6e
6f
6g
6h

Match Line - Exhibit 6b

R4SBJ
R4SBJ
R4SBJ
R4SBJ
R4SBJ

Lookout Dr
La Salle St
Gordon Blvd
Fay Ct
Belle St
Lindbergh Blvd
Innes Dr

Data Source: U.S. Fish & Wildlife Service; National Wetlands Inventory December 2016
Aerial Source: ESRI 2016

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National Wetlands Inventory

Correctional Facility at California City (CFCC)

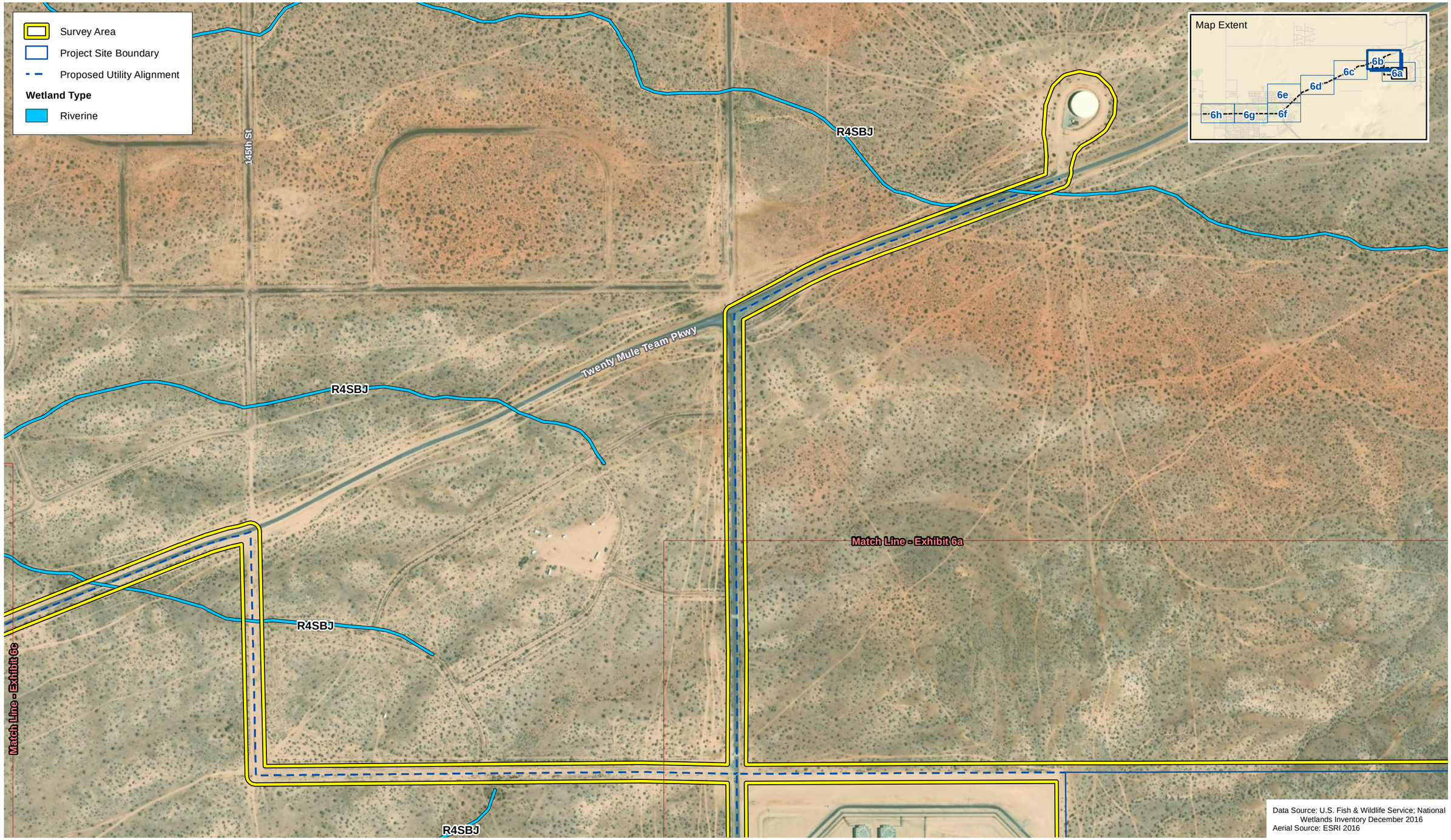
Exhibit 6a

N
W E
S

500 250 0 500
Feet

PSOMAS

(Rev: 11-23-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf



Data Source: U.S. Fish & Wildlife Service; National Wetlands Inventory December 2016
Aerial Source: ESRI 2016

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National Wetlands Inventory

Correctional Facility at California City (CFCC)

N
W E
S

500 250 0 500
Feet

Exhibit 6b

PSOMAS

(Rev: 11-23-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf

Survey Area

Proposed Utility Alignment

Wetland Type

Riverine

R4SBJ

R4SBJ

R4SBJ

R4SBJ

R4SBJ

Map Extent

6h 6g 6f 6e 6d 6c 6b 6a

Match Line - Exhibit 6b

Match Line - Exhibit 6d

Data Source: U.S. Fish & Wildlife Service; National Wetlands Inventory December 2016
Aerial Source: ESRI 2016

National Wetlands Inventory

Correctional Facility at California City (CFCC)

Exhibit 6c

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-23-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf

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Survey Area

Proposed Utility Alignment

Wetland Type

Riverine

Map Extent

6a 6b 6c 6d 6e 6f 6g 6h

Match Line - Exhibit 6c

Match Line - Exhibit 6e

R4SBJ

R4SBJ

R4SBJ

Data Source: U.S. Fish & Wildlife Service; National Wetlands Inventory December 2016
Aerial Source: ESRI 2016

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National Wetlands Inventory

Correctional Facility at California City (CFCC)

Exhibit 6d

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-23-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf

Data Source: U.S. Fish & Wildlife Service; National Wetlands Inventory December 2016
Aerial Source: ESRI 2016

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National Wetlands Inventory

Correctional Facility at California City (CFCC)

Exhibit 6e

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-23-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf

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National Wetlands Inventory

Correctional Facility at California City (CFCC)

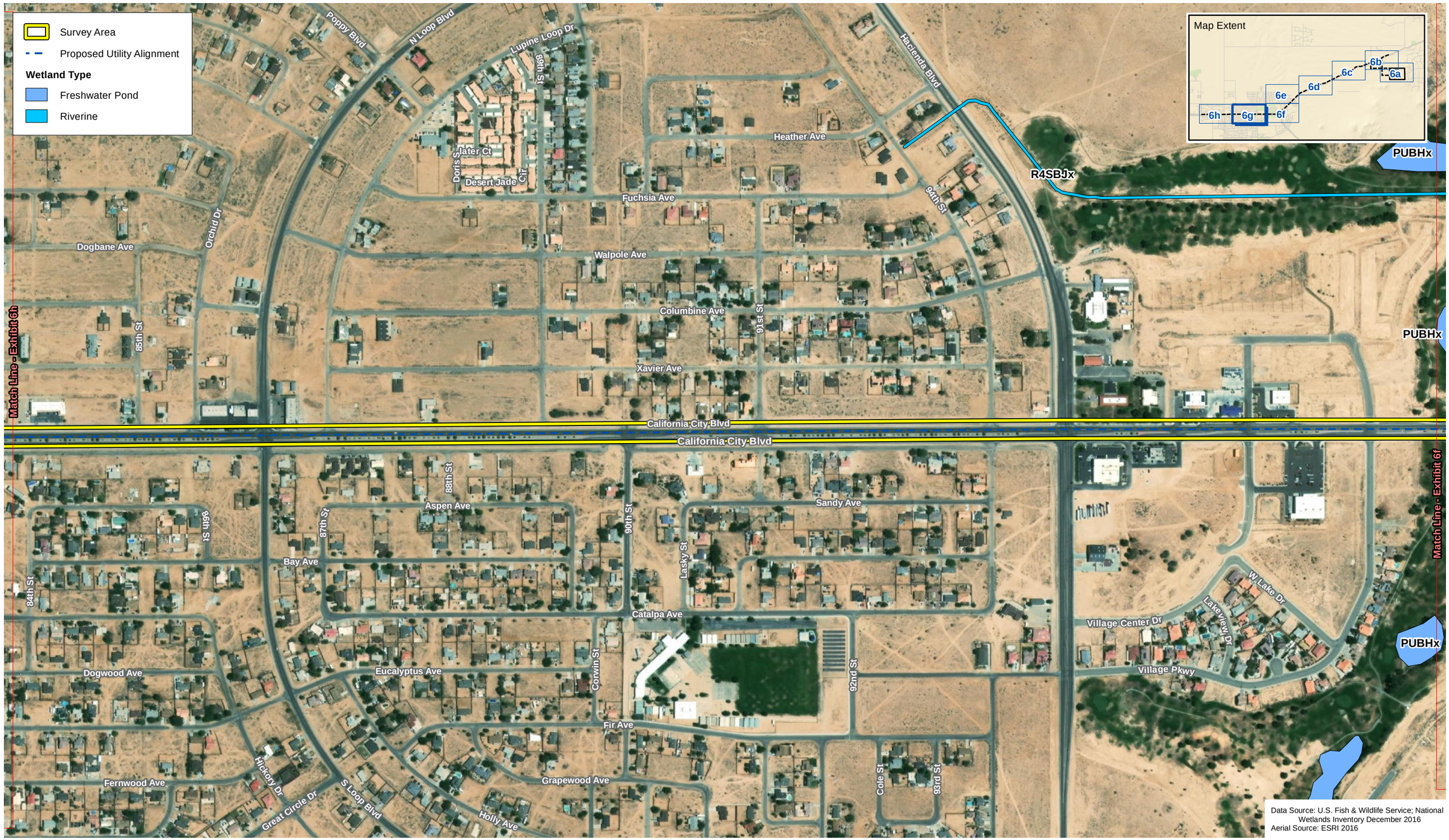
Exhibit 6f

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-23-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf



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Aerial Source: ESRI 2016

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National Wetlands Inventory

Correctional Facility at California City (CFCC)

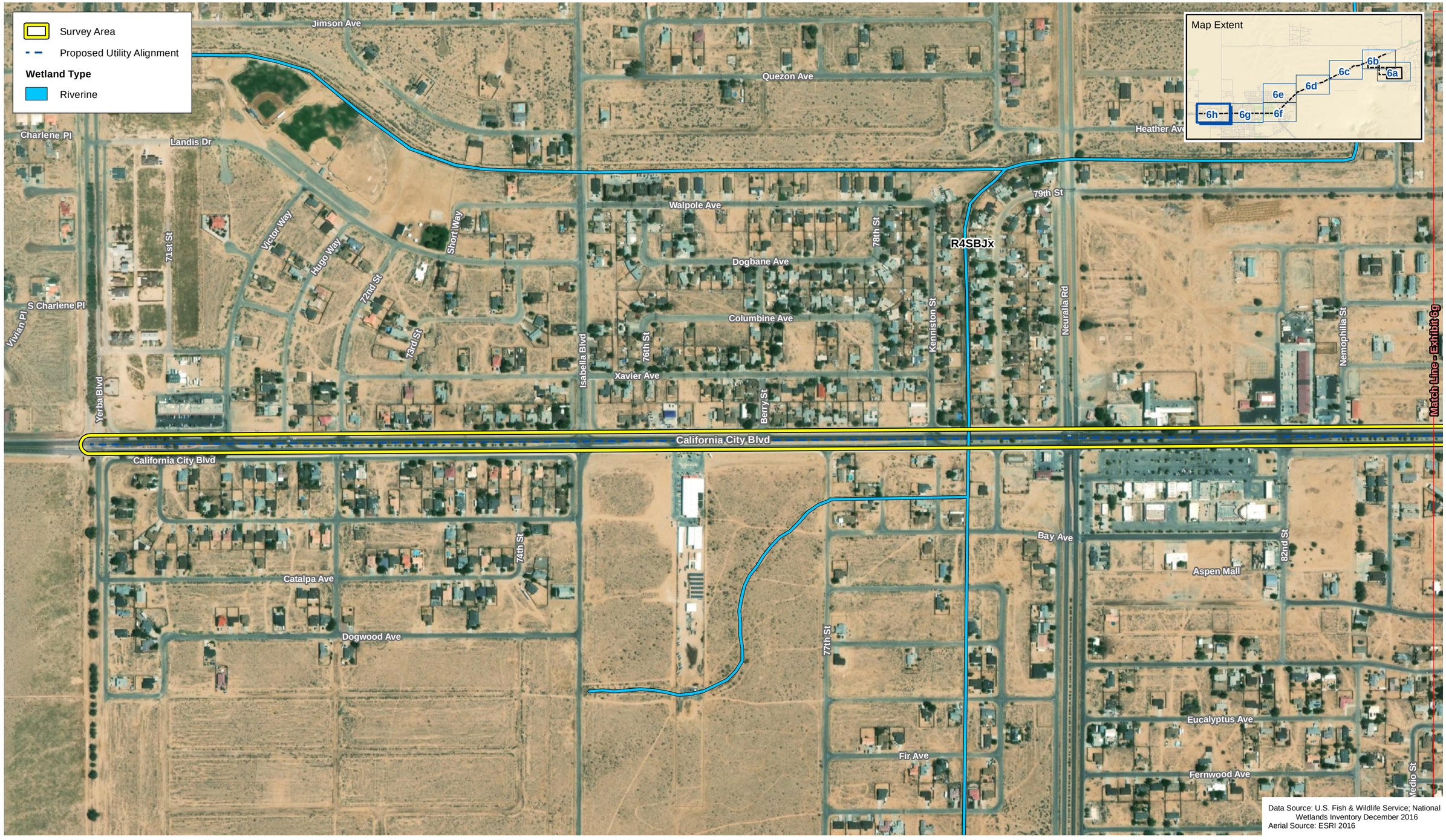
Exhibit 6g

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-23-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf



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National Wetlands Inventory

Correctional Facility at California City (CFCC)

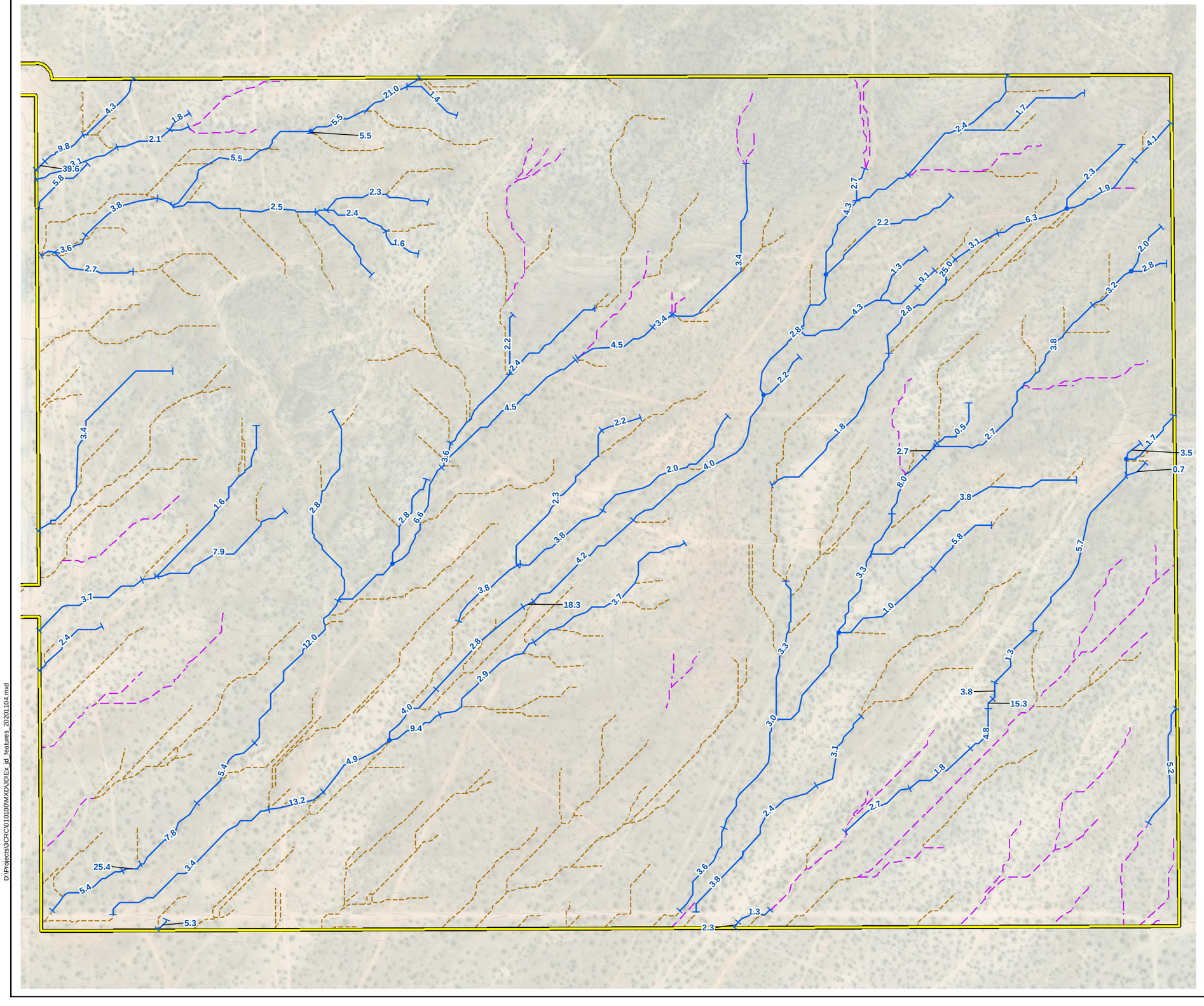
Exhibit 6h

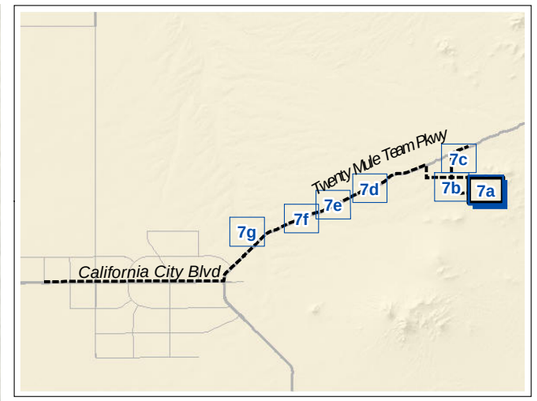
N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-23-2020 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf





Survey

Jurisdictional Resources

- Watercourse (width in feet)*
- Swale
- Upland
- Topographic Contours (2-foot interval)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction. Drainages 1 through 5 were mapped as part of an alternative utility line alignment and are not included in the current survey area boundary.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7a

Correctional Facility at California City (CFCC)

PSOMAS

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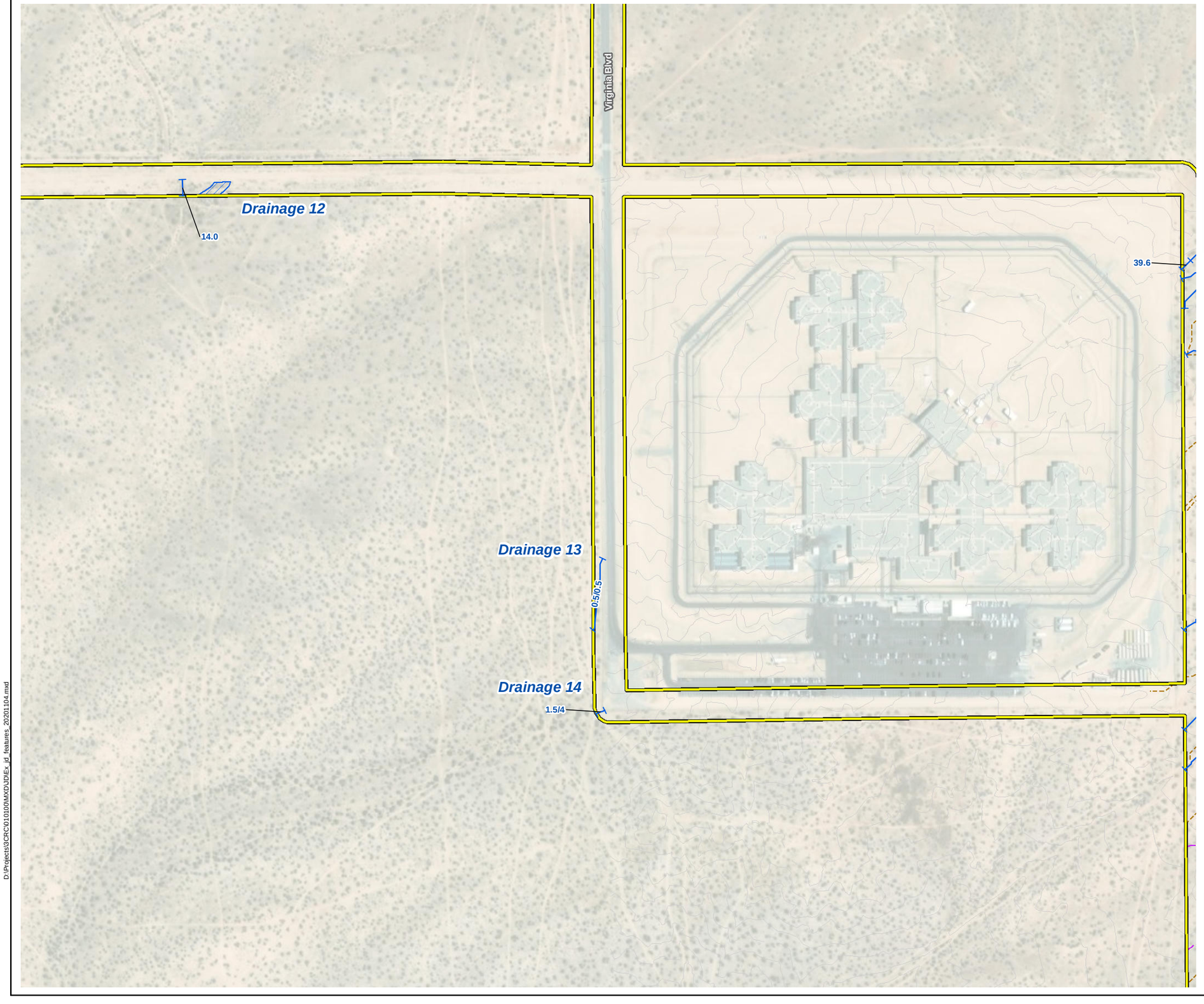

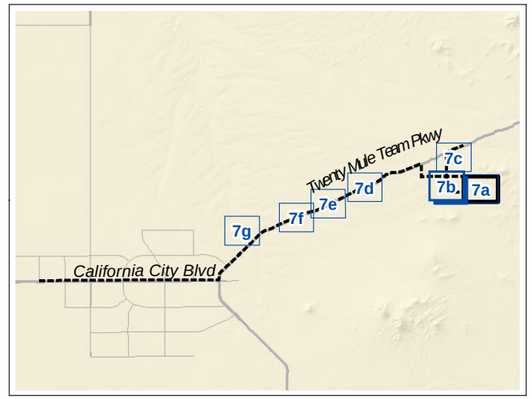

Survey

Jurisdictional Resources

- Watercourse (width in feet)*
- Watercourse (polygon)
- Swale
- Upland
- Topographic Contours (2-foot interval)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction. Drainages 1 through 5 were mapped as part of an alternative utility line alignment and are not included in the current survey area boundary.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7b

Correctional Facility at California City (CFCC)

PSOMAS

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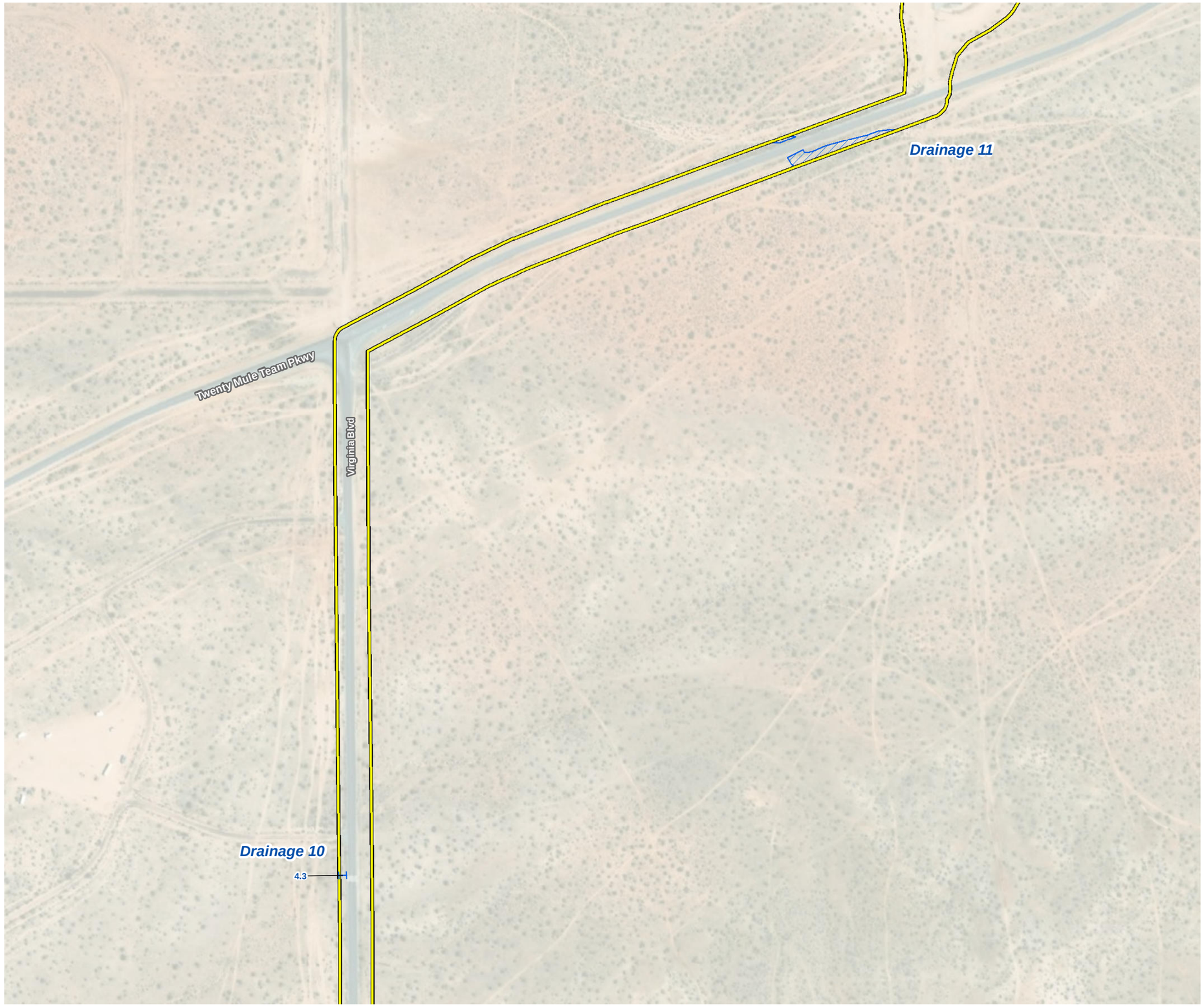

Survey

Jurisdictional Resources

Watercourse (width in feet)*

Watercourse (polygon)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction. Drainages 1 through 5 were mapped as part of an alternative utility line alignment and are not included in the current survey area boundary.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7c

Correctional Facility at California City (CFCC)

PSOMAS

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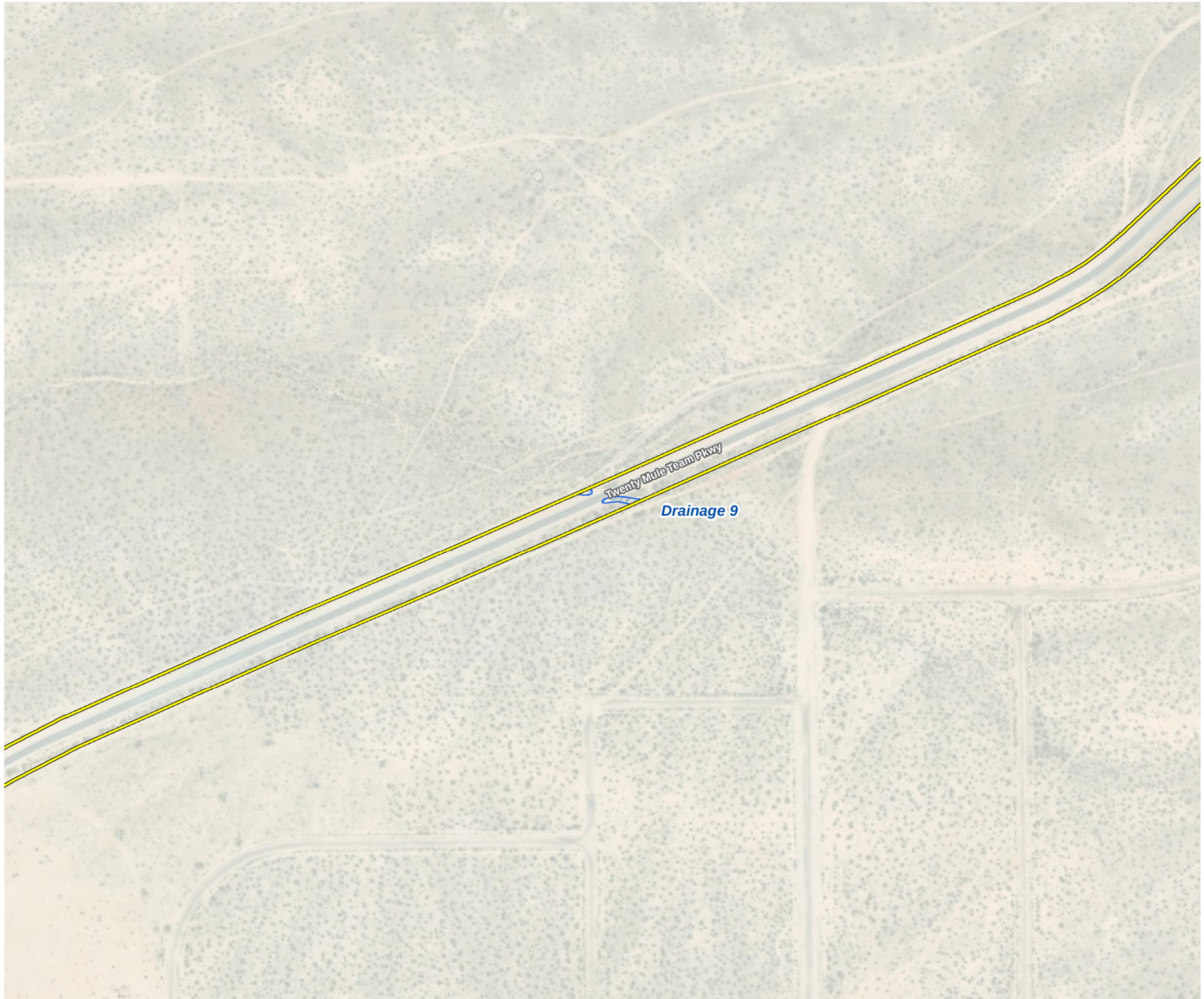

Survey

Jurisdictional Resources

Watercourse (width in feet)*

Watercourse (polygon)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction. Drainages 1 through 5 were mapped as part of an alternative utility line alignment and are not included in the current survey area boundary.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7d

Correctional Facility at California City (CFCC)

PSOMAS

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Survey

Jurisdictional Resources

Watercourse (width in feet)*

Watercourse (polygon)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction. Drainages 1 through 5 were mapped as part of an alternative utility line alignment and are not included in the current survey area boundary.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7e

Correctional Facility at California City (CFCC)

PSOMAS

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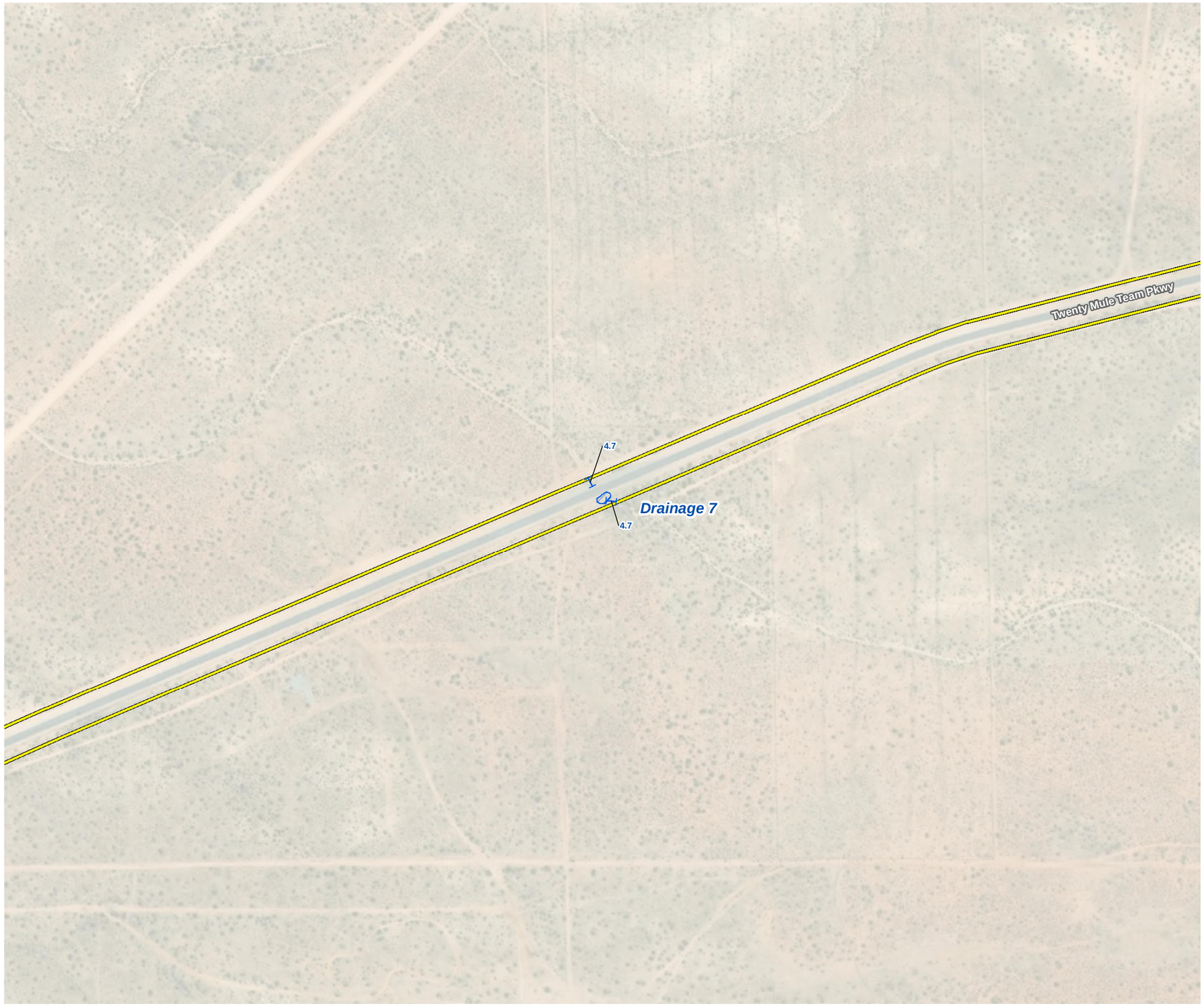

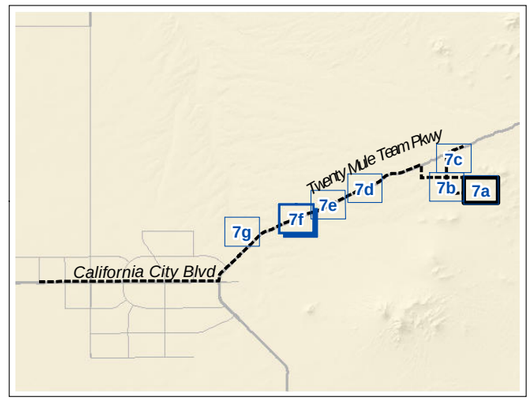

Survey

Jurisdictional Resources

Watercourse (width in feet)*

Watercourse (polygon)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction. Drainages 1 through 5 were mapped as part of an alternative utility line alignment and are not included in the current survey area boundary.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7f

Correctional Facility at California City (CFCC)

PSOMAS

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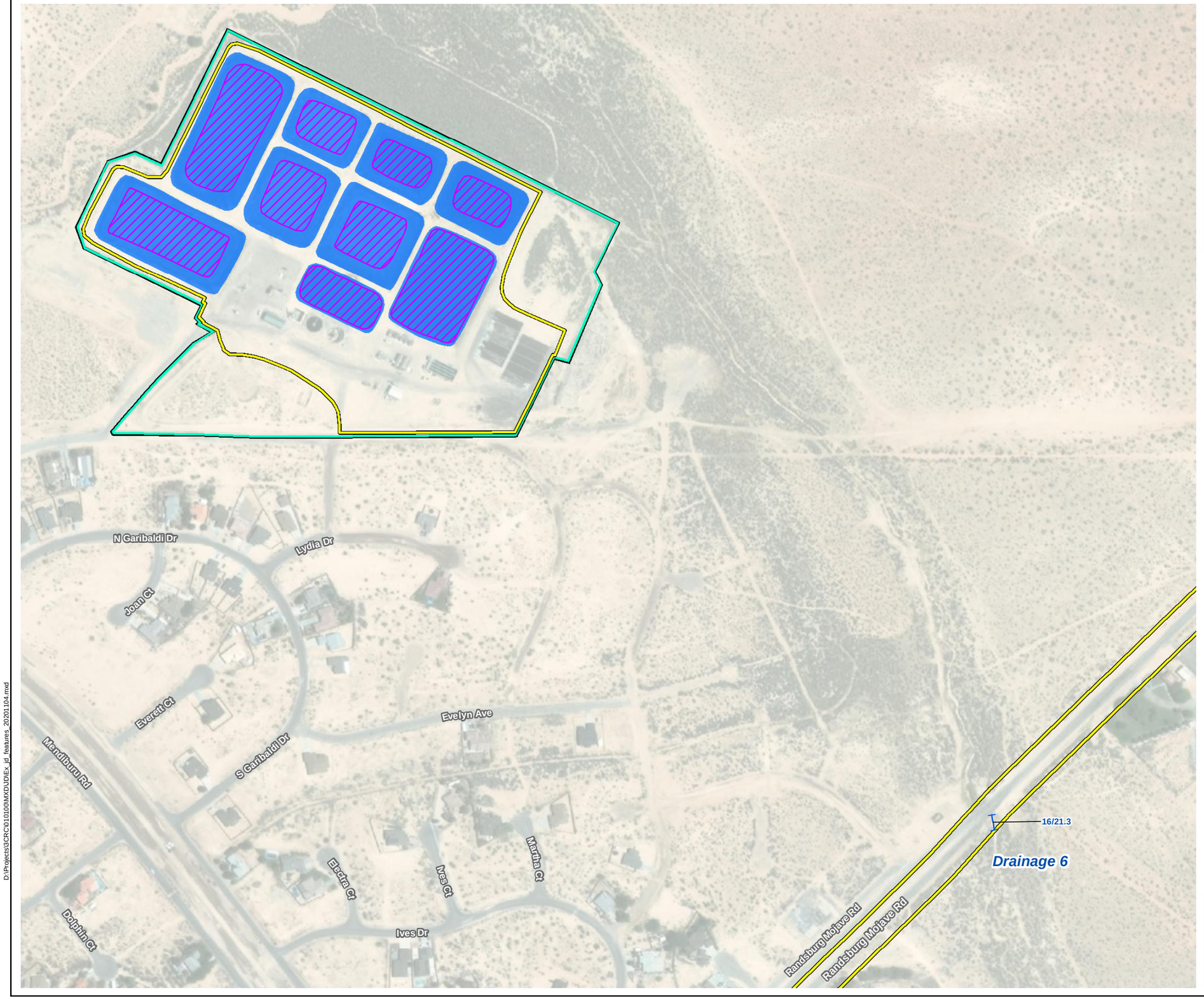

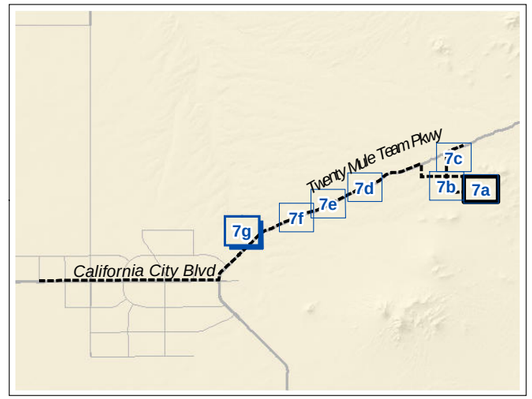

Survey

Wastewater Treatment Plant

Jurisdictional Resources

Watercourse (width in feet)*

Basin (RWQCB)

Basin (CDFW)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction. Drainages 1 through 5 were mapped as part of an alternative utility line alignment and are not included in the current survey area boundary.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7g

Correctional Facility at California City (CFCC)

PSOMAS

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ATTACHMENT B

REGULATORY AUTHORITY

REGULATORY AUTHORITY

This attachment summarizes the regulatory authority of the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW) over activities that have potential to impact jurisdictional resources.

U.S. Army Corps of Engineers

The USACE Regulatory Branch regulates activities that discharge dredged or fill materials into "waters of the U.S." (WOTUS) under Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. This permitting authority applies to all WOTUS where the material (1) replaces any portion of WOTUS with dry land or (2) changes the bottom elevation of any portion of any WOTUS. These fill materials would include sand, rock, clay, construction debris, wood chips, and materials used to create any structure or infrastructure in these waters.

Waters of the United States

WOTUS can be divided into three categories: territorial seas, tidal waters, or non-tidal waters. The term WOTUS is defined by the *Code of Federal Regulations*[1] (CFR) and includes:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide.
2. All interstate waters including interstate wetlands.
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
    - Which are or could be used by interstate or foreign travelers for recreational purposes; or
    - From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    - Which are used or could be used for industrial purpose by industries in interstate commerce.
4. All impoundments of waters otherwise defined as WOTUS under the definition.
5. Tributaries of waters identified [above].
6. The territorial seas.
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified [above].

The U.S. Supreme Court has issued three decisions that provide context and guidance in determining the appropriate scope of WOTUS. In *United States v. Riverside Bayview Homes*, the Court upheld the inclusion of adjacent wetlands in the regulatory definition of WOTUS. In *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC), the Court held that the use of "isolated" non-navigable intrastate ponds by migratory birds was not, by itself, sufficient basis for the exercise of federal regulatory authority under the CWA. In *Rapanos v.*

[1] Specifically, Title 33, Navigation and Navigable Waters; Part 328, Definition of waters of the United States; §328.3, Definitions.

United States (Rapanos),[2] a majority of the U.S. Supreme Court overturned two Sixth Circuit Court of Appeals decisions, finding that certain wetlands constituted WOTUS under the CWA. In his plurality opinion, Justice Scalia argued that WOTUS should not include channels through which water flows intermittently or ephemerally or channels that periodically provide drainage for rainfall. He also stated that a wetland may not be considered "adjacent to" remote WOTUS based on a mere hydrologic connection. Justice Kennedy authored a separate concurring opinion concluding that wetlands are WOTUS if they, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as "navigable". Lacking a majority opinion, regulatory jurisdiction under the CWA exists over a water body if either the plurality's or Justice Kennedy's "significant nexus" standard is satisfied.

In 2015, the USACE and the U.S. Environmental Protection agency (USEPA) published a final rule (2015 Rule) clarifying and expanding the scope of WOTUS protected under the CWA. One of the major changes was to make all tributaries and adjacent waters jurisdictional, by rule.

In December 2018, the USEPA and the Department of the Army (DOA) proposed a new definition of WOTUS that clarifies federal authority under the federal CWA consistent with the February 2017 Presidential Executive Order entitled "Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the 'Waters of the United States' Rule". On September 12, 2019, the USEPA and DOA signed the final "Step One Rule" to repeal the 2015 Rule and recodify the regulatory text defining WOTUS that existed prior to the 2015 Rule. The USEPA and DOA published this final Step One Rule on October 22, 2019; the final Step One rule became effective on December 23, 2019.[3] With the Step One Rule going into effect, the regulations defining the scope of federal CWA jurisdiction are those portions of the CFR as they existed before the amendments promulgated in the 2015 Rule.

The Step One Rule was replaced by the Navigable Waters Protection Rule (Step Two Rule). On January 23, 2020, the USEPA and DOA finalized the Step Two Rule defining WOTUS. This rule was published in the *Federal Register* on April 21, 2020 and went into effect 60 days following publication (i.e., on June 22, 2020). The Step Two Rule changes the definition of WOTUS. Under this new definition, WOTUS encompasses territorial seas and Traditional Navigable Waters (TNWs); perennial and intermittent tributaries that contribute surface water flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to other jurisdictional waters.

The following notable changes have been implemented:

- Rivers and streams that contribute perennial or intermittent flow to downstream TNWs are jurisdictional but ephemeral features are not considered jurisdictional.
- The process of determining whether a "significant nexus" exists between a water and a downstream TNW as directed under the agencies' 2008 Rapanos guidance or whether a water has a significant nexus to a TNW, interstate water, or territorial sea has been eliminated.
- No ditches constructed in upland and no ditches with ephemeral flow would be considered jurisdictional.
- Wetlands must either abut jurisdictional waters or have a direct hydrological surface connection to jurisdictional waters in a typical year to be jurisdictional themselves; wetlands physically separated from jurisdictional waters by a berm, dike, or other barrier

[2] Consolidated cases: *Rapanos v. United States* and *Carabell v. United States* refer to the U.S. Supreme Court's decision concerning USACE jurisdiction over WOTUS under the CWA.

[3] 40 CFR 230.3(s).

are not adjacent if they lack a direct hydrologic surface connection to a jurisdictional water in a typical year.

Ordinary High Water Mark

The landward limit of tidal WOTUS is the high-tide line. In non-tidal waters where adjacent wetlands are absent, the lateral limits of USACE jurisdiction extend to the ordinary high water mark (OHWM).[4] The OHWM is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas".[5] When wetlands are present, the lateral limits of USACE jurisdiction extend beyond the OHWM to the limits of the adjacent wetlands.[6]

Wetlands

A wetland is a subset of jurisdictional waters and is defined by the USACE and the USEPA as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions".[7] Wetlands generally include swamps, marshes, bogs, and areas containing similar features.

The definition and methods for identifying wetland resources can be found in the USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*,[8] a supplement to the 1987 *Corps of Engineers Wetlands Delineation Manual*.[9] Both the 1987 Wetlands Manual and the 2008 Arid West Supplement to the manual provide technical methods and guidelines for determining the presence of wetland WOTUS. Pursuant to these manuals, a three-parameter approach is used to identify wetlands and requires evidence of wetland hydrology, hydrophytic vegetation, and hydric soils. In order to be considered a wetland, an area must exhibit one or more indicators of all three of these parameters. However, problem areas may periodically or permanently lack certain indicators for reasons such as seasonal or annual variability of rainfall, vegetation, and other factors. Atypical wetlands lack certain indicators due to recent human activities or natural events. Guidance for determining the presence of wetlands in these situations is presented in the regional supplement.

Section 404 Permit

Except as specified in Section 323.4 of the CFR, impacts to WOTUS require a Section 404 Permit. Permit authorization may be in the form of (1) a "general permit" authorizing a category of activities in a specific geographical region or nationwide or (2) an "individual permit" (IP) following a review of an individual application form (to be obtained from the district office having jurisdiction over the waters in which the activity is proposed to be located).

Regulatory authorization in the form of a Nationwide Permit (NWP) is provided for certain categories of activities such as repair, rehabilitation, or replacement of a structure or fill which was

4 U.S. Army Corps of Engineers (USACE). 2005 (December 7). Regulatory Guidance Letter. Ordinary High Water Mark Identification. Washington, D.C.: USACE.
5 *Code of Federal Regulations* (CFR), Title 33, §328.3(e)
6 USACE 2005
7 33 CFR §328.3(b)
8 USACE. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. (J.S. Wakeley, R.W. Lichvar, and C.V. Noble, Eds.). Vicksburg, MS: U.S. Army Engineer Research and Development Center.
9 Environmental Laboratory. 1987. Cor*ps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1)*. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station.

previously authorized; utility line placement; or bank stabilization. The current set of NWPs became effective on March 19, 2017, and will expire on March 18, 2022. NWPs authorize only those activities with minimal adverse effects on the aquatic environment and are valid only if the conditions applicable to the permits are met or waivers to these conditions are provided in writing from the USACE. Please note that waivers may require consultation with affected federal and State agencies, which can be a lengthy process with no mandated processing time frames. Certain activities do not require submission of an application form, but may require a separate notification. If the NWP conditions cannot be met, an IP will be required. WOTUS temporarily filled, flooded, excavated, or drained but restored to pre-construction contours and elevations after construction are not included in the measurement of loss of WOTUS. The appropriate permit authorization will be based on the amount of impacts to WOTUS, as determined by the USACE. There is no filing fee for the Section 404 Permit.

Approximately three or four months are typically required to process a routine permit application; large or complex activities may take longer to process. When a permit application is received, it will be assigned an identification number and reviewed for completeness by the District Engineer. If an application is incomplete, additional information will be requested within 15 days of receipt of the application. If an application is complete, the District Engineer will issue a public notice within 15 days unless specifically exempted by provisions of the CFR. Public comments will be accepted no more than 30 days but not less than 15 days from the date of public notice; these will become part of the administrative record of the application. Generally, the District Engineer will decide on the application no later than 60 days after receipt of the completed application. Additional permit situations may increase the permit processing time (e.g., projects involving a Section 401 Water Quality Certification, a coastal zone management consistency analysis, historic properties, a federal agency, and/or Endangered species). The Project Applicant will be given time, not to exceed 30 days, to respond to requests of the District Engineer.

On January 31, 2007, the USACE published a memorandum clarifying the Interim Guidance for Amendments to the National Historic Preservation Act and the Advisory Council on Historic Preservation (ACHP) implementing regulations.[10] The Interim Guidance applies to all Department of the Army requests for authorization/verification, including Individual Permits (IPs, i.e., standard permits and letters of permission) and all Regional General Permits (RGPs) and Nationwide Permits (NWPs). The State or Tribal Historic Preservation Officer (SHPO/THPO) has 30 days to respond to a determination that a proposed activity, which otherwise qualifies for an NWP or an RGP, has no effect or no adverse effect on a historic property. If the SHPO/THPO does not respond within 30 days of notification, the Los Angeles District may proceed with verification. If the SHPO/THPO disagrees with the District's determination, the District may work with the SHPO/THPO to resolve the disagreement or request an opinion from the ACHP. The USACE will submit the Draft Jurisdictional Delineation Report to the SHPO/THPO for review prior to initiating the actual regulatory process.

Please note that, if the USACE determines that the drainages/waterbodies are jurisdictional and would be impacted by project implementation, the Applicant will be required to obtain a CWA Section 401 Water Quality Certification from the RWQCB before the USACE will issue the Section 404 Permit. If the USACE determines that the impacted drainage/waterbody is not jurisdictional, the Applicant will be required to obtain RWQCB authorization under the provisions of an RWD.

[10] USACE. 2007 (January 31). Memorandum: Interim Guidance for Amendments to the National Historic Preservation Act and the Advisory Council on Historic Preservation (ACHP) Implementing Regulations. Washington, D.C.: USACE.

Jurisdictional Determinations

Pursuant to USACE Regulatory Guidance Letter (RGL) 08-02 (dated June 26, 2008), the USACE can issue two types of jurisdictional determinations to implement Section 404 of the CWA: Approved Jurisdictional Determinations and Preliminary Jurisdictional Determinations.[11] An Approved Jurisdictional Determination is an official USACE determination that jurisdictional WOTUS, Navigable WOTUS, or both are either present or absent on a site. An Approved Jurisdictional Determination also identifies the precise limits of jurisdictional waters on a project site.

The USACE will provide an Approved Jurisdictional Determination when (1) an Applicant requests an official jurisdictional determination; (2) an Applicant contests jurisdiction over a particular water body or wetland; or (3) when the USACE determines that jurisdiction does not exist over a particular water body or wetland. The Approved Jurisdictional Determination then becomes the USACE's official determination that can then be relied upon over a five-year period to request regulatory authorization as part of the permit application.

In addition, an Applicant may decline to request an Approved Jurisdictional Determination and instead obtain a USACE IP or General Permit Authorization based on a Preliminary Jurisdictional Determination or, in certain circumstances (e.g., authorizations by non-reporting nationwide general permits), with no Jurisdictional Determination.

Preliminary Jurisdictional Determinations are non-binding, advisory in nature, and may not be appealed. They indicate that there may be WOTUS on a project site. An Applicant may elect to use a Preliminary Jurisdictional Determination to voluntarily waive or set aside questions regarding CWA jurisdiction over a site, usually in the interest of expediting the permitting process. The USACE will determine what form of Jurisdictional Determination is appropriate for a particular project site.

The USACE Regulatory Branch Offices will coordinate with the USEPA Regional Office and USACE Headquarters (HQ), as outlined in its January 28, 2008, memorandum entitled "Process for Coordinating Jurisdictional Determinations Conducted Pursuant to Section 404 of the Clean Water Act in Light of the *Rapanos* and *SWANCC* Supreme Court Decisions".[12] The guidance provided in this memorandum is quoted as follows:

> 1. Effective immediately, unless and until paragraph 5(b) of the June 5, 2007, Rapanos guidance coordination memorandum is modified by a joint memorandum from Army and EPA, we will follow these procedures:
>
>   a. For jurisdictional determinations involving significant nexus determinations, USACE districts will send copies of draft jurisdictional delineations via e-mail to appropriate EPA regional offices. The EPA regional office will have 15 calendar days to decide whether to take the draft jurisdictional delineation as a special case under the January 19, 1989, "Memorandum of Agreement Between the Department of the Army and the USEPA Concerning the Determination of the Section 404 Program and the Application of the Exceptions under Section 404(f) of the Clean Water Act." If the EPA regional office does not respond to the district within 15 days, the district will finalize the jurisdictional determination.

[11] USACE. 2008b (June 26). Regulatory Guidance Letter. Jurisdictional Determinations. Washington, D.C.: USACE.

[12] USACE. 2008c (January 28). *Memorandum for Commander, Major Subordinate Commands and District Commands. Process for Coordinating Jurisdictional Determinations Conducted Pursuant to Section 404 of the Clean Water Act in Light of the Rapanos and SWANCC Supreme Court Decisions.* Washington, D.C.: USACE.

b. For jurisdictional determinations involving isolated waters determinations, the agencies will continue to follow the procedure in paragraph 5(b) of June 5, 2007, coordination memorandum, until a new coordination memorandum is signed by USACE and EPA. (In accordance with paragraph 6 of the June 5, 2007, coordination memorandum, this is a 21-day timeline that can only be changed through a joint memorandum between agencies).

2. Approved JDs are not required for non-reporting NWPs, unless the project proponent specifically requests an approved JD. For proposed activities that may qualify for authorization under a State Programmatic General Permit (SPGP) or RGP, an approved JD is not required unless requested by the project proponent.
3. The USACE will continue to work with EPA to resolve the JDs involving significant nexus and isolated waters determinations that are currently in the elevation process.
4. USACE districts will continue posting completed Approved JD Forms on their web pages.

Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California through the regulation of discharges to surface waters under the CWA and the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The RWQCB's jurisdiction extends to all "waters of the State" and to all WOTUS, including wetlands (isolated and non-isolated).

Section 401 of the CWA provides the RWQCB with the authority to regulate, through a Water Quality Certification, any proposed, federally permitted activity that may affect water quality. Among such activities are discharges of dredged or fill material permitted by the USACE pursuant to Section 404 of the CWA. Section 401 requires the RWQCB to provide certification that there is reasonable assurance that an activity which may result in discharge to navigable waters will not violate water quality standards. Water Quality Certification must be based on a finding that the proposed discharge will comply with water quality standards, which contain numeric and narrative objectives that can be found in each of the nine RWQCBs' Basin Plans.

The Porter-Cologne Act provides the State with very broad authority to regulate "waters of the State" (which are defined as any surface water or groundwater, including saline waters). The Porter-Cologne Act has become an important tool in the post-SWANCC (*Solid Waste Agency of Northern Cook Counties vs. United States Army Corps of Engineers*) and Rapanos era with respect to the State's authority over isolated waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file an RWD when there is no federal nexus, such as under Section 404(b)(1) of the CWA. Although "waste" is partially defined as any waste substance associated with human habitation, the RWQCB interprets this to include fill discharge into water bodies.

On August 28, 2019, the Office of Administrative Law (OAL) approved the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to "waters of the State". The procedures became effective on May 28, 2020. Under these new regulations, the SWRCB and its nine RWQCBs will assert jurisdiction over all existing WOTUS and all waters that would have been considered WOTUS under the 2015 Rule. Thus, the WOTUS that would no longer be under USACE jurisdiction would be under SWRCB jurisdiction.

Wetlands

In 2019, the SWRCB adopted rules to provide a common, statewide definition of what constitutes a wetland and to provide consistency in the way they and the RWQCBs regulate activities to protect wetlands and other waterways. The SWRCB defines an area as wetlands "if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation".[13] The following wetlands are waters of the State:

1. Natural wetlands,
2. Wetlands created by modification of a surface water of the State, and
3. Artificial wetlands that meet any of the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other waters of the State, except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b. Specifically identified in a water quality control plan as a wetland or other water of the State;
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
    d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (e.g., the following artificial wetlands are not waters of the State unless they also satisfy the criteria set forth in 2, 3a, or 3b):
        i. Industrial or municipal wastewater treatment or disposal,
        ii. Settling of sediment,
        iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
        iv. Treatment of surface waters,
        v. Agricultural crop irrigation or stock watering,
        vi. Fire suppression,
        vii. Industrial processing or cooling,
        viii. Active surface mining – even if the site is managed for interim wetlands functions and values,
        ix. Log storage,
        x. Treatment, storage, or distribution of recycled water, or
        xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
        xii. Fields flooded for rice growing.

[13] State Water Resources Control Board (SWRCB). 2019 (March 22). State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State.

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not waters of the State.

Section 401 Water Quality Certification

Issuance of the USACE Section 404 Permit would be contingent upon the approval of a Section 401 Water Quality Certification from the RWQCB. Also, the RWQCB requires certification of the project's California Environmental Quality Act (CEQA) documentation before it will approve the Section 401 Water Quality Certification or RWD. The RWQCB, as a responsible agency, will use the project's CEQA document to satisfy its own CEQA-compliance requirements.

Upon acceptance of a complete permit application, the RWQCB has between 60 days and 1 year to make a decision regarding the permit request. This is compliant with USACE regulations, which indicate that the RWQCB has 60 days from the date of receipt of a completed application that requests water quality certification to make a decision.[14] The RWQCB has the option of issuing a "Denial Without Prejudice", which does not mean that the request is denied, but that it requires more information in order to make a decision. This effectively stops the processing clock until this information is provided.

The RWQCB is required under the *California Code of Regulations* (CCR) to have a "minimum 21 day public comment period" before any action can be taken on the Section 401 application.[15] This period closes when the RWQCB acts on the application. Since projects often change or are revised during the Section 401 permit process, the comment period can remain open. The public comment period starts as soon as an application has been received. Generally, the RWQCB Section 401, USACE Section 404, and CDFW Section 1602 permit applications are submitted at the same time. However, the RWQCB Section 401 Water Quality Certification may take longer to process than the other two applications.

The RWQCB requires the Applicant to address urban stormwater runoff during and after construction in the form of BMPs. These BMPs are intended to address the treatment of pollutants carried by stormwater runoff and are required in all complete applications. The notification/application for a CWA Section 401 Water Quality Certification must also address compliance with the Basin Plan. Please note that filing an application would also require the payment of an application fee which would be based on project impacts. The fee schedule calculator is available at http://www.waterboards.ca.gov/santaana/water_issues/programs/401_certification/index.shtml.

National Pollutant Discharge Elimination System/Report of Waste Discharge

If project operation or discharges from a property or business affects California surface, coastal, or groundwater, a Project Applicant may need to obtain a permit to discharge waste from the RWQCB. The discharge of pollutants into surface waters requires filing of a completed federal National Pollutant Discharge Elimination System (NPDES) permit application form with the appropriate RWQCB. For other types of discharges, such as those affecting groundwater or in a diffused manner (e.g., erosion from soil disturbance or waste discharges to land), an RWD must be filed with the RWQCB in order to obtain Waste Discharge Requirements (WDRs). For specific situations, the RWQCB may waive the requirement to obtain a WDR for discharges to land or may determine that a proposed discharge can be permitted more effectively through enrollment in a general NPDES permit or general WDR. WDRs are in effect until a discharge is terminated or until revoked by the RWQCB. NPDES permits expire after five years and must be reissued.

[14] 33 CFR §325.2(b)(1)(ii)
[15] 23 CCR §3858(a)

In order to obtain an NPDES permit, the RWD form (FORM 200) and the appropriate federal NPDES application forms must be filed at least 180 days before beginning the activity. RWQCB staff reviews the application for completeness. Once the application is complete, it is forwarded to the U.S. Environmental Protection Agency (USEPA) within 15 days. The USEPA has 30 days to review the application for completeness and request any additional information. After it is deemed complete, the USEPA has 30 days to forward comments to the RWQCB. The RWQCB then determines if they should issue the NPDES permit or prohibit the discharge. If it is determined that a permit should be issued, the RWQCB prepared a proposed permit and sends it to the USEPA for review. The USEPA has 30 days to object or submit comments, but may request an additional 60 days to review the proposed permit. Following the USEPA's review, the RWQCB prepares a "Notice of Public Hearing" for the Project Applicant, which is also sent to persons and public agencies with known interest in the project. The Project Applicant must publish the notice for one day and submit proof of having complied with the instructions to the RWQCB within 15 days after the posting or publication. The RWQCB holds a public hearing with at least a 30-day public notification. They may then adopt the proposed permit or modify it and adopt if by majority vote. The USEPA has 10 days to object to the adopted permit. The entire RWQCB review and permit issuance process takes approximately six months, but may take longer depending upon the nature of the discharge and public concerns.

In order to obtain WDRs for a project, the RWD form (FORM 200) must be filed at least 120 days before beginning to discharge waste. RWQCB staff reviews the application for completeness. Once the application is complete, RWQCB staff determines whether they should adopt WDRs, prohibit the discharge, or waive the WDRs. If WDRs should be issued, the RWQCB prepares proposed WDRs and distributes them to persons/public agencies with known interest in the project for a minimum 30-day comment period. The RWQCB holds a public hearing with at least a 30-day public notification and may adopt the proposed WDRs or modify and adopt them by majority vote. This process generally takes approximately three months.

California Department of Fish and Wildlife

The CDFW has jurisdictional authority over wetland resources associated with rivers, streams, and lakes pursuant to the *California Fish and Game Code*.[16] Activities of State and local agencies as well as public utilities that are project proponents are regulated by the CDFW under Section 1602 of the *California Fish and Game Code.* This section regulates any work that will (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. Section 1602 of the *California Fish and Game Code* applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State.

The CDFW jurisdictional limits are not as clearly defined by regulation as those of the USACE. While they closely resemble the limits described by USACE regulations, they include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric and saturated soils conditions. In general, the CDFW takes jurisdiction from the top of a stream bank or to the outer limits of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place within or in the vicinity of a river, stream, lake or within or in the vicinity of tributaries to a river, stream, or lake. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish and other aquatic plant and/or wildlife species. It also includes watercourses that have a surface or subsurface flow that support or have supported riparian vegetation.

[16] See §§1600–1616.

Section 1602 Lake or Streambed Alteration Agreement

The CDFW enters into a Lake or Streambed Alteration (LSA) Agreement with a project proponent in order to ensure protection of wildlife and habitat values and acreages.

Prior to construction, a Notification of an LSA must be submitted to the CDFW that describes any proposed lake or streambed alteration that would occur with implementation of a project. The Notification of an LSA must address the initial construction and long-term operation and maintenance of any structures (such as a culvert or a desilting basin) included in the project design that are located within any river, stream, or lake and that may require periodic maintenance. In addition to the formal application materials and the fee, a copy of the appropriate environmental document (e.g., a Mitigated Negative Declaration) should be included in the submittal, consistent with CEQA requirements. The complete notification package must be submitted to the CDFW regional office that services the county where the activity will take place. This notification will serve as the basis for the CDFW's issuance of a Section 1602 LSA Agreement. Note that notification is not required before beginning emergency work, but the CDFW must be notified in writing within 14 days after beginning the work.

After receiving Notification of an LSA Agreement, the CDFW will determine whether an LSA Agreement will be required for the proposed activity. An LSA Agreement will be required if the activity could substantially adversely affect an existing fish and wildlife resource. If an LSA Agreement is required, the CDFW may want to conduct an on-site inspection.

If the CDFW does not respond in writing concerning the completeness of the Notification within 30 days of its submittal, the Notification automatically becomes complete. If the CDFW does not submit a draft LSA Agreement to the Applicant within 60 days of the determination of a completed Notification package, the CDFW will issue a letter that either (1) identifies the final date to transmit a draft LSA Agreement or (2) indicates that an LSA Agreement was not required. The CDFW will also indicate that it was unable to meet this mandated compliance date and that, by law, the Applicant is authorized to complete the project without an LSA Agreement as long as the Applicant constructs the project as proposed and complies with all avoidance, minimization, and mitigation measures described in the submitted Notification package. Please note that, if the project requires revisions to the design or project construction, the CDFW may require submittal of a new Notification/application with an additional 90-day permit process.

If determined to be necessary, the CDFW will prepare a draft LSA Agreement, which will include standard measures to protect fish and wildlife resources during project construction and during ongoing operation and maintenance of any project element that occurs within a CDFW jurisdictional area. The draft Agreement must be transmitted to the Applicant within 60 calendar days of the CDFW's determination that the notification is complete. It should be noted that the 60-day timeframe might not apply to long-range agreements.

Following receipt of a draft LSA Agreement from the CDFW, the Applicant has 30 calendar days to notify the CDFW concerning the acceptability of the proposed terms, conditions, and measures. If the Applicant agrees with these terms, conditions and measures, the Agreement must be signed and returned to the CDFW. The Agreement becomes final once the CDFW executes it and an LSA Agreement is issued. Please note that all application fees must be paid and the final certified CEQA documentation must be provided prior to the CDFW's execution of the Agreement.

ATTACHMENT C

DATASHEETS

Mesa Transect 1

Episodic Stream Indicator Data Sheet					page 1 of 4
Site ID: 3CRC010100	Stream ID: Stream Pt 19				Date: 1/26/17
Nearest Town: California City				County: Kern	
Investigators: ARudalevige, LMessett					
Base Map					
Aerial Photo #:	Date: 2014	Topographic Map Name:			Date:
GPS Data					
GPS Name: Garmin eTrex Vista	Datum: NAD83	Transect Elevation:	Zone 10 / (11)	GPS Error: ± 1 ft / (m)	
GPS co-ords start of transect:		GPS co-ords end of transect:			

Geomorphic Province (✓one)		Mojave	x	Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

	Single thread		Braided		Compound		Distributary		Discontinuous	Other:

Transect was selected to:

X	Document fluvial activity & boundaries		Document channel elevations & boundaries
	Document habitat associations		Document a change in watercourse morphology
	Other:		

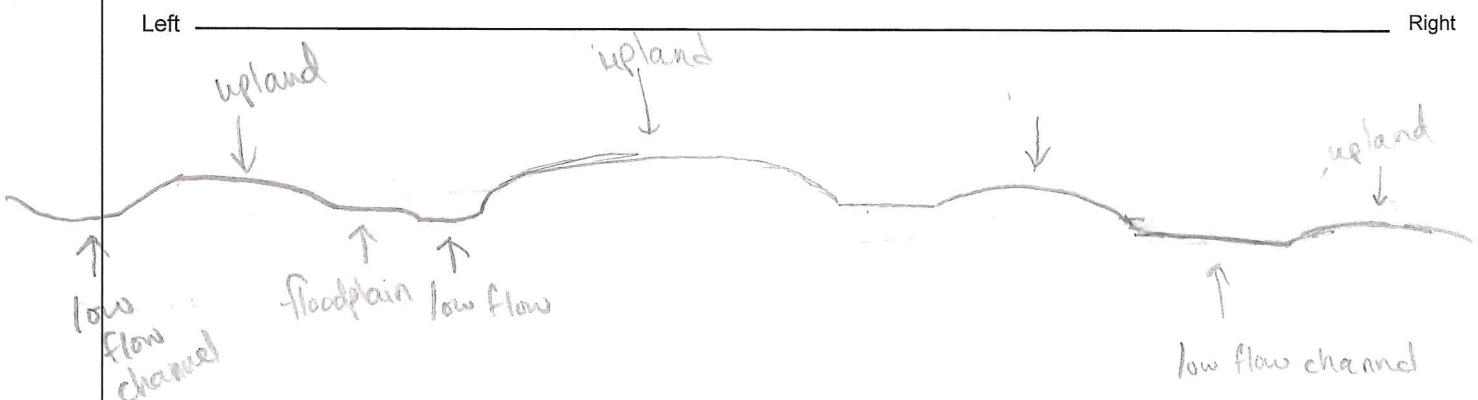
Date of most recent runoff event (if known): 1/23/16 (www.wunderground.com; Mojave, CA)

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Multiple unpaved OHV trails cross the site.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

facing d.s.



Site ID: 3CRC010100	Stream ID: Stream Pt 19	page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

–	Av soil horizon	–	Relict bars & swales
–	Biotic soil crusts	–	Rock fractured in place
+	Bioturbation	–	Rock varnish
–	Caliche: coatings / layers / rubble	+	Rock weathering
–	Carbonate etching	–	Rubified rock undersides
+	Coppice dunes: active / relict	*	Soil development DNR
+	Deflated surface	+	Surface rounding of landform
–	Pavement	+	Woody debris in place
	Other:		

Substrate Particle Size

Estimated percentages

0	% Bedrock / Cemented substrate	
0	% Boulder	≥ 256 mm
1	% Cobble	≥ 64 – 256mm
15	% Pebble	≥ 4 – 64 mm
50	% Granule	≥ 2 – 4 mm
30	% Sand	≤ 2 mm
4	% Silt/Clay	Fines

* = Did not record

Fluvial Indicators

–	Bars: sand / gravel	–	Mud: cracks / curls / drapes	–	Sediment tails: sand / gravel
–	Cut banks	–	Organic drift	–	Vegetation-channel alignment
–	Drainage swales	–	Overturned rocks	–	Water-cut benches
–	Exposed roots	–	Scour	–	Wrack
–	First-order streams	–	Sediment ramps: sand / gravel	–	Wrinkle marks
–	Flow lineations	–	Sediment sorting		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
5	Creosote 90 white bur-sage 10	H 5-6' W 6-8' H 2' W 2'

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences): Vegetative cover so low, difficult to tell.

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences): NO, vegetation fairly homogeneous

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

Creosote & bur-sage widely spaced in uplands, unable to determine differences

Site ID: 3CRC010100	Stream ID: Stream Pt 19	page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

–	Bar forms: sand / gravel	–	Secondary channels
–	Bifurcated flow	–	Sediment plastering
–	Drainage swales	–	Sediment ramps: sand / gravel
–	Flow lineations	–	Sediment sheets: sand / gravel
–	Imbricated gravel	+	Sediment sorting
–	Levee ridges: sand / gravel	–	Sediment tails: sand / gravel
–	Mud: cracks / curls / drapes	–	Vegetation-channel alignments
+	Organic drift	+	Wrack
–	Overturned rocks	–	Wrinkle marks
+	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
–	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages

0	% Bedrock / Cemented substrate	
0	% Boulder	≥ 256 mm
1	% Cobble	≥ 64 – 256 mm
1	% Pebble	≥ 4 – 64 mm
55	% Granule	≥ 2 – 4 mm
43	% Sand	≤ 2 mm
0	% Silt/Clay	Fines

Erosion Indicators

–	Cut banks	–	Rills	+	Water-cut benches
–	Exposed roots	–	Scour	–	Water level mark
–	Headcuts	–	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
<1	N/A	N/A

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences): No shrubs obs in channel, but upland shrubs are widely scattered.

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences): N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences) N/A

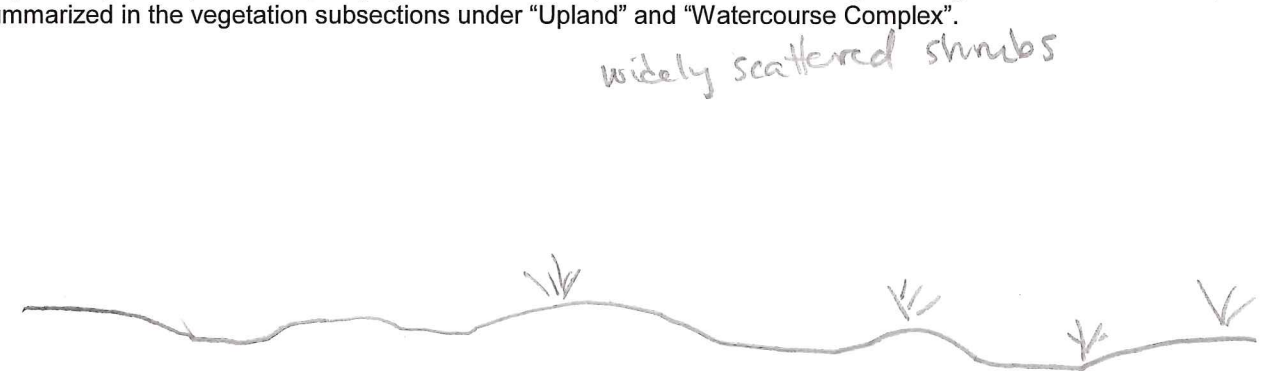
Site ID 3CRC010100	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
156	channel, out of channel flow		
157	" "		
158	channel		
159	close up of drift		
160	upland; bioturbation; coppice dunes		
161	upland		

MESA transect 2

Episodic Stream Indicator Data Sheet					page 1 of 4
Site ID: 3CRC010100	Stream ID:				Date: 1/26/17
Nearest Town: California City			County: Kern		
Investigators: ARudalevige, LMessett					
Base Map					
Aerial Photo #:	Date: 2014	Topographic Map Name:			Date:
GPS Data					
GPS Name: Garmin eTrex Vista	Datum: NAD83	Transect Elevation:	Zone 10 / (11)	GPS Error: ± 1 ft / (m)	
GPS co-ords start of transect:		GPS co-ords end of transect:			

Geomorphic Province (✓one)		Mojave	x	Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

	Single thread		Braided		Compound		Distributary		Discontinuous	Other:

Transect was selected to:

X	Document fluvial activity & boundaries		Document channel elevations & boundaries
	Document habitat associations		Document a change in watercourse morphology
	Other:		

Date of most recent runoff event (if known): 1/23/16 (www.wunderground.com; Mojave, CA)

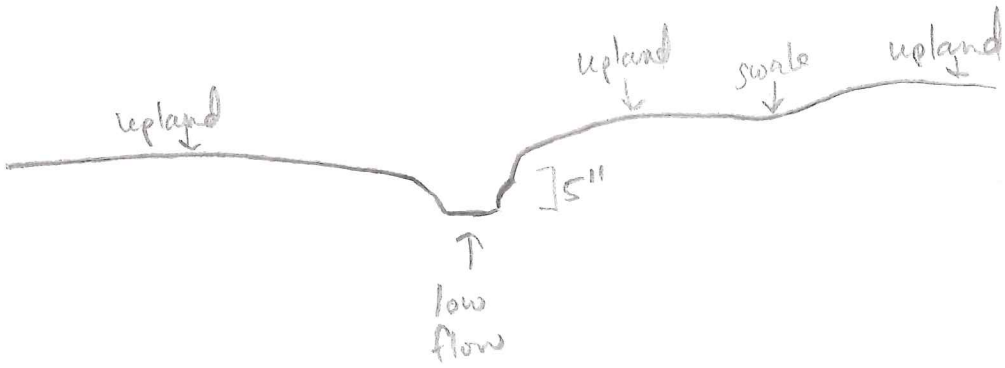
Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Multiple unpaved OHV trails cross the site.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

facing upstream

Left ——— Right



Site ID: 3CRC010100	Stream ID:	page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

–	Av soil horizon	+	Relict bars & swales
–	Biotic soil crusts	–	Rock fractured in place
+	Bioturbation	–	Rock varnish
–	Caliche: coatings / layers / rubble	–	Rock weathering
–	Carbonate etching	–	Rubified rock undersides
+	Coppice dunes: active / relict	*	Soil development
+	Deflated surface	+	Surface rounding of landform
–	Pavement	+	Woody debris in place
	Other:		

Substrate Particle Size

Estimated percentages

0	% Bedrock / Cemented substrate	
–	% Boulder	≥ 256 mm
1	% Cobble	≥ 64 – 256mm
55	% Pebble	≥ 4 – 64 mm
33	% Granule	≥ 2 – 4 mm
2	% Sand	≤ 2 mm
10	% Silt/Clay	Fines

*: did not record

Fluvial Indicators

–	Bars: sand / gravel	–	Mud: cracks / curls / drapes	–	Sediment tails: sand / gravel
–	Cut banks	–	Organic drift	–	Vegetation-channel alignment
+	Drainage swales	–	Overturned rocks	–	Water-cut benches
–	Exposed roots	–	Scour	–	Wrack
–	First-order streams	–	Sediment ramps: sand / gravel	–	Wrinkle marks
–	Flow lineations	–	Sediment sorting		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
5	creosote 90 white bur-sage 10	H 5-6' W 6-8' H 2' W 2'

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences): Vegetative cover low overall

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences): No, vegetation fairly homogeneous

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

Shrubs widely spaced in uplands; cannot determine differences.

Site ID: 3CRC010100	Stream ID:	page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

–	Bar forms: sand / gravel	–	Secondary channels
+	Bifurcated flow	–	Sediment plastering
–	Drainage swales	–	Sediment ramps: sand / gravel
–	Flow lineations	–	Sediment sheets: sand / gravel
–	Imbricated gravel	–	Sediment sorting
–	Levee ridges: sand / gravel	–	Sediment tails: sand / gravel
–	Mud: cracks / curls / drapes	–	Vegetation-channel alignments
–	Organic drift	+	Wrack
–	Overturned rocks	–	Wrinkle marks
+	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
–	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages		
0	% Bedrock / Cemented substrate	
0	% Boulder	≥ 256 mm
1	% Cobble	≥ 64 – 256 mm
2	% Pebble	≥ 4 – 64 mm
20	% Granule	≥ 2 – 4 mm
77	% Sand	≤ 2 mm
0	% Silt/Clay	Fines

Erosion Indicators

–	Cut banks	+	Rills	+	Water-cut benches
+	Exposed roots	+	Scour	–	Water level mark
–	Headcuts	–	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
0	N/A	N/A

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences): No shrubs obs in channel.

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences): N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences) N/A

Site ID 3CRC010100	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION					
—	Algal crusts	—	Sand-filled channels		
—	Beach ridges	—	Springs		
—	Coppice dunes: active / relict	—	Substrate staining		
—	Crusts: carbonate / salt / soda	—	Vegetation-landscape alignments		
—	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".

Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
162	close up of channel, trough		
163	channel facing downstream		
164	close up of exposed roots		
165	channel facing upstream		
166	upland facing upslope		
167	upland facing downslope, burrow		

MESA Transect 3

Episodic Stream Indicator Data Sheet			page 1 of 4
Site ID: 3CRC010100	Stream ID:		Date: 1/26/17
Nearest Town: California City		County: Kern	
Investigators: ARudalevige, LMessett			

Base Map

Aerial Photo #:	Date: 2014	Topographic Map Name:	Date:

GPS Data

GPS Name: Garmin eTrex Vista	Datum: NAD83	Transect Elevation:	Zone 10 / (11)	GPS Error: ± ⌊ ft / (m)
GPS co-ords start of transect:		GPS co-ords end of transect:		

Geomorphic Province (✓one)		Mojave	x	Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

	Single thread		Braided		Compound		Distributary		Discontinuous	Other:

Transect was selected to:

X	Document fluvial activity & boundaries		Document channel elevations & boundaries
	Document habitat associations		Document a change in watercourse morphology
	Other:		

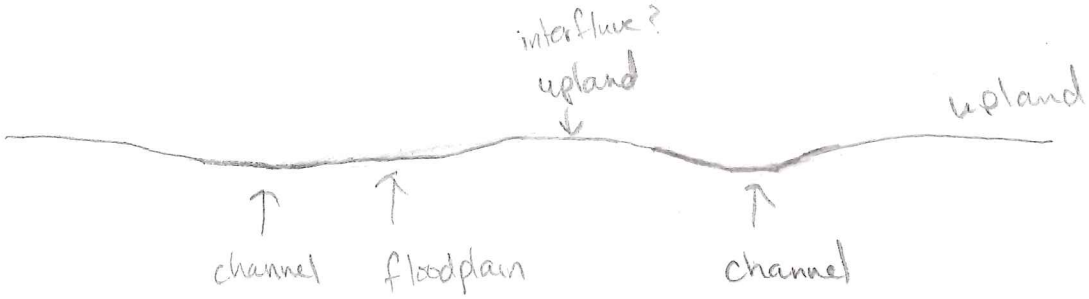
Date of most recent runoff event (if known): 1/23/16 (www.wunderground.com; Mojave, CA)

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Multiple unpaved OHV trails cross the site.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left ——— Right



Site ID: 3CRC010100	Stream ID:	page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon	–	Relict bars & swales	Substrate Particle Size		
				Estimated percentages		
+	Biotic soil crusts	–	Rock fractured in place	0	% Bedrock / Cemented substrate	
+	Bioturbation	–	Rock varnish	0	% Boulder	≥ 256 mm
–	Caliche: coatings / layers / rubble	–	Rock weathering	0	% Cobble	≥ 64 – 256mm
–	Carbonate etching	–	Rubified rock undersides	45	% Pebble	≥ 4 – 64 mm
+	Coppice dunes: active / relict	*	Soil development DNR	50	% Granule	≥ 2 – 4 mm
+	Deflated surface	+	Surface rounding of landform	1	% Sand	≤ 2 mm
+	Pavement	+	Woody debris in place	5	% Silt/Clay	Fines
	Other:					

* = Did not record

Fluvial Indicators

–	Bars: sand / gravel	?	Mud: cracks / curls / drapes	–	Sediment tails: sand / gravel
+	Cut banks	–	Organic drift	–	Vegetation-channel alignment
–	Drainage swales	–	Overturned rocks	–	Water-cut benches
–	Exposed roots	–	Scour	–	Wrack
–	First-order streams	–	Sediment ramps: sand / gravel	–	Wrinkle marks
–	Flow lineations	–	Sediment sorting		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
10%	Creosote 95% White bursage 1%	H 4-6' W 5-8' H 1-2' W 1-2'

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences): No veg obs in watercourse

Veg sparse in upland.

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences): N/A

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

N/A

Site ID: 3CRC010100	Stream ID:	page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

–	Bar forms: sand / gravel	–	Secondary channels
+	Bifurcated flow	–	Sediment plastering
–	Drainage swales	–	Sediment ramps: sand / gravel
–	Flow lineations	–	Sediment sheets: sand / gravel
–	Imbricated gravel	–	Sediment sorting
–	Levee ridges: sand / gravel	–	Sediment tails: sand / gravel
+	Mud: cracks / curls / drapes	–	Vegetation-channel alignments
–	Organic drift	+	Wrack
–	Overturned rocks	–	Wrinkle marks
+	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
–	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages		
0	% Bedrock / Cemented substrate	
0	% Boulder	≥ 256 mm
0	% Cobble	≥ 64 – 256 mm
1	% Pebble	≥ 4 – 64 mm
8	% Granule	≥ 2 – 4 mm
90	% Sand	≤ 2 mm
1	% Silt/Clay	Fines

Erosion Indicators

+	Cut banks	–	Rills	+	Water-cut benches
+	Exposed roots	–	Scour	–	Water level mark
+	Headcuts	–	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
0	N/A	N/A

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences): No shrubs in channel

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences): N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences) N/A

Site ID 3CRC010100	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".

Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
168	close up of headcut 1		
169	close up of headcut 2		
170	watercourse		
171	watercourse possibly bifurcated flow		
172	bifurcated flow		

MESA Transect 4

Episodic Stream Indicator Data Sheet			page 1 of 4
Site ID: 3CRC010100	Stream ID:		Date: 1/26/17
Nearest Town: California City		County: Kern	
Investigators: ARudalevige, LMessett			

Base Map

Aerial Photo #:	Date: 2014	Topographic Map Name:	Date:

GPS Data

GPS Name: Garmin eTrex Vista	Datum: NAD83	Transect Elevation:	Zone 10 / (11)	GPS Error: ± 1 ft / (m)
GPS co-ords start of transect:		GPS co-ords end of transect:		

Geomorphic Province (✓one)		Mojave	x	Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

	Single thread		Braided		Compound		Distributary		Discontinuous	Other:

Transect was selected to:

X	Document fluvial activity & boundaries		Document channel elevations & boundaries
	Document habitat associations		Document a change in watercourse morphology
	Other:		

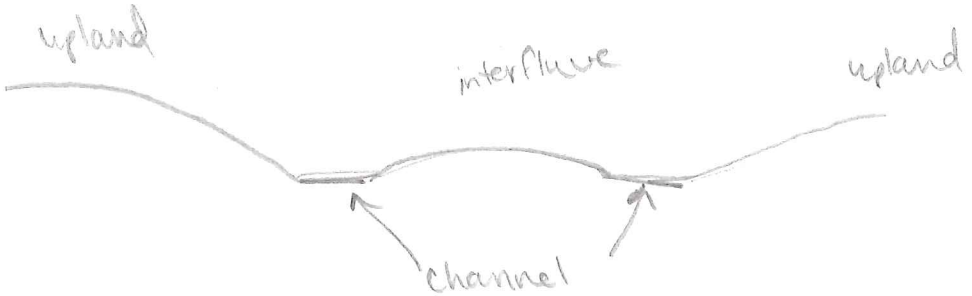
Date of most recent runoff event (if known): 1/23/16 (www.wunderground.com; Mojave, CA)

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Multiple unpaved OHV trails cross the site.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated. facing downstream

Left ——— Right



Site ID: 3CRC010100	Stream ID:	page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

–	Av soil horizon	–	Relict bars & swales	Substrate Particle Size		
–	Biotic soil crusts	+	Rock fractured in place	Estimated percentages		
+	Bioturbation	–	Rock varnish	1	% Bedrock / Cemented substrate	
–	Caliche: coatings / layers / rubble	–	Rock weathering	2	% Boulder	≥ 256 mm
–	Carbonate etching	–	Rubified rock undersides	3	% Cobble	≥ 64 – 256mm
+	Coppice dunes: active / relict	*	Soil development	5	% Pebble	≥ 4 – 64 mm
+	Deflated surface	+	Surface rounding of landform	60	% Granule	≥ 2 – 4 mm
–	Pavement	+	Woody debris in place	27	% Sand	≤ 2 mm
	Other:			2	% Silt/Clay	Fines

* = did not record

Fluvial Indicators

–	Bars: sand / gravel	–	Mud: cracks / curls / drapes	–	Sediment tails: sand / gravel
–	Cut banks	–	Organic drift	–	Vegetation-channel alignment
–	Drainage swales	–	Overturned rocks	–	Water-cut benches
–	Exposed roots	–	Scour	–	Wrack
–	First-order streams	–	Sediment ramps: sand / gravel	–	Wrinkle marks
–	Flow lineations	–	Sediment sorting		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
8%	Creosote 95 white bursage 5	H 4-5' W 4-5 H 1 W 1

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences): Vegetation sparse

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences): N/A

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

N/A

Site ID: 3CRC010100	Stream ID:	page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

–	Bar forms: sand / gravel	–	Secondary channels
–	Bifurcated flow	–	Sediment plastering
–	Drainage swales	–	Sediment ramps: sand / gravel
–	Flow lineations	–	Sediment sheets: sand / gravel
–	Imbricated gravel	–	Sediment sorting
–	Levee ridges: sand / gravel	–	Sediment tails: sand / gravel
–	Mud: cracks / curls / drapes	–	Vegetation-channel alignments
–	Organic drift	+	Wrack
–	Overturned rocks	–	Wrinkle marks
+	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
–	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages		
0	% Bedrock / Cemented substrate	
6	% Boulder	≥ 256 mm
1	% Cobble	≥ 64 – 256 mm
1	% Pebble	≥ 4 – 64 mm
60	% Granule	≥ 2 – 4 mm
38	% Sand	≤ 2 mm
0	% Silt/Clay	Fines

Erosion Indicators

–	Cut banks	–	Rills	+	Water-cut benches
–	Exposed roots	–	Scour	–	Water level mark
–	Headcuts	–	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
0	–	–

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences): No shrubs in channel

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences): N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences) N/A

Site ID 3CRC010100	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION					
	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".

Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
174	watercourse 1		
175	watercourse 2		
176	upland		
177	bioturbation example		

ATTACHMENT D

REPRESENTATIVE PHOTOGRAPHS

Overview of the 215-acre site, taken from the eastern edge facing west.

Representative drainage on the 215-acre site.

Representative view of uplands on the 215-acre site with dirt road.

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Representative Photographs

Attachment D-1

Correctional Facility at California City (CFCC)

PSOMAS

Out of channel flow, an indicator of transportation, deposition, and flow transition observed at MESA transect 1.

Exposed roots, an indicator of fluvial erosion observed at MESA transect 2.

Headcut, an indicator of fluvial erosion observed at MESA transect 3.

Bioturbation and relict coppice dunes, terrestrial indicators observed in uplands at MESA transect 1.

Bioturbation, a terrestrial indicator observed in uplands at MESA transect 3.

Rock fractured in place, a terrestrial indicator observed in uplands in the northern portion of the 215-acre site.

Representative Photographs

Attachment D-2

Correctional Facility at California City (CFCC)

PSOMAS

Utility Alignment Drainage 6.

Utility Alignment Drainage 7.

Utility Alignment Drainage 8.

Utility Alignment Drainage 9.

Utility Alignment Drainage 10.

Utility Alignment Drainage 11.

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Representative Photographs

Correctional Facility at California City (CFCC)

Attachment D-3

PSOMAS

Overview of the 215-acre site, taken from the eastern edge facing west.

Dry basin at the Wastewater Treatment Plant.

Inundated basin at the Wastewater Treatment Plant.

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Representative Photographs

Attachment D-4

Correctional Facility at California City (CFCC)

PSOMAS

ATTACHMENT E

LITERATURE REVIEW DETAILS

This attachment provides detailed results of the literature review.

SOIL SERIES

The description identified below was obtained from the U.S. Department of Agriculture, Natural Resources Conservation Service.[21]

Alko Series

The Alko series is a loamy, mixed, superactive, thermic, shallow Typic Haplodurid. It consists of shallow or very shallow over a duripan, well drained soils that formed in mixed alluvium from ignimbrite, granodiorite and basalt. Alko soils are on fan piedmonts and have slopes that range from 0 to 15 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 65 degrees Fahrenheit (°F).

Range in Characteristics:

The soil moisture is usually dry. It is moist in some part of the moisture control section for 10 to 20 days cumulatively between July and October. Soil temperature ranges from 59°F to 66°F. The depth to duripan is 5 to 20 inches. Reactions are moderately alkaline or strongly alkaline above the duripan and strongly alkaline or very strongly alkaline below the duripan. Some pedons are slightly influenced from gypsum.

The A horizon has a hue of 10YR or 7.5YR. The value is 6 through 8 dry (4 through 7 moist) and commonly 1 unit of value darker than the underlying Bk or Bw horizon. The chroma ranges from 2 to 4. It is strongly or violently effervescent.

The Bk horizon and the Bw horizon (when present) have a hue of 10YR or 7.5YR. The value is 6 through 8 dry (4 through 7 wet). The chroma ranges from 2 to 4. The texture is predominantly sandy loam or coarse sandy loam; some pedons contain thin strata of loam or other textures. The structure is massive or granular. Some pedons have common thin lime coats on undersides of rock fragments. These horizons are strongly or violently effervescent.

The Bqkm horizon is very strongly cemented to indurated.

The 2Bk and 3C horizons have a hue of 10YR or 7.5YR. The value is 6 through 8 dry (4 through 7 moist). The chroma ranges from 2 to 4. Texture below the pan is sand, coarse sand, or loamy fine sand. The structure is massive, subangular blocky, or single grain. Some pedons have common thin lime coats on the undersides of rock fragments. These horizons are strongly or violently effervescent, with less than two percent exchangeable sodium in the lower part of the Bk horizon.

Drainage and Permeability:

Alko soils are well drained; have slow or medium runoff; and have moderately rapid permeability above the duripan.

Cajon Series

The Cajon series is a mixed, thermic Typic Torripsamment. It consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rocks. Cajon soils

[21] U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2017 (Accessed July). Official Soil Series Descriptions (OSDs) [View OSD by Series Name (with best-match feature)] Lincoln, NE: USDA NRCS. http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/soils/survey/class/data/?cid=nrcs142p2_053587.

are on alluvial fans, fan aprons, fan skirts, inset fans and river terraces. Slopes are 0 to 15 percent. The average annual precipitation is about 6 inches and the mean annual temperature is about 65°F.

Range in Characteristics:

The soil moisture is usually dry from mid-March to mid-December and is not continuously moist for up to 90 days in the winter. The soil temperature ranges from 59°F to 72°F and is not usually below 47°F at any time. Rock fragments are mostly gravel size and make up as much as 35 percent, though many pedons have less than 15 percent gravel. There is weak stratification of sandy material in some or all parts. Typically, the soil is slightly effervescent to strongly effervescent throughout, although some pedons are noneffervescent in the A horizon. The soil is typically slightly to moderately alkaline, although some pedons are neutral. Some pedons are strongly alkaline and mildly saline-alkali to strongly saline-alkali. Electrical conductivity ranges up to 16 ds/m and the SAR to 20.

The A horizon is 10YR or 2.5Y with a value between 3 and 6 (moist) or 5 and 7 (dry). The chroma ranges from 2 to 6 (moist and dry). Soil texture is coarse sand, loamy coarse sand, sand, and loamy sand. Some pedons have sandy loam overblown phases. Some pedons have as much as 60 percent gravel within 2 inches.

The C horizon is 10YR or 2.5Y with a value between 3 and 6 (moist) or 5 and 7 (dry). The chroma ranges from 2 to 6 (moist and dry). Soil texture is coarse sand, loamy coarse sand, sand, loamy sand, fine sand, or loamy fine sand (or their gravelly or cobbly equivalents). Some pedons have a sandy loam horizon at a depth of more than 40 inches.

Drainage and Permeability:

Cajon soils are somewhat excessively drained; have negligible to low runoff; and have rapid permeability. Soils with sandy loam surface textures have moderately rapid over rapid permeability. Flooding is none to rare.

Garlock Series

The Garlock series is a fine-loamy, mixed, superactive, thermic Typic Haplargid. It consists of very deep, well drained soils that formed from mixed alluvium. Garlock soils are on old stream terraces and alluvial fans in the Mojave Desert and have slopes of 2 to 9 percent. The mean annual precipitation is about 6 inches, some in the form of snow, and the mean annual air temperature is about 63°F.

Range in Characteristics:

The soil between the depths of 12 and 24 inches is dry from mid-May until the end of November. Mean annual soil temperature is 63°F to 72°F. Reaction ranges from neutral to moderately alkaline throughout. Lime occurs below a depth of 40 inches in some pedons. Clay content in the control section averages 20 to 35 percent.

The A horizon is grayish brown, brown, yellowish brown light yellowish brown or light brown (10YR 5/2, 5/3, 5/4, 5/6, 6/3, 6/4, 6/6; 7.5YR 5/2, 5/4, 6/4). It is sand, coarse sand, loamy sand, coarse sandy loam or sandy loam and has 0 to 15 percent rock fragments by volume. It is usually massive but the surface inch or two has weak platy or fine granular structure in some pedons.

The AB or Bt1 horizon is brown, yellowish brown, strong brown, light yellowish brown or light brown (10YR 5/3, 5/4, 5/6, 6/4, 6/6; 7.5YR 5/2, 5/4, 5/6, 6/4, 6/6). It is coarse sandy loam, sandy

loam, sandy clay loam, gravelly coarse sandy loam, gravelly sandy loam, or gravelly sandy clay loam, and has 12 to 35 percent clay and 0 to 30 percent rock fragments ranging from 2mm to 5mm in diameter.

The Bt2 horizon is brown, yellow, strong brown, or reddish yellow (10YR 5/3, 5/4, 5/6, 6/6, 7/6; 7.5YR 5/2, 5/4, 5/6, 5/8, 6/6, 6/8). It is sandy clay loam or gravelly sandy clay loam and has 22 to 35 percent clay and 0 to 30 percent gravel. A few pedons have thin horizons with 35 to 50 percent clay.

The Bt3 horizon is brown, yellow, yellowish brown, strong brown or reddish yellow (10YR 5/3, 5/4, 5/6, 6/6, 7/6; 7.5YR 5/2, 5/4, 5/6, 5/8, 6/6, 6/8). It is coarse sandy loam, sandy loam or gravelly sandy loam and has 0 to 30 percent gravel by volume.

The C horizon is brown, yellowish brown, brownish yellow, yellow, strong brown, or reddish yellow (10YR 5/3, 5/4, 5/6, 5/8, 6/6, 7/6, 7/8; 7.5YR 5/4, 5/6, 5/8, 6/6, 6/8). It is loamy sand, loamy coarse sand or coarse sand with gravelly and very gravelly equivalents of each and has 0 to 35 percent gravel. Unrelated gravelly and cobbly stratifications and silty substratums occur below depth of 40 inches in some pedons. Rock fragments have lime coatings.

Drainage and Permeability:

Garlock soils are well drained; have low to medium runoff; and have moderately slow over very rapid permeability.

Muroc Series

The Muroc series is a loamy, mixed, superactive, thermic, shallow Typic Haplodurid. It consists of shallow to indurated duripan directly over rock, well drained soils that formed in material weathered from granitic rock. Muroc soils are on hills and granitic rock pediments and have slopes of 2 to 15 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is about 66°F.

Range in Characteristics:

Depth to a duripan is 8 to 20 inches. The duripan overlies granitic rock. The mean soil temperature is 62°F to 72°F and the soil temperature usually is not below 47°F at any time. The soil is usually dry and is not continuously moist for as long as 60 days. Dominant texture throughout the sola is sandy loam or coarse sandy loam. Gravel fragments, less than 10 mm in diameter, are present in volumes up to 15 percent.

The A horizon has colors of 10YR 5/3, 5/4, 6/4, 6/3 dry and 10YR 4/3, 4/4 moist.

The Bqk horizon has colors of 10YR 7/4, 8/1, 8/2, 8/3, 8/4 dry and 10YR 6/2, 6/4, 7/2 moist. In some pedons the duripan occurs as several hard laminar horizontal bands separated by an inch or two of calcareous sandy material. These bands are not continuous. The duripan becomes softer with increasing depth.

The Crkq horizon has colors of 10YR 7/3, 8/2, 8/3 dry and 10YR 6/2, 6/3, 7/2, 7/3 moist, depending on the amount of carbonates present. The amount of carbonate that has accumulated in some pedons is very small, and here the color of the horizon is that of the minerals that make up the weathered granitic rock. In some pedons this horizon contains few to many thin discontinuous laminar layers that are horizontal in orientation. These are spaced several inches apart in the weathered granitic rock. Some of these silica-lime seams extend nearly vertically along cracks in the weathered granitic rock.

Drainage and Permeability:

Muroc soils are well drained, have low to medium runoff, and have moderately rapid permeability in the soil and very slow permeability in the duripan that caps the weathered granite.

Neuralia Series

The Neuralia series is a fine-loamy, mixed, superactive, thermic Typic Haplargid. It consists of very deep, well drained soils formed in alluvium from mixed sources. Neuralia soils are on alluvial fans, fan terraces, and plains and have slopes of 0 to 15 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 60°F.

Range in Characteristics:

Thickness of the solum is 21 to 50 inches. The mean annual soil temperature is 59°F to 65°F. and the difference between mean summer and mean winter soil temperature is 35°F to 45°F. The soil temperature is below 47°F from about December 1 to March 1 and is below 41°F from about January 1 to February 1 in most years. The soil between the depths of 10 and 18 inches is dry throughout for 230 to 260 days from about April 1 to December 15. It is moist throughout for 30 to 50 days from about January 15 to March 1 and is moist in some or all parts for 25 to 35 consecutive days from about March 1 to April 1, when the soil temperature exceeds 47°F. The surface is covered with about 30 to 60 percent fine (2 to 25 mm) gravel. Reaction is neutral to moderately alkaline to a depth of 10 inches and slightly alkaline or moderately alkaline below.

The A horizon color is 10YR 5/2, 5/3, 5/4, 6/3, 6/4, 6/6; or 7.5YR 5/4. Moist color is 10YR 3/2, 3/3, 4/3, 4/4; or 7.5YR 4/4. It is sandy loam, loamy sand, sand or gravelly sand. It has 0 to 30 percent coarse fragments with 0 to 30 percent gravel and 0 to 5 percent cobbles. In most pedons, there is a transitional AB horizon or BA horizon that has colors of 10YR 5/3, 5/4, 6/4; 7.5YR 5/4, or 5/6. Moist color is 10YR 4/3, 4/4; 7.5YR 3/4, 4/4, or 4/6. It is sandy clay loam, sandy loam, or loamy sand. It has 0 to 15 percent coarse fragments with 0 to 15 percent gravel and 0 to 5 percent cobbles.

The Bt horizon color is 10YR 5/3, 5/4, 6/4, 6/6; 7.5YR 5/4, or 5/6. Moist color is 10YR 4/3, 4/4, 4/6, 5/4, 5/6; 7.5YR 4/4, 4/6, 5/4 or 5/6. It is sandy loam, sandy clay loam or gravelly sandy clay loam. It has 0 to 35 percent coarse fragments with 0 to 30 percent gravel and 0 to 10 percent cobbles. In the lower part of the Bt horizon carbonates are disseminated or segregated with many pedons having common, small or medium, irregular soft masses. Calcium carbonate equivalent is 1 to 10 percent.

The BC horizon color is 10YR 5/3, 5/4, 6/4, 6/6, 7/2; or 7.5YR 5/4. Moist color is 10YR 4/3, 4/4, 5/2; 7.5YR 3/4, 4/4 or 5/6. It is sandy clay loam, clay loam, or their gravelly equivalents. It has 0 to 35 percent coarse fragments with 0 to 30 percent gravel and 0 to 10 percent cobbles. Carbonates are disseminated or segregated in soft masses. Calcium carbonate equivalent is 1 to 10 percent. Some pedons do not have a BC horizon.

The C horizon color is 10YR 5/4, 5/6, 6/4, 6/6; 7.5YR 5/4, 6/4, 7/2, or 7/6. Moist color is 10YR 3/4, 4/3, 4/4, 4/6, 4/6; 7.5YR 4/4, 5/2, or 5/6. It is loam, sandy loam, loamy sand, loamy coarse sand, sand or their gravelly, cobbly or very gravelly and very cobbly equivalents. It has 0 to 60 percent rock fragments with 0 to 35 percent gravel, 0 to 40 percent cobbles and 0 to 10 percent stones. Some pedons have strata that are very stony or that are saline-sodic in the substratum. Calcium carbonate equivalent is 1 to 10 percent.

Drainage and Permeability:

Neuralia soils are well drained, have slow and medium runoff, and have moderately slow permeability.

Randsburg Series

The Randsburg series is a loamy, mixed, superactive, calcareous, thermic, shallow Typic Torriorthent. It consists of shallow to soft rock, well drained soils that formed in residuum from granitic rock. Randsburg soils are on hills and granitic rock pediments. Slopes are 2 to 50 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is about 66°F.

Range in Characteristics:

Depth to a paralithic contact is 8 to 20 inches. The mean annual soil temperature is 62°F to 72°F and the soil temperature usually is not below 47°F at any time. The soil is usually dry and is not continuously moist for as long as 60 days.

The A horizon is lOYR 5/3, 5/4, 6/4 dry; 10YR 4/3, 4/4, 5/4 moist. It is sandy loam or coarse sandy loam and fine gravel is present in volumes up to 15 percent. The A1 horizon ranges in structure from weak very fine granular to weak thin platy or it may be massive. The surface of most pedons is paved with fine gravel.

The Bt horizon is lOYR 6/3, 6/4 dry; 10YR 4/3, 4/4 moist. Where this horizon is lacking the A horizon rests directly on the weathered granite.

The Cr horizon is strongly weathered granitic rock that has retained rock structure. This weathered rock will disperse into separate minerals with soaking in water or with soaking and shaking in water. In some pedons sufficient carbonate has not accumulated in the weathered granitic rock to form a Crk horizon. The carbonate occurs in other pedons as thin randomly oriented seams. Some of these small seams have silica as part of the cement, and in some pedons the small discontinuous pieces of duripan are absent.

Drainage and Permeability:

Randsburg soils are well drained, have low to high runoff, and have moderately rapid permeability.

NATIONAL WETLANDS INVENTORY

The following resources are mapped on the Project site: R4SBJ and R4SBJx (see Exhibit 5 in Attachment A). The descriptions for mapped resources are provided below.

- **R: System RIVERINE.** The Riverine System includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts of 0.5 parts per trillion or greater. A channel is an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water.
  - **4: Subsystem INTERMITTENT.** This Subsystem includes channels that contain flowing water only part of the year. When the water is not flowing, it may remain in isolated pools or surface water may be absent.

- **SB: Class STREAMBED.** Includes all wetlands contained within the Intermittent Subsystem of the Riverine System and all channels of the Estuarine System or of the Tidal Subsystem of the Riverine System that are completely dewatered at low tide.
  - **J: Water Regime INTERMITTENTLY FLOODED.** The substrate is usually exposed, but surface water is present for variable periods without detectable seasonal periodicity. Weeks, months, or even years may intervene between periods of inundation. The dominant plant communities under this Water Regime may change as soil moisture conditions change. Some areas exhibiting this Water Regime do not fall within our definition of wetland because they do not have hydric soils or support hydrophytes. This Water Regime is generally limited to the arid West.
    - **x: Special Modifier EXCAVATED.** This modifier is used to identify wetland basins or channels that were excavated by humans.

The following resources are mapped at the WWTP: PUBFx and PUSCx (see Exhibit 5 in Attachment A). The descriptions for mapped resources are provided below.

- **P: System PALUSTRINE.** The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 parts per trillion (ppt). It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2.5 m (8.2 ft) at low water; and (4) salinity due to ocean-derived salts less than 0.5 ppt.
  - **UB: Class UNCONSOLIDATED BOTTOM.** Includes all wetlands and deepwater habitats with at least 25 percent cover of particles smaller than stones (less than 6 to 7 centimeters) and a vegetative cover less than 30 percent.
  - **US: Class UNCONSOLIDATED SHORE.** Includes all wetland habitats having two characteristics: (1) unconsolidated substrates will less than 75 percent areal cover of stones, boulders, or bedrock and (2) less than 30 percent areal cover of vegetation. Landforms such as beaches, bars, and flats are included in the Unconsolidated Shore class.
    - **C: Water Regime SEASONALLY FLOODED.** Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.
    - **F: Water Regime SEMIPERMANENTLY FLOODED.** Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land surface.
      - **x: Special Modifier EXCAVATED.** This modifier is used to identify wetland basins or channels that were excavated by humans.

August 9, 2017

Brad Wiggins
CoreCivic
10 Burton Hills Boulevard
Nashville, Tennessee 37215

VIA EMAIL
Brad.Wiggins@CoreCivic.com

Subject: Results of a Burrowing Owl Survey for the Correctional Development Facility Project in Kern County, California

Dear Mr. Wiggins:

This Letter Report presents the results of focused breeding season surveys for the burrowing owl (*Athene cunicularia*) for CoreCivic's proposed Correctional Development Facility (hereinafter referred to as "the Project") in California City in Kern County, California. The purpose of the survey was to determine the presence or absence of the burrowing owl during its breeding period (i.e., March 1 to August 31) on or immediately adjacent to the 215-acre Project site. The surveys were completed in accordance with guidelines provided in the California Department of Fish and Wildlife's (CDFW) *Staff Report on Burrowing Owl Mitigation* (CDFW 2012).

PROJECT LOCATION AND DESCRIPTION

The Project is located in California City in Kern County, California (Exhibit 1). The main Project area consists of a 215-acre property adjacent to the existing California City Correctional Facility (CCCF). Off-site areas include an approximate ten-mile-long proposed utility alignment, which generally runs from an existing water tank to the north of the Project site, along Twenty Mule Team Parkway and along Mendiburu Road to Yerba Boulevard; it includes connections through the adjacent existing CCCF via Virginia Boulevard, Gordon Boulevard, and 145th Street. These off-site utility improvements are planned to be within the existing road rights-of-way; therefore, the survey included only the 215-acre property.

CoreCivic proposes to construct 2 separate but adjacent, 1-level correctional facilities with a total of 3,024 beds on the Project site. The Project would include a shared administration building and common parking area. The Project site would be improved to include an approximate 159-acre building pad to accommodate the facilities and structures described above; manufactured slopes with ancillary drainage improvements would be located around the perimeter of the building pad. A series of five retention basins would be located along the length of the western site boundary to accommodate surface water runoff from the rest of the site. No improvements are proposed for the City's road rights-of-way located along the northern, southern, or eastern edges of the 215-acre Project site. A new private two-lane road would provide access to the parking lot and the Project Site along the alignment of Gordon Boulevard; it would start from Virginia Boulevard and connect to the northwestern corner of the Project site.

The Project site is located in the Fremont Valley portion of the California Desert Province's Western Mojave subregion. It is located on the U.S. Geological Survey's Galileo Hill 7.5-minute quadrangle (Exhibit 2). Topography on the Project site is generally moderately sloping and undulating. Elevations on the Project site range from approximately 2,700 feet above mean sea level (msl) in the northeast corner to 2,550 feet above msl in the southwest corner. Soils are mapped as Muroc-Randsburg sandy loam, 5 to 9 percent slopes; Neuralia sandy loam, 2 to 5 percent slopes; and Torriorthents-Rock outcrop complex, very deep.

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. The Project site is crossed by a network of small off-highway vehicle (OHV) roads. The existing CCCF is located along the western boundary of the Project site; undeveloped open land and dirt roads are located to the north, east, and south.

Creosote bush–white bursage scrub habitat on the Project site has an open cover co-dominated by creosote bush (*Larrea tridentata*) and white bur-sage (*Ambrosia dumosa*). Individual shrubs are widely spaced, though the density of creosote bush is highest in the eastern half of the Project site. Other species noted in this vegetation type include white rabbitbrush (*Ericameria nauseosa* var. *hololeuca*), narrow-scaled cottonthorn (*Tetradymia stenolepis*), California buckwheat (*Eriogonum fasciculatum*), and silver cholla (*Cylindropuntia echinocarpa*). Common burrobrush (*Ambrosia salsola*), rayless goldenhead (*Acamptopappus sphaerocephalus*), and Cooper's box-thorn (*Lycium cooperi*) occur along the drainages. There is also significant evidence of substantial grazing by domestic sheep (*Ovis aries*). Representative photographs of the vegetation and topography are included in Attachment A.

BACKGROUND

The burrowing owl is a grassland specialist distributed throughout western North America, where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Burrowing owls use a wide variety of arid and semi-arid environments, with well-drained, level to gently sloping areas characterized by sparse vegetation and bare ground (Haug et al. 1993; Dechant et al. 2003). Burrowing owls in Florida excavate their own burrows, but burrowing owls in the western United States depend upon the presence of burrowing mammals whose burrows are used for roosting and nesting (Haug et al. 1993). The presence or absence of colonial mammal burrows (e.g., California ground squirrels [*Otospermophilus beecheyi*]) is often a major factor that limits the presence or absence of burrowing owls. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried and non-functioning drain pipes, stand-pipes, and dry culverts. Burrowing mammals may use burrows beneath rocks; debris; or large, heavy objects such as abandoned cars, concrete blocks, or concrete pads. Large, hard objects at burrow entrances stabilize the entrance from collapse and may inhibit excavation by predators.

Burrowing owls often use "satellite", or non-nesting burrows, moving chicks into them from the nesting burrow, presumably to reduce the risk of predation (Desmond and Savidge 1998) and possibly to avoid nest parasites (Dechant et al. 2003). One pair may use up to ten satellite burrows (James and Seabloom 1968). Individual burrowing owls have a moderate to high site fidelity to previously used burrow complexes and often use the same burrows for nesting year after year (CDFW 2012).

The burrowing owl was once abundant and widely distributed in California, and has declined precipitously. Although a petition was submitted to list the California population of the burrowing owl as an Endangered or Threatened species in 2003 (CBD et al. 2003), the CDFW declined to list the burrowing owl as either Threatened or Endangered in consideration of its overall population throughout the State.

However, the CDFW considers the burrowing owl to be a California Species of Special Concern (CDFW 2017).

SURVEY METHODS

Psomas Senior Biologist Amber Heredia conducted a habitat assessment for burrowing owl during a field visit on November 18, 2016. All habitat on the Project site and along the utility alignments was considered suitable for burrowing owl. This is consistent with the findings of the habitat assessment conducted in May 2016 by Garcia and Associates (GANDA 2016).

The survey area for the current survey effort included the 215-acre Project site only; the utility alignment was not included because anticipated utility improvements are expected to be placed entirely within the existing disturbed footprint of the roadway, thus they would not directly impact burrowing owl habitat.

The focused burrowing owl survey effort discussed in this report was conducted pursuant to the breeding season survey methods in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The CDFW guidelines specify specific time periods in which the four focused crepuscular (i.e., occurring near dawn and dusk) surveys should be conducted during the breeding season: at least one survey between February 15 and April 15 and a minimum of three surveys, at least three weeks apart, between April 15 and July 15, with at least one survey after June 15 (CDFG 2012). The first survey was conducted from March 28–30, 2017 by Psomas Senior Biologists Lindsay Messett, Jonathan Aguayo, and Allison Rudalevige and Psomas Biologist Ian Cain. The second survey was conducted on May 9 and 10, 2017, by Ms. Rudalevige and Psomas Senior Biologists Steve Norton and Steve Morris. The third survey visit was conducted on June 8, 2017, by Ms. Rudalevige, Mr. Norton, Mr. Morris, and Consulting Biologist Debbie Beckett. The fourth survey was conducted on July 11 and 12, 2017, by Ms. Rudalevige, Mr. Norton, and Psomas Senior Biologists Jonathan Feenstra and Irena Mendez. Detailed survey timing, staffing, and weather information are included in Table 1. Biologists walked all suitable habitat (i.e., undeveloped areas) within the Project site in transects spaced 50 feet apart to achieve 100 percent visual coverage. Binoculars were used to survey the areas of suitable habitat adjacent to the Project site. The surveys were generally conducted between morning civil twilight and 10:00 AM, or between two hours before sunset and evening civil twilight. Weather conditions during the surveys ranged from 44 to 99 degrees Fahrenheit with wind speeds no more than 15 miles per hour (mph); surveys were postponed when field conditions were unsuitable (e.g., when winds were greater than 15 mph). Any natural or man-made cavities large enough to allow a burrowing owl to enter were inspected for evidence of occupation and mapped. Evidence of occupation may include prey remains, cast pellets, white wash, feathers, and observations of owls adjacent to burrows. Binoculars were used to inspect holes; crevices; and potential perches such as rocks, fence posts, and other elevated structures for the presence of owls. Any active burrows and/or burrowing owl sightings were mapped on an aerial photograph and recorded with Global Positioning System (GPS) units. All wildlife observed were recorded in field notes and are listed in the species compendium (Attachment B).

TABLE 1
BURROWING OWL SURVEY DETAILS

Survey Number	Date	Surveyor(s)	Survey Time	Weather Conditions		
				Temperature (°F) (Start/End)	Wind (mph) (Start/End)	Cloud Cover (%) (Start/ End)
Crepuscular Survey 1	March 28	Aguayo, Messett	5:00 PM–7:40 PM	73/66	0–2/0–6	0/0
	March 29	Aguayo, Messett	6:30 AM–10:20 AM	44/56	0–4/0–3	0/0
	March 29	Aguayo, Messett	5:15 PM–7:50 PM	77/65	0–4/0–6	0/0
	March 30	Aguayo, Messett, Rudalevige, Cain	6:25 AM–10:30 AM	57/63	0–2/0–12	0/0
Crepuscular Survey 2	May 9	Rudalevige, Norton, Morris	5:45 PM–8:17 PM	75/66	4–11/3–10	45/1
	May 10	Rudalevige, Norton, Morris	5:37 AM–9:45 AM	50/78	4–6/2–6	5/5
	May 10	Rudalevige, Norton, Morris	5:45 PM–7:15 PM	74/67	5–10/3–8	0/0
Crepuscular Survey 3	June 8	Rudalevige, Norton, Morris, Beckett	5:20 AM–10:03 AM	62/88	3/0.5	20/40
	June 8	Rudalevige, Norton, Morris, Beckett	6:04 PM–7:02 PM	84/82	6–12/6–11	10/8
Crepuscular Survey 4	July 11	Rudalevige, Norton, Feenstra, Mendez	6:07 PM–8:20 PM	99/85	4–8/9–15	1/2
	July 12	Rudalevige, Norton, Feenstra, Mendez	5:45 AM–8:30 AM	75/84	1/0–2	0/0

°F: degrees Fahrenheit; mph: miles per hour.

It should be noted that a mapping error was discovered in late May 2017; the Project boundary used for the 2016 surveys by Garcia and Associates (GANDA 2016) and the first two visits of the current survey were slightly shifted approximately 100 feet to the north and 120 feet to the west. Once the maps were corrected, it was discovered that an approximate 15-acre area was not surveyed for burrowing owl during the first and second survey visits; however, the area was covered thoroughly during the third and fourth survey visits (Exhibit 3). Had burrowing owl occupied this area, it is expected that they would have been detected during these later survey visits. Additionally, because burrowing owl move (making them more detectable), and part of the protocol is to scan the horizon for owls, it is assumed that if they occurred in this area, they could have been detected during the first and second visits even though it was slightly outside of the area covered by transects. Thus, the boundary shift is not expected to have affected the results of the burrowing owl survey.

SURVEY RESULTS

Numerous burrows dug by California ground squirrels, desert kit foxes (*Vulpes macrotis arsipus*), and other species occur on the Project site and can serve as potentially suitable burrowing owl burrows (Exhibit 3).

Burrowing owl was observed in the central portion of Project site on the final survey on July 12, 2017 (Exhibit 3). Because the owl had not been observed on any of the previous visits and due to the timing of the observation in the season, it is believed that this owl either occupied a burrow off site and was foraging on the Project site or was a young bird that was dispersing.

One burrow complex in the southeastern portion of the Project site had burrowing owl sign at its entrance (Exhibit 3, Attachment A). The sign consisted of approximately eight owl pellets that were greater than six months old; no new owl sign was observed at this burrow complex during the course of the surveys. Therefore, it is believed that this burrow complex was likely occupied during the winter season.

A few desert tortoise (*Gopherus agassizii*) burrows were incidentally observed during the survey. The burrows were classified as Class 2 (good condition, definitely tortoise, no evidence of recent use). No desert tortoise individuals or sign of recent use were observed during the current surveys; however, they were observed during the 2016 biological surveys conducted by GANDA (2016). A CDFW California Natural Diversity Database (CNDDB) form was completed to document the burrows observed during the current survey (Attachment C).

Other special status wildlife species were also observed during the focused surveys, including loggerhead shrike (*Lanius ludovicianus*), LeConte's thrasher (*Toxostoma lecontei*), and Swainson's hawk (*Buteo swainsoni*). The loggerhead shrike and LeConte's thrasher were observed on the Project site. The Swainson's hawk was observed flying over northeast of the Project site on two consecutive survey days (Exhibit 3). CNDDB forms for these observations are included in Attachment C.

A special status plant species, Mojave spineflower (*Chorizanthe spinosa*), was incidentally observed during the survey on May 10, 2017. Three individuals were observed near the southern edge of the Project site (Exhibit 3). Details of this observation are discussed in the Project's special status plant survey report (Psomas 2017).

A complete list of all wildlife species observed during the surveys is provided in Attachment B.

CONCLUSIONS

Suitable habitat for burrowing owl occurs throughout the Project site. Although no burrowing owls nested on the Project site in 2017, one burrowing owl was observed foraging on the Project site and sign of winter occupation was observed. Therefore, burrowing owl is expected to occur on the Project site in the future during both the breeding season and wintering season. Appropriate avoidance and minimization measures will be included in the Project Biological Technical Report.

A pre-construction burrowing owl survey would be required within 14 days prior to any ground disturbance (CDFG 2012). Pre-construction surveys for burrowing owl can be conducted year-round. If an active burrow is observed during pre-construction surveys during the non-breeding season (i.e., September 1–February 28), a qualified Biologist can close the burrow following CDFW-approved burrow closing procedures (CDFG 2012). If an active burrow is observed during pre-construction surveys during the breeding season (i.e., March 1–August 31), a protective buffer will be established around the active

burrow until nesting activity has ended to ensure compliance with Section 3503.5 of the *California Fish and Game Code*.

Psomas appreciates the opportunity to assist on this project. If you have any comments or questions, please call Amber Heredia at (714) 751-7373.

Sincerely,
PSOMAS

Amber O. Heredia
Senior Project Manager, Natural Resources

Enclosures: Exhibits 1–3
Attachment A – Site Photographs
Attachment B – Wildlife Compendium
Attachment C – CNDDB Forms

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REFERENCES

California Department of Fish and Wildlife (CDFW). 2017 (July). *Special Animals.* Sacramento, CA: CDFW, Natural Heritage Division.

———. 2012 (March 7). *Staff Report on Burrowing Owl Mitigation*. Sacramento, CA: CDFW.

Center for Biological Diversity, Defenders of Wildlife, California State Park Rangers Association, Santa Clara Valley Audubon Society, San Bernardino Valley Audubon Society, and Tri-county Conservation League (CBD et al.). 2003. *Petition to the State of California Fish and Game Commission and Supporting Information for Listing the California Population of the Western Burrowing Owl (Athene cunicularia hypugaea) as an Endangered or Threatened Species under the California Endangered Species Act.* Oakland, CA: CBD et al. http://www.biologicaldiversity.org/swcbd/species/b-owl/petition.pdf.

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Garcia and Associates (GANDA). 2016 (October 19). *Biological Resources Technical Report Corrections Corporation of America (CCA) California City – 215-acre Site*. Auburn, CA: GANDA.

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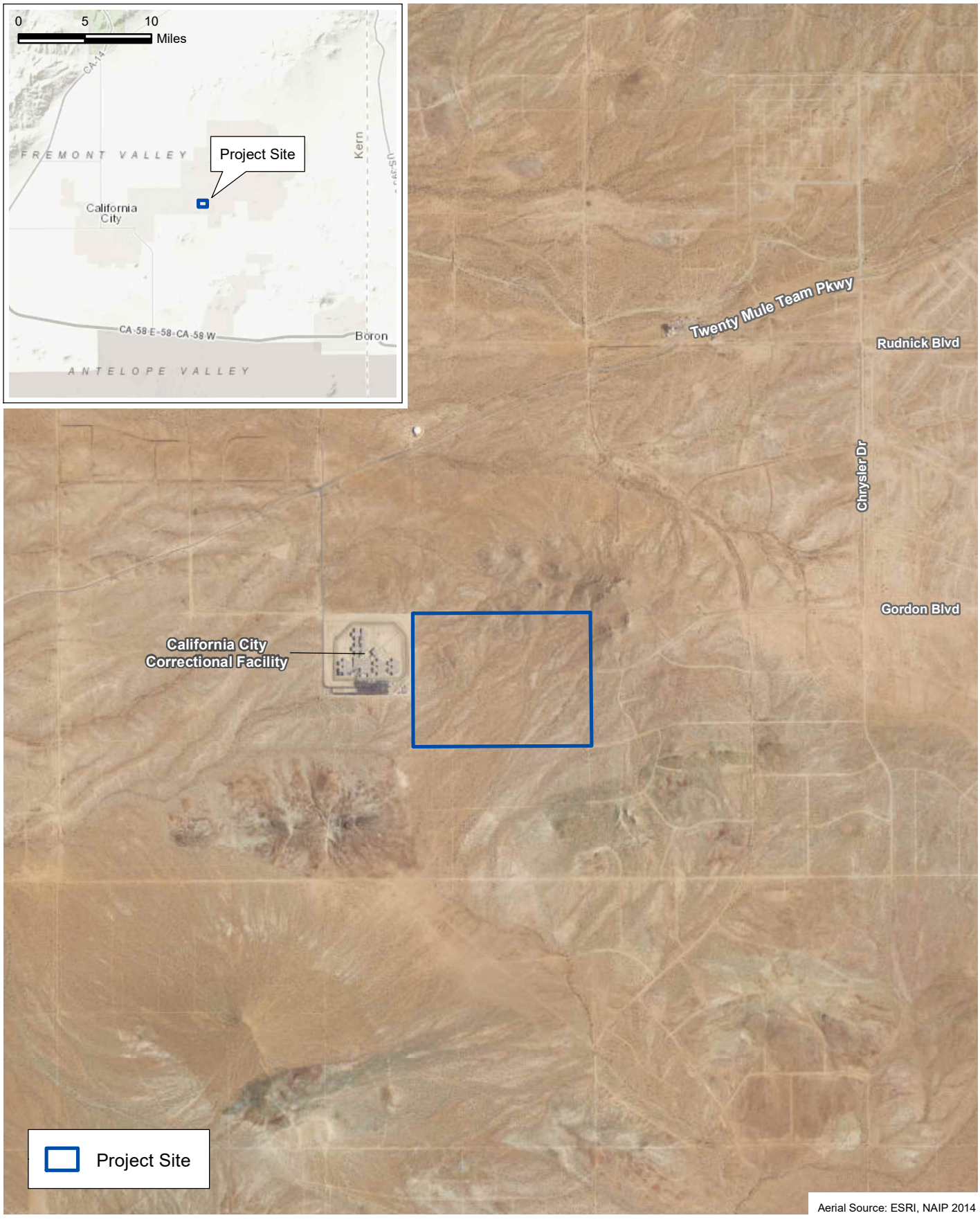
Psomas. 2017 (August 9). *Results of Special Status Plant Surveys for the Correctional Development Facility Project in Kern County, California*. Santa Ana, CA.



Aerial Source: ESRI, NAIP 2014

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Project Location

Exhibit 1

Correctional Development Facility Project

N W E S

0.5 0.25 0 0.5 Miles

PSOMAS

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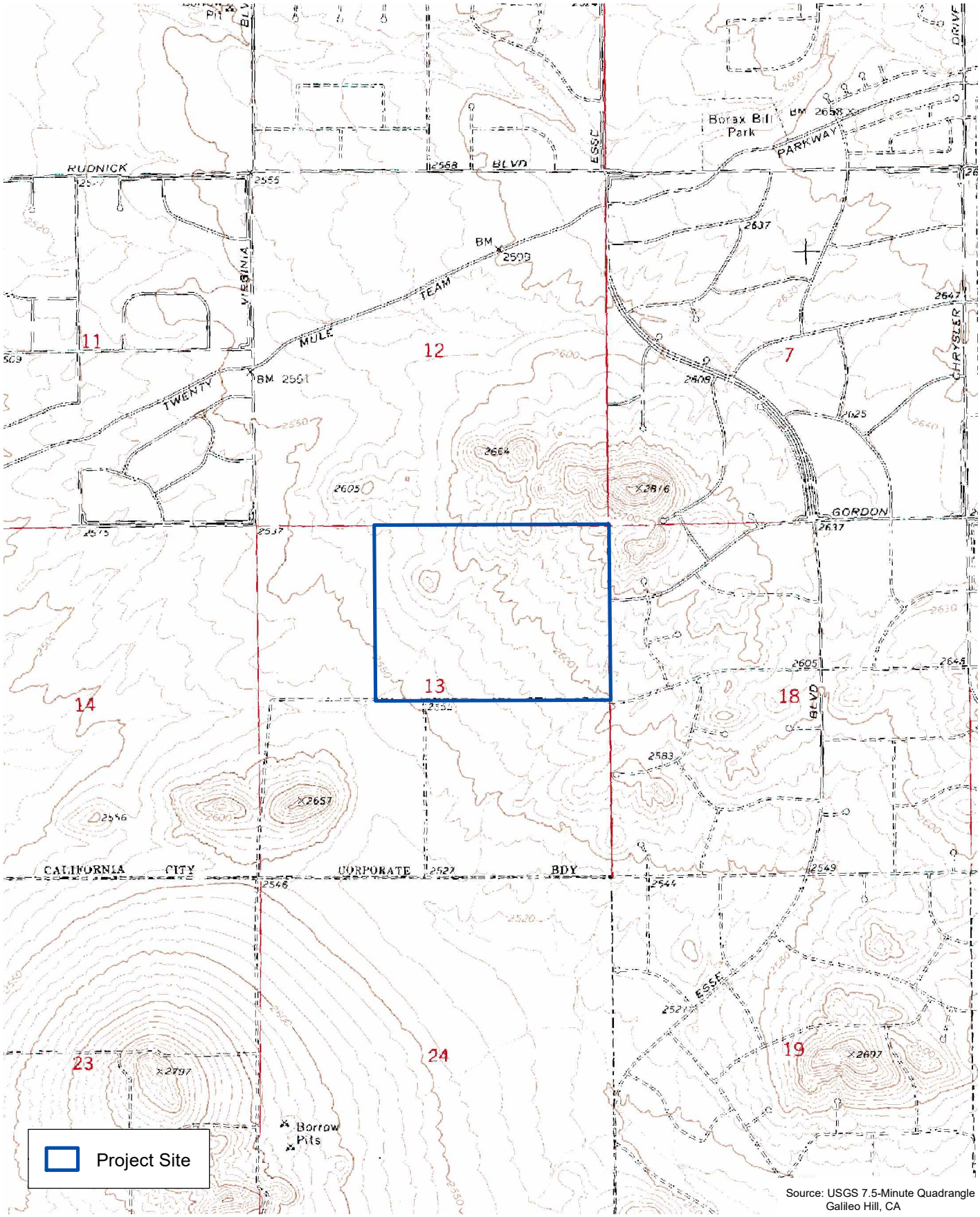

Source: USGS 7.5-Minute Quadrangle
Galileo Hill, CA

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USGS 7.5-Minute Digital Quadrangle

Exhibit 2

Correctional Development Facility Project

N W E S

2,000 1,000 0 2,000 Feet

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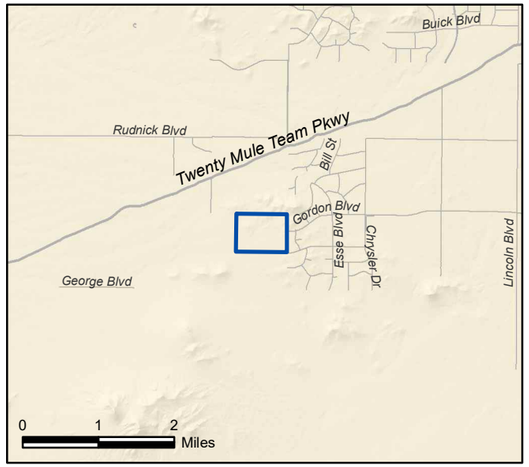

Project Site

Boundary Shift Area*

Survey Results

- Approximate burrowing owl location
- Burrowing Owl Sign
- Potentially Suitable Burrow
- Inactive Desert Tortoise Burrow
- Mojave spineflower
- Swainson's hawk

*Area not surveyed during the first and second survey due to a mapping error; thoroughly surveyed during the third and fourth survey.

N
W
E
S

400 200 0 400
Feet

Aerial Source: ESRI, NAIP 2014

Survey Results

Exhibit 3

Correctional Development Facility Project

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ATTACHMENT A

SITE PHOTOGRAPHS

Photo 1: View of the western portion of the Project site facing west. The existing California City Correctional Facility is visible in the background.

Photo 2: View of central portion of the Project site facing south. The topography and vegetation shown is typical throughout the Project site.

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Site Photographs

Attachment A-1

Correctional Development Facility Project

PSOMAS

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ATTACHMENT B

WILDLIFE COMPENDIUM

WILDLIFE OBSERVED DURING SURVEYS

Species	
Scientific Name	**Common Name**
TURTLES	
TESTUDINIDAE - TORTOISES	
Gopherus agassizii	Mohave desert tortoise
LIZARDS	
IGUANIDAE - IGUANID LIZARD FAMILY	
Gambelia wislizenii	long-nosed leopard lizard
PHRYNOSOMATIDAE - SPINY LIZARD FAMILY	
Phrynosoma platyrhinos	desert horned lizard
Uta stansburiana	common side-blotched lizard
TEIIDAE - WHIPTAIL LIZARD FAMILY	
Aspidoscelis tigris tigris	Great Basin whiptail
SNAKES	
COLUBRIDAE - COLUBRID SNAKE FAMILY	
Rhinocheilus lecontei	long-nosed snake
VIPERIDAE - VIPER AND PITVIPER FAMILY	
Crotalus scutulatus scutulatus	Northern Mohave rattlesnake
BIRDS	
COLUMBIDAE - PIGEON AND DOVE FAMILY	
Zenaida macroura	mourning dove
CAPRIMULGIDAE - NIGHTJAR FAMILY	
Chordeiles acutipennis	lesser nighthawk
APODIDAE - SWIFT FAMILY	
Aeronautes saxatalis	white-throated swift
CATHARTIDAE - NEW WORLD VULTURE FAMILY	
Cathartes aura	turkey vulture
PANDIONIDAE - OSPREY FAMILY	
Pandion haliaetus	osprey
ACCIPITRIDAE - HAWK FAMILY	
Buteo swainsoni	Swainson's hawk
Buteo jamaicensis	red-tailed hawk
STRIGIDAE - TYPICAL OWL FAMILY	
Athene cunicularia	burrowing owl
FALCONIDAE - FALCON FAMILY	
Falco columbarius	merlin
TYRANNIDAE - TYRANT FLYCATCHER FAMILY	
Sayornis saya	Say's phoebe
LANIIDAE - SHRIKE FAMILY	
Lanius ludovicianus	loggerhead shrike
CORVIDAE - JAY AND CROW FAMILY	
Corvus corax	common raven
ALAUDIDAE - LARK FAMILY	
Eremophila alpestris	horned lark
REMIZIDAE - PENDULINE TIT AND VERDIN FAMILY	
Auriparus flaviceps	verdin

WILDLIFE OBSERVED DURING SURVEYS

Species	
Scientific Name	**Common Name**
TROGLODYTIDAE - WREN FAMILY	
Salpinctes obsoletus	rock wren
REGULIDAE - KINGLET FAMILY	
Regulus calendula	ruby-crowned kinglet
MIMIDAE - MOCKINGBIRD AND THRASHER FAMILY	
Toxostoma lecontei	Le Conte's thrasher
STURNIDAE - STARLING FAMILY	
*Sturnus vulgaris**	European starling*
PASSERIDAE - OLD WORLD SPARROW FAMILY	
*Passer domesticus**	house sparrow*
FRINGILLIDAE - FINCH FAMILY	
Haemorhous mexicanus	house finch
EMBERIZIDAE - SPARROW FAMILY	
Spizella passerina	chipping sparrow
Spizella breweri	Brewer's sparrow
Amphispiza bilineata	black-throated sparrow
Artemisiospiza belli	Bell's sparrow
Zonotrichia leucophrys	white-crowned sparrow
MAMMALS	
SCIURIDAE - SQUIRREL FAMILY	
Ammospermophilus leucurus	white-tailed antelope squirrel
Otospermophilus beecheyi	California ground squirrel
LEPORIDAE - HARE AND RABBIT FAMILY	
Lepus californicus	black-tailed jackrabbit
Sylvilagus audubonii	desert cottontail
CANIDAE - CANID FAMILY	
Vulpes macrotis arsipus	desert kit fox
BOVIDAE - BOVID FAMILY	
*Ovis aries**	European mouflon sheep
* non-native species	

ATTACHMENT C

CNDDB FORMS

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 07/12/2017

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Athene cinicularia*

Common Name: burrowing owl

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ( ) Yes (●) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☒ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Steve Norton
Address: 3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707
E-mail Address: Steve.Norton@psomas.com
Phone: 714-751-7373

Plant Information

Phenology:

_____ % vegetative _____ % flowering _____ % fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr: _____

Quad Name: Galileo Hill Elevation: 2,600 feet

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): GPS

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: Garmin, unk model

DATUM: **NAD27** ( ) **NAD83** ( ) **WGS84** ( ) Horizontal Accuracy: 10 meters meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 (●) ***OR*** Geographic (Latitude & Longitude) ( )

Coordinates: Owl observation: 422753, 3890372; owl pellets (>6 months old): 422979, 3889956

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. Topography on the Project site is generally moderately sloping and undulating.One owl was flushed from the vegetation on July 12, 2017; it had not been observed during previous visits.
Approx 8 owl pellets greater than 6 months old were observed at a burrow during the first focused survey visit. No newer sign and no burrowing owl were observed using the burrow complex during the focused surveys.

Please fill out separate form for other rare taxa seen at this site. loggerhead shrike, LeConte's thrasher, Swainson's hawk, desert tortoise

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: Open space in all directions except the California City Correctional Facility to the west

Visible disturbances: numerous OHV roads crossing the site and evidence of sheep grazing throughout area

Threats: Development

Comments: Survey was conducted on a rectangular property of 215-acre immediately adjacent to the California City Correctional Facility.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: Surveyor's familiarity with the species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☒
Habitat	☐	☐	☒
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? (●) yes ( ) no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 05/09/2017

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Buteo swainsoni*

Common Name: Swainson's hawk

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? (●) Yes ( ) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # [X] No [ ] Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Steve Norton
Address: 3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707
E-mail Address: Steve.Norton@Psomas.com
Phone: 714-751-7373

Plant Information

Phenology:

_____ % vegetative _____ % flowering _____ % fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

[ ] wintering [ ] breeding [ ] nesting [ ] rookery [ ] burrow site [ ] lek [ ] other

Location Description *(please attach map AND/OR fill out your choice of coordinates, below)*

County: Kern Landowner / Mgr: _____

Quad Name: Galileo Hill Elevation: 2,800 feet

T____ R____ Sec____, ____¼ of ____ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): Google earth

T____ R____ Sec____, ____¼ of ____ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: _____

DATUM: **NAD27** ( ) **NAD83** ( ) **WGS84** ( ) Horizontal Accuracy: _____ meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 (●) ***OR*** Geographic (Latitude & Longitude) ( )

Coordinates: 423322, 3890791

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. Topography on the Project site is generally moderately sloping and undulating.

Circling over adjacent peak in the evenings on two consecutive evening surveys.

Please fill out separate form for other rare taxa seen at this site. burrowing owl, loggerhead shrike, LeConte's thrasher, desert tortoise

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: Open space in all directions except the California City Correctional Facility to the west

Visible disturbances: numerous OHV roads crossing the site and evidence of sheep grazing throughout area

Threats: Development

Comments: Survey was conducted on a rectangular property of 215-acre immediately adjacent to the California City Correctional Facility.

Determination: *(check one or more, and fill in blanks)*

- [ ] Keyed (cite reference): _____
- [ ] Compared with specimen housed at: _____
- [ ] Compared with photo / drawing in: _____
- [ ] By another person (name): _____
- [X] Other: Surveyor's knowledge

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	[ ]	[ ]	[ ]
Habitat	[ ]	[ ]	[X]
Diagnostic feature	[ ]	[ ]	[ ]

May we obtain duplicates at our expense? (●) yes ( ) no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 07/11/2017

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Toxostoma lecontei*

Common Name: LeConte's thrasher

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ( ) Yes (●) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☒ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Steve Norton
Address: 3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707
E-mail Address: steve.norton@psomas.com
Phone: 714-751-7373

Plant Information

Phenology:

_____ % vegetative _____ % flowering _____ % fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr: _____

Quad Name: Galileo Hill Elevation: 2,600 feet

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): Google Earth

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: _____

DATUM: **NAD27** ( ) **NAD83** ( ) **WGS84** ( ) Horizontal Accuracy: 1,200 feet meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 (●) ***OR*** Geographic (Latitude & Longitude) ( )

Coordinates: Heard individual at this location: 422788, 3890365

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. Topography on the Project site is generally moderately sloping and undulating.

Species observed calling.

Please fill out separate form for other rare taxa seen at this site. loggerhead shrike, burrowing owl, Swainson's hawk, desert tortoise

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: Open space in all directions except the California City Correctional Facility to the west

Visible disturbances: numerous OHV roads crossing the site and evidence of sheep grazing throughout area

Threats: Development

Comments: Survey was conducted on a rectangular property of 215-acre immediately adjacent to the California City Correctional Facility.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: Surveyor's knowledge

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☒
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? (●) yes ( ) no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 07/11/2017

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Lanius ludovicianus*

Common Name: loggerhead shrike

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ( ) Yes (●) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☒ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Steve Norton
Address: 3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707
E-mail Address: steve.norton@psomas.com
Phone: 714-751-7373

Plant Information

Phenology:

_____ % vegetative _____ % flowering _____ % fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr: _____

Quad Name: Galileo Hill Elevation: 2,600 feet

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): GPS

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: Garmin, unk model

DATUM: **NAD27** ( ) **NAD83** ( ) **WGS84** ( ) Horizontal Accuracy: 10 meters meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 (●) ***OR*** Geographic (Latitude & Longitude) ( )

Coordinates: Heard individual south of this location: 422331, 3890295

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. Topography on the Project site is generally moderately sloping and undulating.Species observed foraging onsite.

Please fill out separate form for other rare taxa seen at this site. LeConte's thrasher, burrowing owl, Swainson's hawk, desert tortoise

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: Open space in all directions except the California City Correctional Facility to the west

Visible disturbances: numerous OHV roads crossing the site and evidence of sheep grazing throughout area

Threats: Development

Comments: Survey was conducted on a rectangular property of 215-acre immediately adjacent to the California City Correctional Facility.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: Surveyor's knowledge

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☒
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? (●) yes ( ) no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 05/09/2017

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Species Found? ○ Yes ◉ No — Sign only; presence assumed (If not found, why?)

Total No. Individuals: 0 Subsequent Visit? ○ Yes ◉ No

Is this an existing NDDB occurrence? _____ (Yes, Occ. #) ☐ No ☒ Unk.

Collection? If yes: _____ (Number) _____ (Museum / Herbarium)

Reporter: Steve Norton
Address: 3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707
E-mail Address: Steve.Norton@Psomas.com
Phone: 714-751-7373

Plant Information

Phenology:

_____ % vegetative _____ % flowering _____ % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description *(please attach map AND/OR fill out your choice of coordinates, below)*

County: Kern Landowner / Mgr: _____

Quad Name: Galileo Hill Elevation: 2,600 feet

T____ R____ Sec____, ____¼ of ____ ¼, Meridian: H ○ M ○ S ○ Source of Coordinates (GPS, topo. map & type): GPS

T____ R____ Sec____, ____¼ of ____ ¼, Meridian: H ○ M ○ S ○ GPS Make & Model: Garmin, unk model

DATUM: **NAD27** ○ **NAD83** ○ **WGS84** ○ Horizontal Accuracy: 3 meters meters/feet

Coordinate System: UTM Zone 10 ○ UTM Zone 11 ◉ ***OR*** Geographic (Latitude & Longitude) ○

Coordinates: Class 2 burrows: 422788, 3890332; 422870, 3890275; 422892, 3890483; 423013, 3889856; 422869, 3890276

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. Topography on the Project site is generally moderately sloping and undulating. Burrows: class 2 (good condition, definietly tortoise, no evidence of recent use) burrows located across the survey area.

Please fill out separate form for other rare taxa seen at this site. Loggerhead shrike, LeConte's thrasher, burrowing owl, Swainson's hawk

Site Information

Overall site/occurrence quality/viability (site + population): ○ Excellent ◉ Good ○ Fair ○ Poor

Immediate AND surrounding land use: Open space in all directions except the California City Correctional Facility to the west

Visible disturbances: numerous OHV roads crossing the site and evidence of sheep grazing throughout area

Threats: Development

Comments: Survey was conducted on a rectangular property of 215-acre immediately adjacent to the California City Correctional Facility.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: Surveyor's knowledge

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☒
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ◉ yes ○ no

Biological Technical Report

for the Correctional Facility at California City, Kern County, California

Prepared for

Corrections Corporation of America
10 Burton Hills Boulevard
Nashville, Tennessee 37215
Contact: Brad Wiggins
Senior Director, Site Acquisition and Development

Prepared by

Psomas
5 Hutton Centre Drive, Suite 300
Santa Ana, California 92707
T: 714.751.7373
Contact: Amber Heredia
Senior Project Manager, Resource Management

December 2020

TABLE OF CONTENTS

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TABLES

EXHIBITS

APPENDICES

1.0 INTRODUCTION

This Biological Technical Report has been prepared to support California Environmental Quality Act (CEQA) documentation for CoreCivic's Correctional Facility at California City (CFCC) (hereinafter referred to as "the Project") and associated utility alignment and Wastewater Treatment Plant (WWTP) described below. This information has been reported in accordance with accepted scientific and technical standards that are consistent with the requirements of the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW).

1.1 PROJECT LOCATION

The Project site and associated utility alignment and WWTP are located in California City in Kern County, California (Exhibit 1). The Project site consists of a 216.53-acre property adjacent to the existing California City Correctional Center (CCCC). The existing CCCC is located along the western boundary of the Project site; undeveloped open space and dirt roads are located to the north, east, and south.

An approximate 10.8-mile-long utility alignment ("utility alignment") runs generally from an existing water tank to the north of the Project site, along Twenty Mule Team Parkway, Randsburg Mojave Road, and California City Boulevard to Yerba Boulevard; it includes connections through the adjacent CCCC property via Virginia Boulevard, Gordon Boulevard, and 145th Street. The eastern half of the utility alignment is surrounded by undeveloped open space, while a mix of vacant lots, residential development, commercial development, and a community park occur along the western half.

The WWTP is located on Nelson Drive at the northeastern section of the City's central core. Undeveloped open space is located to the north and residential development is located to the south.

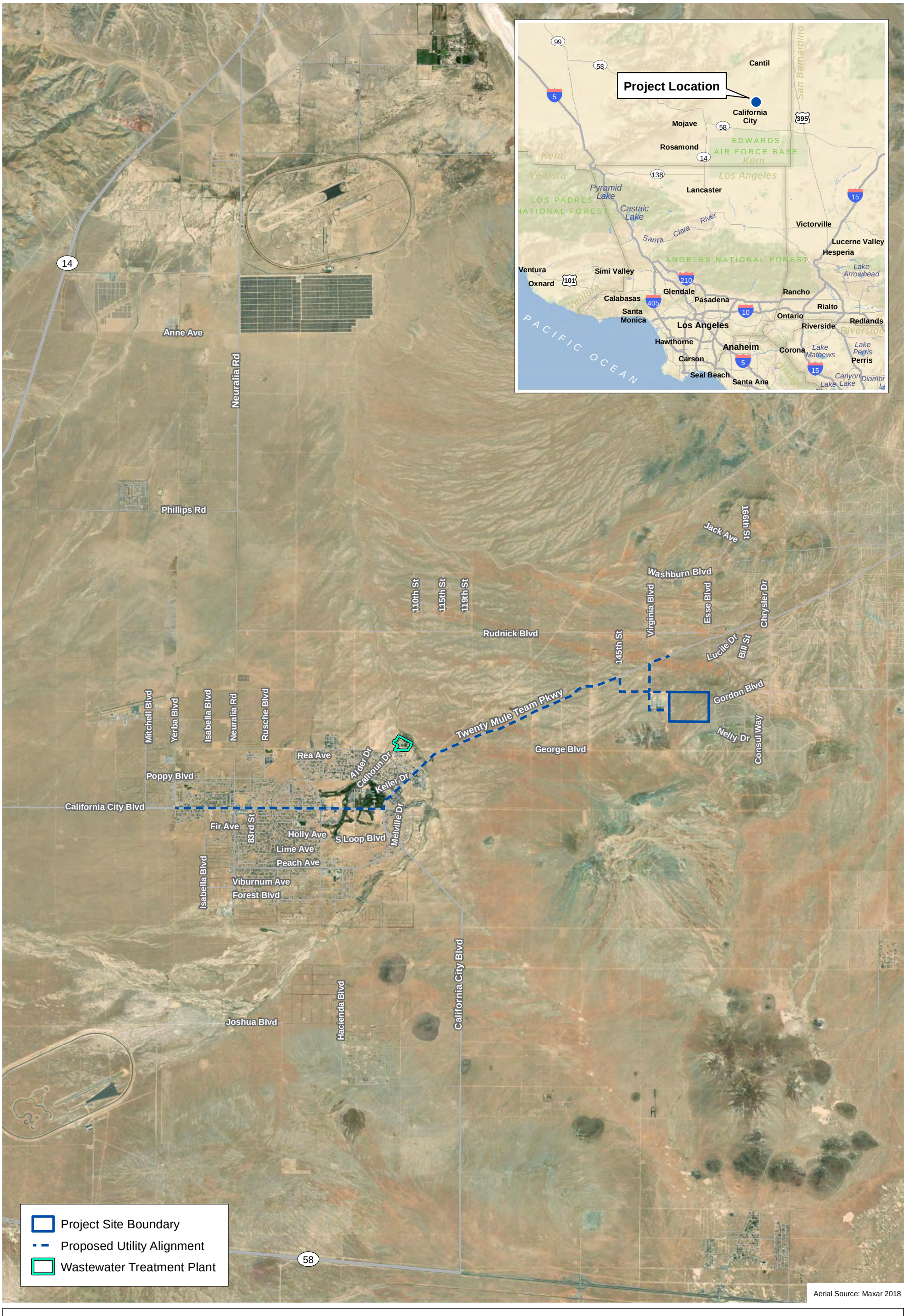
The Project site is shown on the U.S. Geological Survey's (USGS') Galileo Hill 7.5-minute quadrangle, the utility alignment extends from Galileo Hill quadrangle to the California City North and Mojave NE quadrangles, and the WWTP is located on the California City North quadrangle (Exhibit 2).

1.2 PROJECT DESCRIPTION

CoreCivic proposes to construct two separate but adjacent correctional centers with a total of 3,024 beds on approximately 216.5 acres of a 320-acre property located south of the alignment of Gordon Boulevard, east of Virginia Boulevard, and north of Lindberg Boulevard. The Project would include two separate facilities, with up to 1,512 beds each, a shared administration building, and a common parking area.

1.2.1 On-Site Facility Structures

The Project involves the construction of a one-level, 1,512-bed correctional center on the northern portion of the site and an identical 1,512-bed correctional center on the southern portion of the site. Building heights would not exceed 45 feet. Each facility contains seven secure housing structures that are located in a semi-circular arrangement around a central open area with indoor and outdoor recreational facilities and open areas. West of the housing and recreational area would be a central building for various inmate services and programs, such as intake, food service, medical, education, maintenance, laundry, chaplain, library, visitation, and other support areas. A common surface parking area would be located between the buildings on the east and



Project Location

Exhibit 1

Correctional Facility at California City (CFCC)

N W E S

1.5 0.75 0 1.5 Miles

PSOMAS

(Rev: 11-04-2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\BioTech\ex_Project_Location.pdf

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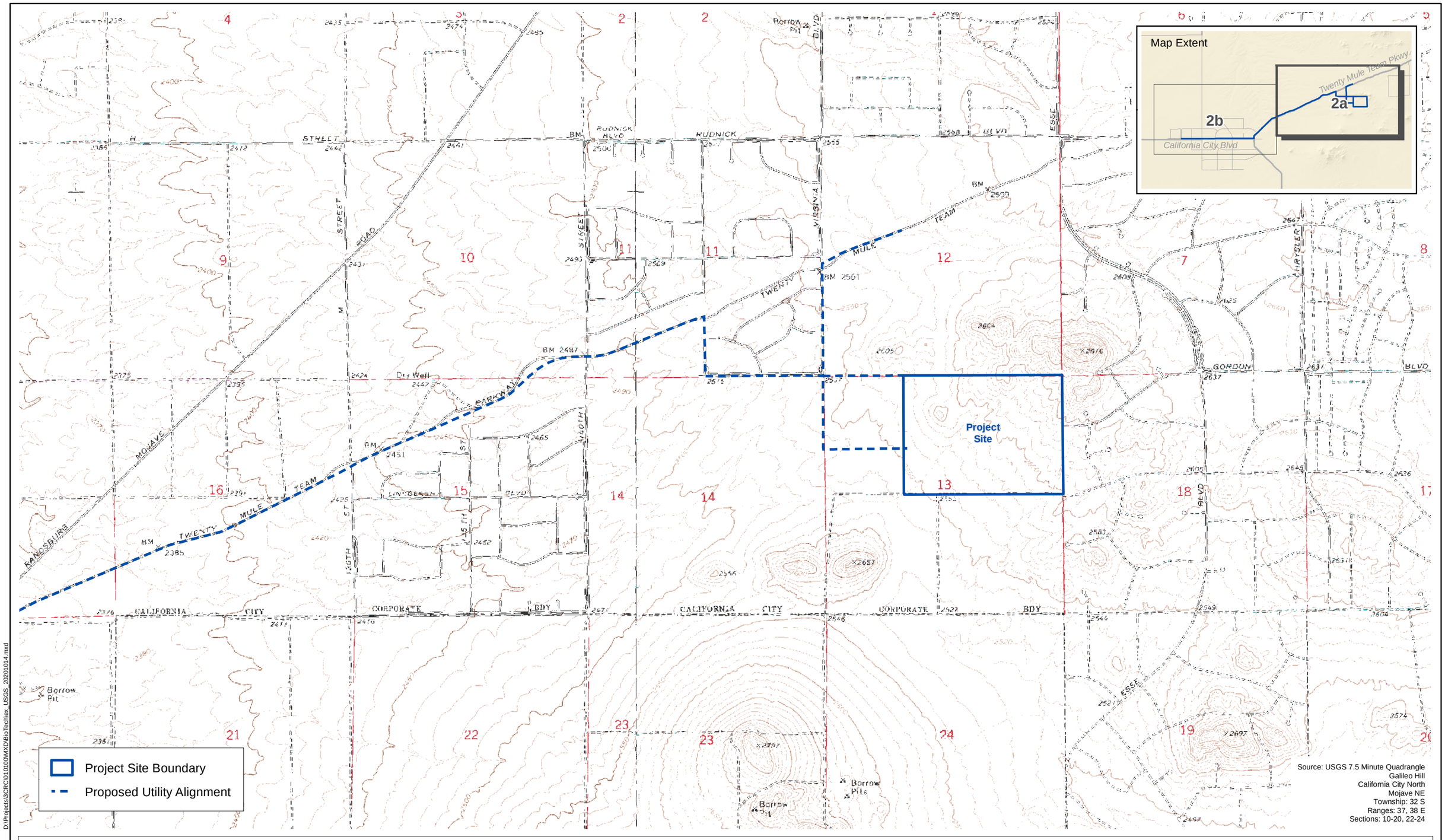


D:\Projects\3CRC\010100\MXD\BioTech\ex_USGS_20201014.mxd

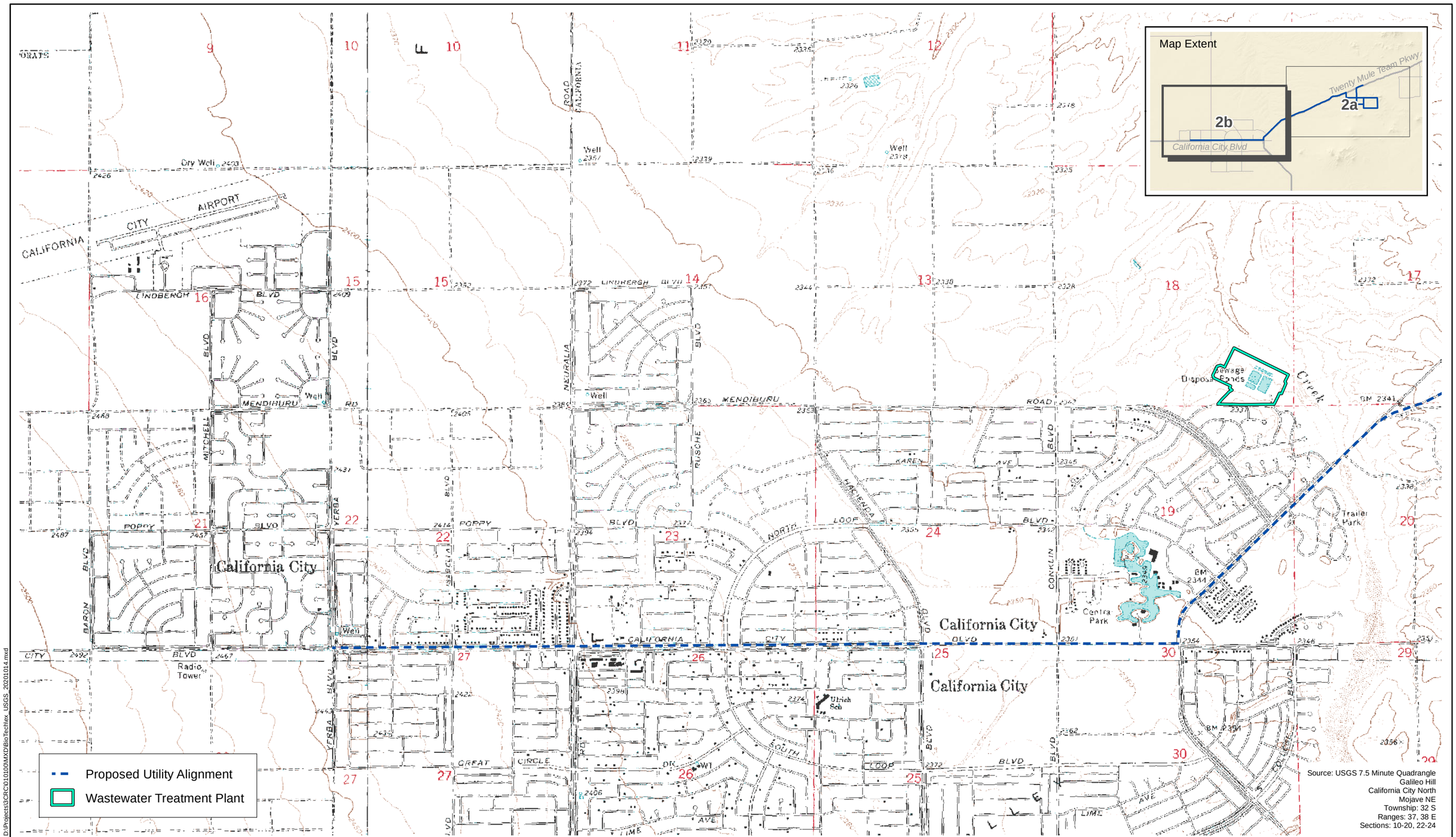
USGS 7.5-Minute Digital Quadrangle

Correctional Facility at California City (CFCC)

Exhibit 2a

PSOMAS

(Rev: 11-04-2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\BioTech\ex_USGS.pdf



Source: USGS 7.5 Minute Quadrangle
Galileo Hill
California City North
Mojave NE
Township: 32 S
Ranges: 37, 38 E
Sections: 10-20, 22-24

D:\Projects\3CRC\010100\MXD\BioTech\ex_USGS_20201014.mxd

USGS 7.5-Minute Digital Quadrangle

Correctional Facility at California City (CFCC)

Exhibit 2b

N W E S

2,000 1,000 0 2,000 Feet

PSOMAS

(Rev: 11-04-2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\BioTech\ex_USGS.pdf

a series of five retention basins on the west, with an administration building and warehouse building near the access road to the Project site.

Each correctional center would include the following:

- Seven secure housing buildings, constructed of precast concrete panels, would house up to 216 inmates each. Housing units would be equipped with staff and inmate support facilities, including meeting areas, restrooms and a commissary. Two of these buildings would also have attached segregation units.
- The outdoor area at the center of the housing buildings would be segregated/fenced into four recreation areas that would each include game courts, gymnasiums (with full and half basketball courts, restrooms, and storage/maintenance rooms), fixed exercise stations, and a running track/walkway around the perimeter. Two additional large, outdoor recreation areas (e.g., soccer fields and/or game areas) would be provided west of this outdoor area.
- A central program building would provide space for intake and support areas, educational programs, libraries, chapels, medical services, food service and dining areas, laundry areas, commissaries, visitation areas, maintenance, storage and communication rooms, a lobby, two family visitation areas, and other ancillary uses. The perimeter of the central building would be surrounded by a walkway that contains several gates to restrict access.
- A double perimeter fence would surround each facility, with razor wire along the top and bottom of each fence. A third inner electro-fence may be installed per customer requirements. Twelve observation posts/towers would surround each facility just outside of the perimeter fences, along with an outer perimeter road. The perimeter of each facility would also be equipped with a motion detection system and nighttime security lights on various height masts/posts up to 100-feet tall. The primary objective of exterior lighting will be to illuminate entrances and to provide adequate site lighting for security.

The western section of the site includes facilities shared by both proposed correctional centers, including:

- An administration building for management offices, armory, maintenance, and sorting and storage areas would be located at the northwestern corner of the site. This building would have a 100,000-square-foot (sf) warehouse for equipment and supply storage and a 25,000 sf administration area.
- A common parking lot with 2,105 surface parking spaces would be located immediately south of the administration building, extending the entire length of the property to the southern site boundary.
- A new private two-lane road would provide access to the parking lot and the Project site along the alignment of Gordon Boulevard and starting from Virginia Boulevard to the northwestern corner of the site.
- A series of five retention basins would be located along the length of the western site boundary to accommodate surface water runoff from the rest of the site.
- A maintenance access road, up to 15-feet wide, would surround the developed pad to provide access for the manufactured slopes, retention basins, and drainage structures.

The 216.5-acre Project site would be improved to include an approximate 159-acre building pad to accommodate the facilities and structures described above; manufactured slopes with ancillary drainage improvements would be located along the perimeter of the building pad. No

improvements are proposed for the City's road rights-of-way located along the north, south or east edges of the 216.5-acre Project site.

1.2.2 On-Site Grading and Utility Infrastructure

The Project site is currently undeveloped with no water, wastewater, storm drainage, or utility infrastructure. As such, development of the Project site will require mass grading to create a building pad; installation of new on-site stormwater-control facilities; and the extension of existing water, wastewater, natural gas, and electrical infrastructure into the Project site (Exhibit 3).

Grading would be conducted in accordance with the Kern County Grading Code. The anticipated earthwork on the Project site would be balanced on site, requiring the movement of approximately 1,900,000 cubic yards (cy) of cut and fill material, not including any over excavation that may be required for re-engineering and recompaction of fill material. No import or export of soils is anticipated. Because the Project site contains areas of relatively shallow bedrock that may not be ripped by mechanical means during the grading phase; blasting may be required during the grading phase of construction (Leighton Consulting Inc. 2017). The need for blasting will be confirmed with additional geotechnical work.

Under existing conditions, stormwater generally percolates into the ground with runoff sheetflowing across the site in a general westerly and southwesterly direction. The Project would direct stormwater at a 1-percent slope toward the southwestern portion of the graded pad area. Drainage conveyance infrastructure would encircle the perimeter of the improved Project site, delivering stormwater to one of the five proposed on-site retention basins that have a combined capacity of 71,200 cy of volume. Stormwater would be captured in these retention basins for infiltration and/or evaporation. No off-site storm drainage improvements are needed to serve the Project.

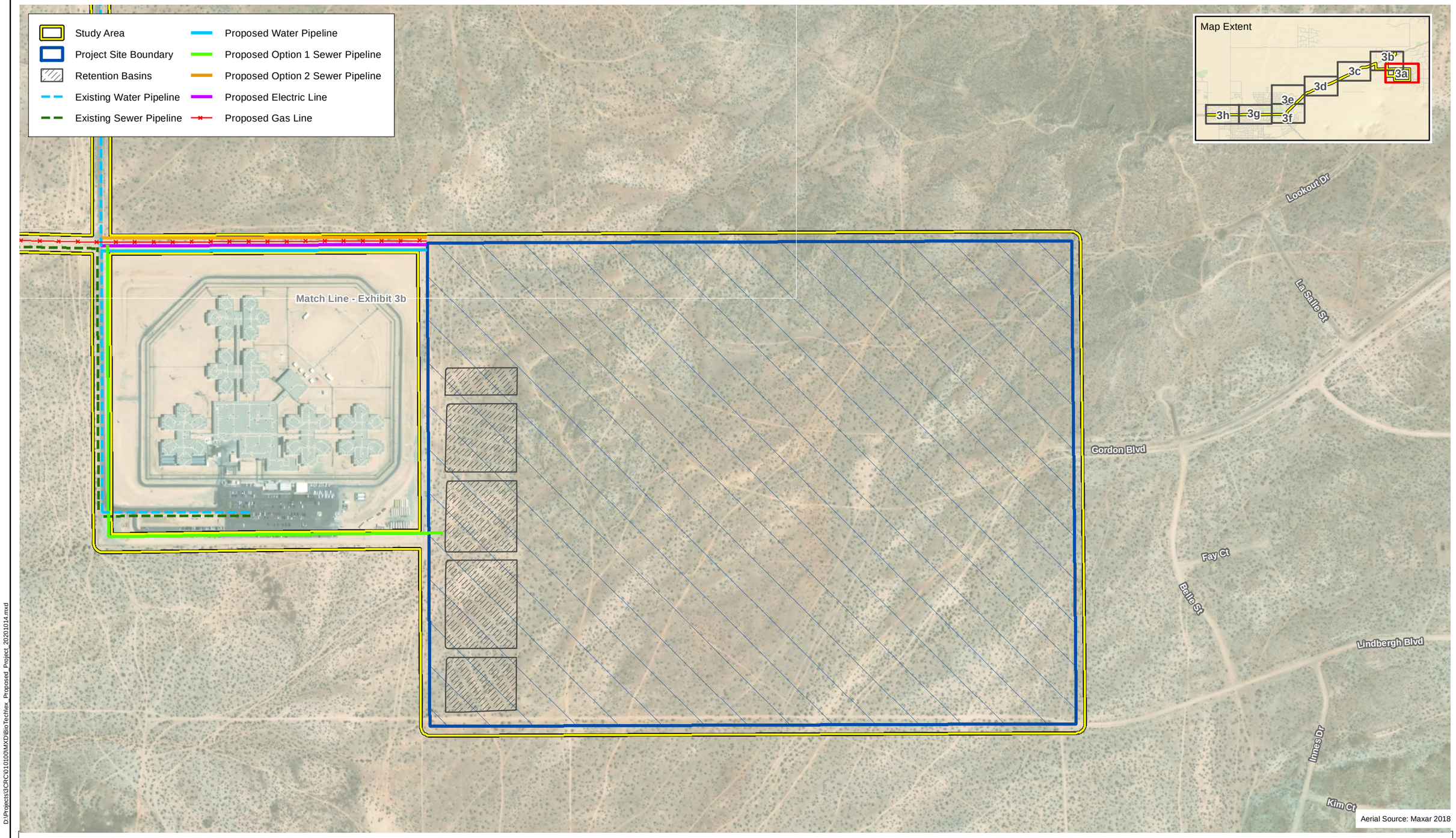
Potable water would be conveyed to the Project site via a new 12-inch-diameter water line at the access road in the northwest corner of the site along the Gordon Boulevard extension and would serve the Project facilities through a network of on-site water distribution lines.

The Project can be served by two alternative sewer alignments which would ultimately transmit sewage from the Project site to the existing pipeline in Twenty Mule Team Parkway. Sewage flows from the on-site correctional facilities would be contained within a network of sewage pipes that converge in the southwest area of the Project site, where the collected sewage will be run through an on-site grinder. From this point, one alternative sewer alignment (Option 1) would convey sewage via a new on-site 12-inch-diameter sewer line that would extend between two of the retention basins, and continue west via gravity flow westerly along the south edge of the adjacent existing CCCC parking lot towards the Twenty Mule Team Parkway main line. The other alternative sewer alignment (Option 2) requires an on-site sewer lift station to pump sewage from the southwest area of the Project site (lowest point on the site for gravity flows), to the northwest corner of the site to the Project access road in a pressurized force main line, where it would extend westward off site along the Gordon Road alignment.

1.2.3 Off-Site Infrastructure Improvements

Water Infrastructure

California City's existing water system includes approximately 1 mile of 12-inch-diameter water line along Virginia Boulevard and Twenty Mule Team Parkway which serves the existing CCCC from a booster pump station (Phase 1 BPS) that is connected to a 2.5-million-gallon water tank (Phase 1 Tank) located approximately 0.7 mile north of the Project site off Twenty Mule Team Parkway. The Phase 1 BPS consists of two 50 horsepower pumps, each with a design flow of



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Proposed Project

Exhibit 3a

Correctional Facility at California City (CFCC)

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-03-2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\BioTech\ex_Proposed_Project.pdf

Study Area
Project Site Boundary
Existing Water Pipeline
Existing Sewer Pipeline
Proposed Water Pipeline
Proposed Option 1 Sewer Pipeline
Proposed Option 2 Sewer Pipeline
Proposed Electric Line
Proposed Gas Line

Map Extent
3h
3g
3f
3e
3d
3c
3b
3a

145th St

Twenty Mule Team Pkwy

Match Line - Exhibit 3a

Match Line - Exhibit 3c

Aerial Source: Maxar 2018

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Proposed Project

Correctional Facility at California City (CFCC)

Exhibit 3b

N
W
E
S
500 250 0 500
Feet

PSOMAS

(Rev: 11-03-2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\BioTech\ex_Proposed_Project.pdf

Study Area
Existing Sewer Pipeline
Proposed Gas Line

Map Extent
3h
3g
3f
3e
3d
3c
3b'
3a

Match Line - Exhibit 3b

Match Line - Exhibit 3d

Aerial Source: Maxar 2018

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Proposed Project

Correctional Facility at California City (CFCC)

Exhibit 3c

N
W
E
S
500 250 0 500
Feet

PSOMAS

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Study Area
Existing Sewer Pipeline
Proposed Gas Line

Map Extent
3h
3g
3f
3e
3d
3c
3b
3a

Match Line - Exhibit 3c

Match Line - Exhibit 3e

Aerial Source: Maxar 2018

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Proposed Project

Correctional Facility at California City (CFCC)

Exhibit 3d

N
W
E
S
500 250 0 500
Feet

PSOMAS

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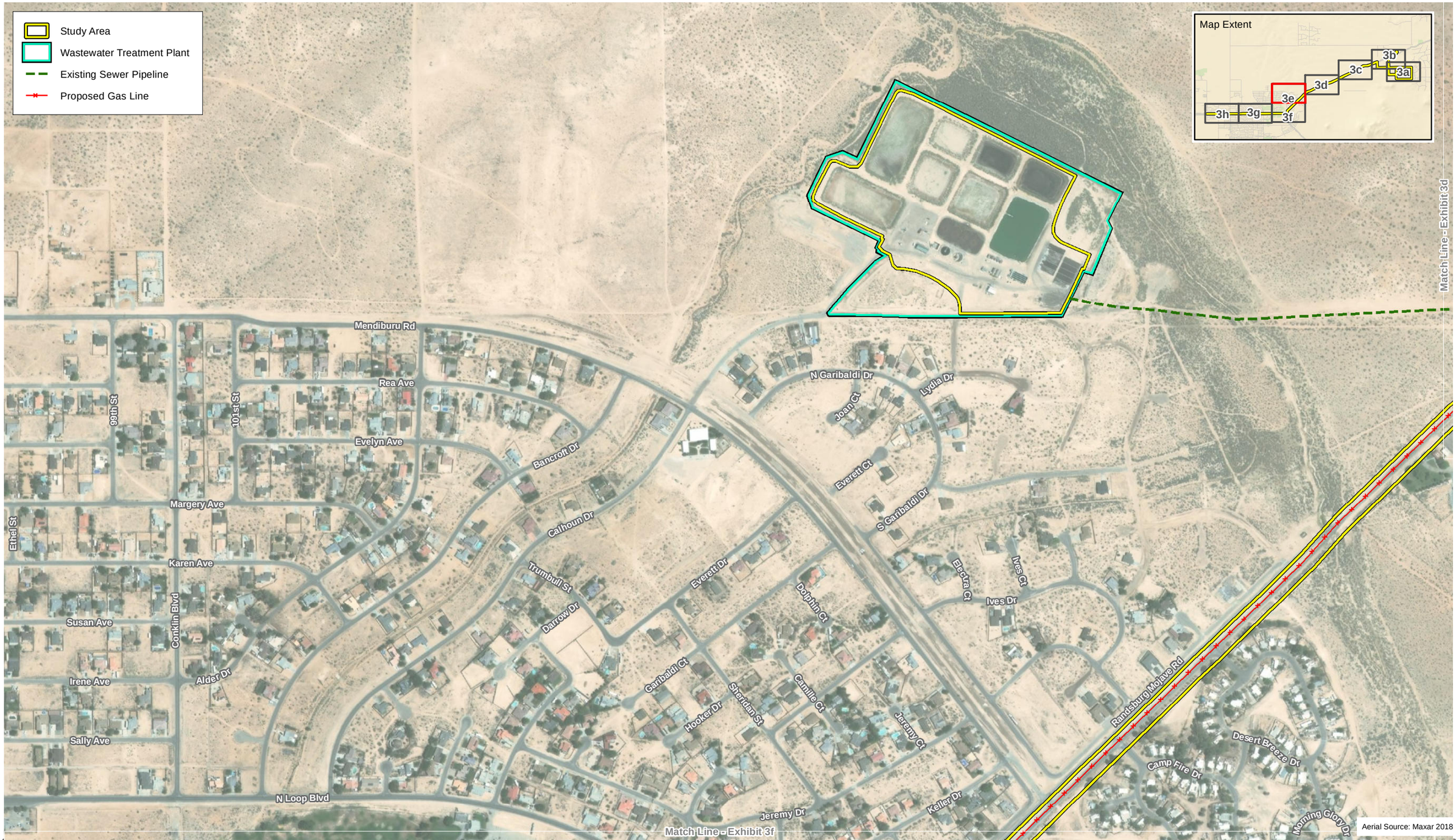

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Proposed Project

Correctional Facility at California City (CFCC)

Exhibit 3e

N W E S

500 250 0 500 Feet

PSOMAS

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Proposed Project

Correctional Facility at California City (CFCC)

Exhibit 3f

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-03-2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\BioTech\ex_Proposed_Project.pdf

Study Area
Proposed Gas Line

Map Extent
3h
3g
3f
3e
3d
3c
3b
3a

Match Line - Exhibit 3h
Match Line - Exhibit 3f

Poppy Blvd
N Loop Blvd
Lupine Loop Dr
89th St
Hacienda Blvd
Heather Ave
Doris Slater Ct
Desert Jade Cir
Fuchsia Ave
94th St
Orchid Dr
Dogbane Ave
Walpole Ave
85th St
Columbine Ave
91st St
Xavier Ave
California City Blvd
California City Blvd
88th St
Aspen Ave
Sandy Ave
96th St
87th St
90th St
Lasky St
Bay Ave
84th St
Catalpa Ave
W Lake Dr
Lakeview Dr
Village Center Dr
Village Pkwy
Dogwood Ave
Eucalyptus Ave
Corwin St
92nd St
Fir Ave
Hickory Dr
Fernwood Ave
Great Circle Dr
S Loop Blvd
Grapewood Ave
Holly Ave
Cole St
93rd St

Aerial Source: Maxar 2018

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Proposed Project

Correctional Facility at California City (CFCC)

Exhibit 3g

N
W
E
S
500 250 0 500
Feet

PSOMAS

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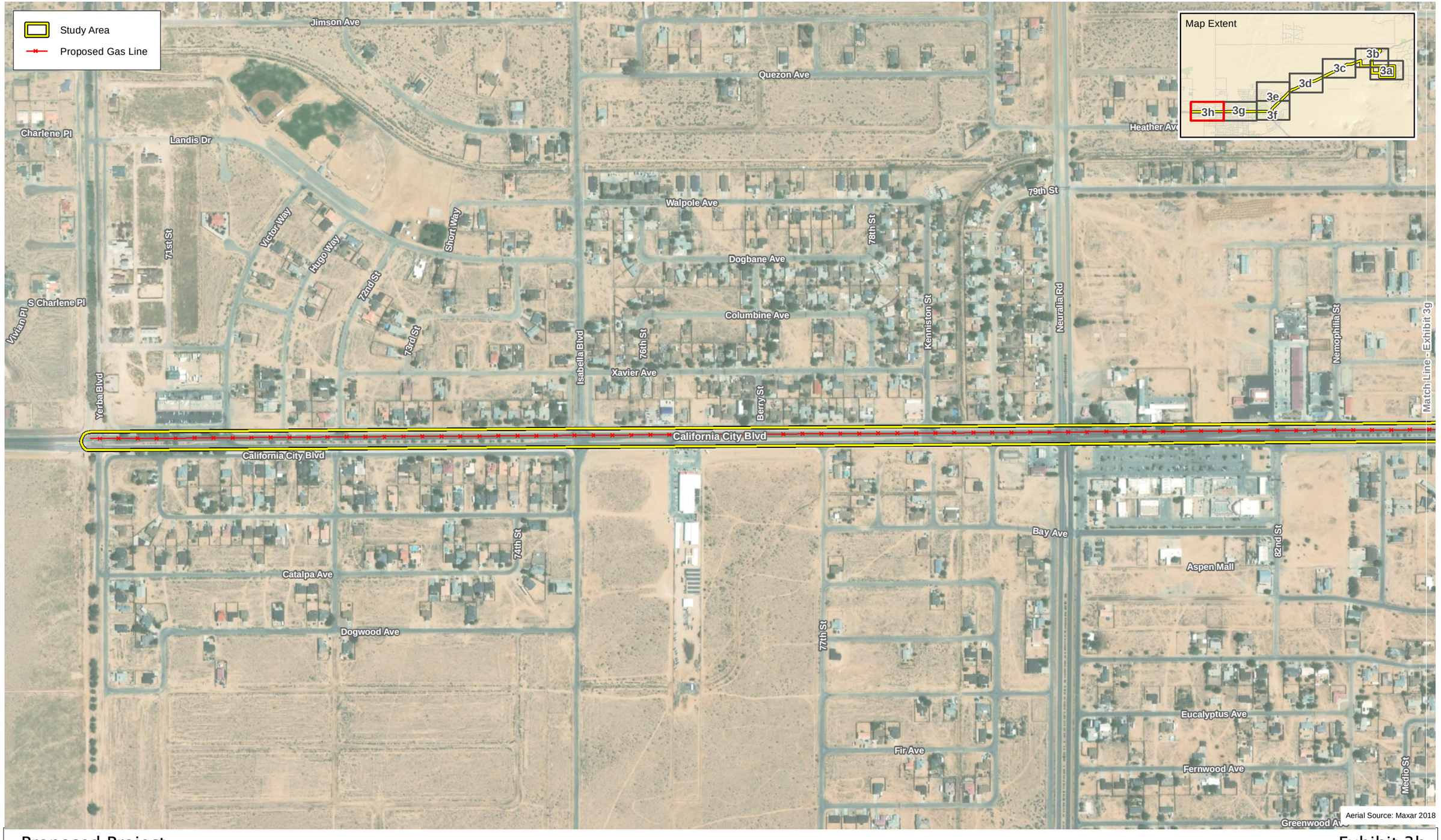

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Aerial Source: Maxar 2018

Proposed Project

Exhibit 3h

Correctional Facility at California City (CFCC)

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-03-2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\BioTech\ex_Proposed_Project.pdf

500 gallons per minute (gpm), which pump potable water to the existing CCCC as well as the Phase 2 tank. Two additional booster pump stations provide potable water from the Phase 2 tank to the Silver Saddle Ranch community approximately 7.2 miles northeast of the Project site.

The required maximum day capacity for the Phase 1 BPS must be increased to approximately 1,040 gpm in order to serve the Project, in addition to the existing demands and the approved/yet to be built 2,200 bed prison project. Therefore, an additional 550-gpm pump is required at the Phase 1 BPS. The Phase 1 BPS is located within an existing structure with a concrete pad that is capable of accommodating the new pump; no grading or earthwork is anticipated for this pump installation.

The existing 12-inch water pipeline from the Phase 1 BPS has sufficient capacity to meet the demand of the Project. However, to connect the water supply from this line to the Project site, a 12-inch pipeline would be extended eastward from the line in Virginia Boulevard along the proposed access road and the eastern extension of the Gordon Boulevard alignment, which traverses the northern boundary of the adjacent CCCC.

Sewer Infrastructure

Pipeline Conveyance

California City's sewer system serves the existing CCCC, which discharges from the site into a 12-inch sewer pipeline within the parking lot located in the southern end of the property. The sewage is run through an on-site grinder and then transmitted through approximately 8,500 feet of 12-inch pipeline into an 18-inch sewer pipeline in Twenty Mule Team Parkway at 145th Street. The 12-inch pipeline conveying flows from CCCC extends west to Virginia Boulevard, then north along Virginia Boulevard to Gordon Boulevard, west along Gordon Boulevard to 145th Street, and north on 145th Street to the connection at Twenty Mule Team Parkway. The sewer pipelines within the CCCC parking lot, Virginia Boulevard, Gordon Boulevard, and 145th Street do not have sufficient capacity and are not adequately sized to accommodate the sewer flows from the Project, in addition to the sewer flows from the neighboring approved 2,200-bed prison project.

The 18-inch sewer pipeline in Twenty Mule Team Parkway extends southwesterly approximately 2 miles, then increases in diameter to 24 inches. The 24-inch pipeline continues southwesterly along Twenty Mule Team Parkway another 1.4 miles to near the intersection with Randsburg Mojave Road. At this point the pipeline turns westerly and increases in diameter to 27 inches, where it continues to the City's 1.0-million-gallon-per-day (MGD) WWTP on Nelson Drive (at the northeastern section of the City's central core). This pipeline is adequately sized to accommodate the sewer flows from the Project, as well as the sewer flows from the approved 2,200-bed prison project and other known cumulative development along the route; no upgrades to this pipeline are required.

The Project can be served by two alternative off-site sewer alignments that would transmit sewage from the Project site to the pipeline in Twenty Mule Team Parkway. Based on the existing capacity limitations described above, both off-site alternatives would require installing 12-inch diameter pipe parallel to the existing sewer pipe in Gordon Boulevard, west of Virginia Boulevard.

One alternative alignment (Option 1) would connect the new 12-inch pipeline from the Project boundary, through the southern portion of the CCCC property and along the southern edge of the CCCC parking lot. New trenching along the sewer pipelines within Virginia Boulevard, Gordon Boulevard, and 145th Street would be required for the new parallel 12-inch diameter pipeline needed to transmit the Project sewage to the pipeline in Twenty Mule Team Parkway. The benefit of this alternative is avoiding the installation and long-term operation of a sewer lift station on the Project site.

The second alternative alignment (Option 2) would connect the new 12-inch pipeline from the northern Project boundary, through the northern boundary of the existing CCCC site, extending westward within the proposed Gordon Boulevard access road alignment. This would require new off-site trenching along the Gordon Boulevard right-of-way to the Project access road. The benefit of this alternative is avoiding additional off-site trenching within the CCCC property and up Virginia Boulevard to the Gordon Boulevard alignment. As an alternative to installing parallel pipelines to meet flow capacity requirements, an approximate 28,000-gallon holding tank could be constructed on site, along with the sewer lift station and force main for Option 2, in order to pump and discharge sewage from the site during off-peak hours and potentially eliminate the need for constructing parallel sewer lines on Gordon Boulevard and 145th Street.

City Wastewater Treatment Plant

The City's WWTP has an approved capacity of 1.0 MGD based on permits issued by the Lahontan Regional Water Quality Control Board. According to City staff, the treatment facility is currently operating at approximately 0.65 MGD and has reached its effective maximum operating capacity, without factoring in the future wastewater flow of approximately 0.20 MGD from the approved, but not yet constructed, 2,200-bed prison facility and flows from other planned/permitted projects in the City. Therefore, in order to accommodate the Project's estimated sewage flows of 0.28 MGD, additional treatment and disposal/storage capacity will be required at the City's WWTP, including increased seasonal storage and/or percolation pond capacity to accommodate the Project's expected sewage flow. When considering the Project's future wastewater flow of 0.28 MGD in combination with the other planned and approved projects in the City, an increase of 0.5 MGD of additional treatment and disposal/storage capacity will be required at the City's WWTP for cumulative development purposes.

An assessment of the City's WWTP was conducted which evaluated the existing operating conditions and provided recommendations for potential improvements that would restore the WWTP's treatment capacity its 1.0 MGD rated capacity and add needed redundancy so the City can confidently meet its permit requirements and allow for future expansion to 1.5 MGD to accommodate the flows associated with General Plan growth, septic system conversions and other developments. Two sets of recommendations were developed, (1) functional improvements and (2) reliability improvements, which cover items of work needed to enable the WWTP to function at its existing permitted and potentially expanded treatment capabilities. A preliminary implementation schedule and work activity estimate was prepared for the recommended improvements.

Functional improvements are identified as needed at facilities that are not properly functioning and require replacement to restore the desired level of plant performance; whereas, Reliability improvements are identified as needed at facilities that are currently functioning but are in imminent danger of failure and should be replaced to maintain the security of plant performance. Functional improvements at the City WWTP would occur with the aeration basins, clarifiers, tertiary filtration system, and sludge dewatering. While reliability improvements would occur with several operational systems associated with disinfection, grit removal, electrical and control, pumping, and solids dewatering. Additionally, improvements to expand the capacity and operational efficiency of the existing percolation and recycled water ponds would occur which would also enhance the overall operational capacity of the WWTP. All improvements would be within the current operating boundaries of the developed WWTP site and would not encroach into adjacent property. Importantly, the Project would contribute approximately 0.28 MGD of new demand to the City's WWTP operation; however, improvements are required to provide an additional 0.5 MGD of capacity at the facility, as noted above. Not all of the facility improvements at the City's WWTP would be attributable to the Project's sewage generation. The Project would

be responsible for its pro rata share of impacts related to WWTP improvements based on the anticipated sewage flow for 0.28 MGD of new treatment capacity.

Electricity

Southern California Edison (SCE) provides electrical power services to the Project area and has a 33-kilovolt vault and underground line along Virginia Boulevard that serve the CCCC. Electrical power service to the Project would be provided through connection to the existing vault located on the east side of Virginia Boulevard, approximately 320 feet north of Gordon Boulevard or through connection to the existing vault in the CCCC parking lot. If the Project connects to the vault in the CCCC parking lot, a new underground power line would be installed along the south edge of the CCCC parking lot to the Project site. Underground power lines would then extend to individual buildings on the site. Back-up generators would be located on the Project site to ensure continuous power to the Project in the event of an SCE power failure. No off-site SCE facility upgrades are anticipated.

Natural Gas

Southern California Gas (SoCalGas) provides natural gas service to the Project area but currently no gas lines exist near the Project site. Natural gas service to the Project would require the extension of a 6-inch-diameter gas line from the intersection of Yerba Boulevard and California City Boulevard. The new gas line and related equipment (e.g., pressure regulator station) would be constructed within the disturbed City road right-of-way from Yerba Boulevard east along California City Boulevard for approximately 3.5 miles to Randsburg Mojave Road, then northeast along Randsburg Mojave Road to its intersection with Twenty Mule Team Parkway. The new gas line would continue along Twenty Mule Team Parkway, turning south on 145th Street, and then east along Gordon Boulevard and onward along the proposed access road to the Project site. Gas lines would then extend to individual buildings on the site. The off-site gas line to serve the Project would be approximately 9.3 miles in length.

Communication Systems

Frontier Communications (formerly Verizon) provides telephone service in the Project area. Telephone lines would be extended underground from the existing line on Virginia Boulevard, along the proposed access road, and then extend to individual buildings on the site.

1.2.4 Project Construction

The Project would be designed to meet American Correctional Association standards and all applicable building codes and regulations. The Project would be implemented in two phases. Phase 1 would include the construction of one of the 1,512-bed correctional centers, which is anticipated to overlap with the construction of the off-site infrastructure, including the improvements at the City's WWTP and installation of an additional pump at the Phase 1 BPS. Phase 1 is anticipated to be entirely completed and occupied prior to the commencement of Phase 2, unless facility demands dictate otherwise.

Construction activities are anticipated to occur six days per week over the course of an 11-hour workday (7:00 AM to 6:00 PM) and as otherwise allowed in the City's Noise Ordinance. Because the Project site contains areas of relatively shallow bedrock that may not be ripped by mechanical means during the grading phase; blasting may be required.

CoreCivic does not have a specific client or corresponding occupancy date for either phase of the Project, Therefore, while construction activity durations presented are roughly accurate, the Project scheduling is provided for planning and environmental analysis purposes only. Phase 1

construction activities could potentially begin in January 2024, and be completed by December 2025**,** totaling approximately 24 months. Occupancy of Phase 1 of the Project, if construction were to be completed in December 2024, would be expected to occur in early 2025.

The timing of the construction and occupation of Phase 2 is unknown. However, Phase 2 is assumed to begin within 6 to 8 months of completion of Phase 1. Site preparation, clearing, grubbing, and rough grading will have occurred during Phase 1 and is not required for Phase 2. Additionally, all off-site utilities and improvements at the WWTP will be completed. As such, the total construction schedule for Phase 2 is expected to require approximately 18 months.

For on-site construction activities during Phase 1 and Phase 2, it is estimated that an average of 96 construction workers would be on-site during construction activities, with a peak time period of approximately 3 months when as many as 238 construction workers may be on-site. Based on the construction contractor's experience and the remote location for the Project site, it is estimated that approximately 25 percent of the construction workers would carpool.

1.2.5 Project Operations

As many as 3,024 inmates could be housed at the Project. Staffing would be on-site for seven days per week and would include security/sworn staff, civilian staff, counselors, maintenance personnel, physicians, registered nurses, contractors, and other employees. The Project would be staffed by approximately 500 to 600 full-time equivalent employees or a total of 1,000 to 1,200 individuals, depending on the operating scenario and the occupancy rate. Approximately 65 percent of the staff will be working during the morning shift (6:00 AM to 2:00 PM); with approximately 25 percent of staff during the afternoon shift (2:00 PM to 10:00 PM); and approximately 10 percent of staff during the evening shift (10:00 PM to 6:00 AM). Administrative and medical staff would work from 8:00 AM to 5:00 PM for seven days per week.

1.2.6 Future Inmates

The Project will provide a total of 3,024 beds for male inmates, depending on future agreements with governmental agencies. Inmates housed at the Project may include those under federal and/or State custody. The Project will be designed and constructed according to the standards and requirements necessary to house inmates at various security levels and a combination of security levels, including but not limited to minimum, low-, medium- and/or high-security.

As part of standard facility operations, inmates would be transported to and from the CFCC on a weekly basis, although more frequent transports may occur. Inmates would be brought to and from the Project site in a secured van or other vehicle for the expressed purpose of providing a safe and secure transport for both inmates and officers.

1.3 REGULATORY SETTING

1.3.1 Federal

National Environmental Policy Act

The National Environmental Policy Act (NEPA) establishes a broad national framework for protecting the environment. NEPA's basic policy is to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment (42 *United States Code* [USC] 4321-4347). NEPA established the U.S. Environmental Protection Agency (USEPA) with the following roles and functions: (1) to establish and enforce environmental protection standards consistent with national environmental goals; (2) to conduct research on the adverse effects of pollution and on methods

and equipment for controlling it; the gathering of information on pollution; and the use of this information in strengthening environmental protection programs and recommending policy changes; (3) to assist, through grants, technical assistance, and other means, in arresting pollution of the environment; and (4) to assist the Council on Environmental Quality in developing and recommending to the President new policies for the protection of the environment.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects plants and animals that the USFWS has listed as "Endangered" or "Threatened." A federally listed species is protected from unauthorized "take," which is defined in the FESA as acts to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct" (16 USC Sections 1532[19] and 1538[a]). In this definition, "harm" includes "any act which actually kills or injures fish or wildlife, and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife" (50 *Code of Federal Regulations* [CFR], Title 50, Section 17.3). Unless performed for scientific or conservation purposes with the permission of the USFWS, take of listed species is only permissible if the USFWS issues an Incidental Take Permit (ITP). When issuing an ITP, all federal agencies, including the USFWS, must ensure that their activities are "not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species" (16 USC 1536[a]). Enforcement of the FESA is administered by the USFWS.

The FESA also provides for designation of Critical Habitat: specific areas within the geographical range occupied by a species where physical or biological features "essential to the conservation of the species" are found and "which may require special management considerations or protection" (16 USC 1538[5][A]). Critical Habitat may also include areas outside the current geographical area occupied by the species that are nonetheless essential for the conservation of the species.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act requires consultation with the USFWS and the fish and wildlife agencies of States where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted . . . or otherwise controlled or modified" by any agency under a federal permit or license. Consultation is to be undertaken for the purpose of "preventing loss of and damage to wildlife resources."

Sections 404 and 401 of the Clean Water Act of 1972

Section 404 of the Clean Water Act (CWA) (33 USC 1251 et seq.) regulates the discharge of dredged or fill material into waters of the United States, including wetlands. The U.S. Army Corps of Engineers (USACE) is the designated regulatory agency responsible for administering the 404 permit program and for making jurisdictional determinations. This permitting authority applies to all waters of the United States where the material has the effect of (1) replacing any portion of waters of the United States with dry land or (2) changing the bottom elevation of any portion of waters of the United States. These fill materials would include sand, rock, clay, construction debris, wood chips, and materials used to create any structure or infrastructure in waters of the United States. Dredge and fill activities are typically associated with development projects; water resource-related projects; infrastructure development; and wetland conversion to farming, forestry, or urban development.

Under Section 401 of the CWA, an activity requiring a USACE Section 404 permit must obtain a State Water Quality Certification (or waiver thereof) to ensure that the activity will not violate

established federal or State water quality standards. The State Water Resources Control Board (SWRCB), in conjunction with the nine California Regional Water Quality Control Boards (RWQCBs), is responsible for administering the Section 401 water quality certification program.

Under Section 401 of the federal CWA, an activity involving discharge into a water body must obtain a federal permit and a State Water Quality Certification to ensure that the activity will not violate established water quality standards. The SWRCB's and RWQCBs' jurisdiction also extend to all "waters of the State" when no waters of the United States are present, including wetlands and non-wetland waters of the State (isolated and non-isolated). The USEPA is the federal regulatory agency responsible for implementing the CWA. However, it is the SWRCB, in conjunction with the nine RWQCBs, who essentially has been delegated the responsibility of administering the water quality certification (Section 401) program.

The Navigable Waters Protection Rule was published in the Federal Register on April 21, 2020 and became effective on June 22, 2020. The Navigable Water Protection Rule provides new regulatory text defining waters of the United States. One of the major changes to the definition of waters of the United States is that ephemeral waters are no longer subject to USACE regulation under the CWA.

On May 28, 2020, the SWRCB's issued *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to waters of the State* went into effect. Under these new regulations, the SWRCB and its nine RWQCBs will assert jurisdiction over all existing waters of the United States and all waters that would have been considered waters of the United States under the definition that existed prior to the 2020 Navigable Waters Protection Rule (i.e., ephemeral waters). Thus, the waters of the United States that would no longer be under USACE jurisdiction following the Navigable Waters Protection Rule would still be under the SWRCB's jurisdiction as waters of the State.

Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703–711), as amended in 1972, makes it unlawful at any time, by any means or in any manner, unless permitted by regulations, to "pursue; hunt; take; capture; kill; attempt to take, capture, or kill; possess; offer for sale; sell; offer to barter; barter; offer to purchase; purchase; deliver for shipment; ship; export; import; cause to be shipped, exported or imported; deliver for transportation; transport or cause to be transported; carry or cause to be carried; or receive for shipment, transportation, carriage, or export, any migratory bird; any part, nest, or eggs of any such bird; or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof. . . ." (16 USC 703).

The MBTA covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. This regulation seeks to protect migratory birds and active nests. The MBTA protects over 800 species, including geese, ducks, shorebirds, raptors, songbirds, and many relatively common species. Bird species protected under the provisions of the MBTA are identified by the List of Migratory Birds (50 CFR 10.13), as updated by the 1983 American Ornithological' Society (AOS) Checklist and published supplements by the USFWS.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls). The provisions of the 1972 amendment to the MBTA protect all species and subspecies of these families.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC 668) provides for the protection of the bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act and strengthened other enforcement measures. A 1978 amendment authorizes the Secretary of the Interior to permit the taking of golden eagle nests that interfere with resource development or recovery operations.

A 1994 Memorandum from President William Clinton to the heads of Executive Agencies and Departments establishes the policy concerning collection and distribution of eagle feathers for Native American religious purposes.

1.3.2 State

California Environmental Quality Act

The California Environmental Quality Act (CEQA) (13 *Public Resources Code* Sections 21000 et seq.) is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. The CEQA Guidelines (14 *California Code of Regulations* [CCR] Chapter 3) are the regulations that explain and interpret the law for both public agencies and private development required to administer CEQA.

With regards to plants and animals, Section 15380 of the CEQA Guidelines independently defines “Endangered” and “Rare” species separately from the definitions of the California Endangered Species Act (CESA). Under CEQA, Endangered species of plants or animals are defined as those whose survival and reproduction in the wild are in immediate jeopardy, while Rare species are defined as those that (1) have such low numbers that they could become Endangered if their environment worsens or (2) are likely to become endangered within the foreseeable future (i.e., “threatened” as used in the FESA). In addition, a Lead Agency can consider a non-listed species (e.g., species with a California Rare Plant Rank [CRPR], California Species of Special Concern, or species of Local Concern) to be treated as if it were Endangered, Rare, or Threatened for the purposes of CEQA if the species can be shown to meet the criteria in the definition of “Rare” or “Endangered” in the project region.

The CEQA Guidelines designates certain “trustee agencies” that have jurisdiction by law over natural resources affected by a project which are held in trust for the people of California. The CDFW is the trustee responsible for conservation, protection, and management of wildlife, native plants, and habitat necessary to maintain biologically sustainable populations. Trustee agencies are generally required to be notified of CEQA documents relevant to their jurisdiction, whether or not these agencies have actual permitting authority or approval power over aspects of the underlying project. The CDFW shall provide the requisite biological expertise to review and comment upon environmental documents and impacts arising from project activities and shall make recommendations regarding those resources held in trust for the people of California (*California Fish and Game Code* §1802).

California Endangered Species Act

The State of California implements the CESA which is enforced by the CDFW. While the provisions of the CESA are similar to the FESA, CDFW maintains a list of California Threatened and Endangered species, independent of the FESA Threatened and Endangered species list. It also lists species that are considered Rare and Candidates for listing, which also receive protection. The California list of Endangered and Threatened species is contained in Title 14, Sections 670.2 (plants) and 670.5 (animals) of the *California Code of Regulations*.

State-listed Threatened and Endangered species are protected under provisions of the CESA. Activities that may result in take of individuals (defined in CESA as acts to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") are regulated by the CDFW. While habitat degradation or modification is not included in the definition of take under CESA, the CDFW has interpreted take to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

If it is determined that the take would not jeopardize the continued existence of the species, an ITP can be issued by CDFW per Section 2081 of the *California Code of Regulations*. If a State-listed species is also federally listed, and the USFWS has issued an ITP that satisfies CDFW's requirements, CDFW may issue a consistency finding in accordance with Section 2080.1 of the *California Fish and Game Code*.

California Fish and Game Code

The CDFW administers the *California Fish and Game Code*. Particular sections of the Code are applicable to natural resource management.

Native Plant Protection

Sections 1900–1913 of the *California Fish and Game Code* were developed to preserve, protect, and enhance Endangered and Rare plants in the State of California. The act requires all State agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at least ten days in advance of any change in land use that would adversely impact listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

Unlawful Take or Destruction of Nests or Eggs

These sections duplicate federal protection under the MBTA. Section 3503 of the *California Fish and Game Code* makes it unlawful to take, possess, or destroy any bird's nest or any bird's eggs. Further, any birds in the orders *Falconiformes* or *Strigiformes* (birds of prey, such as hawks, eagles, and owls) and their nests and eggs are protected under Section 3503.5 of the *California Fish and Game Code*. Section 3513 of the *California Fish and Game Code* prohibits the take and possession of any migratory nongame bird, as designated in the MBTA.

California Fully Protected Species

The State of California created the "Fully Protected" classification in an effort to identify and provide additional protection to those animals that are rare or that face possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under the State and/or Federal Endangered Species Acts; however, some have not been formally listed.

Various sections of the *California Fish and Game Code* provide lists of Fully Protected reptile and amphibian (§ 5050), bird (§ 3511), and mammal (§ 4700) species that may not be taken or possessed at any time, except as provided in Sections 2081.7, 2081.9, or 2835. The CDFW is unable to authorize the issuance of permits or licenses to take these species, except for necessary scientific research.

Fur-Bearing Mammals

Section 460 of the *California Fish and Game Code* prohibits the taking of the following fur-bearing mammals: fisher (*Martes pennanti*), American marten [marten] (*Martes americana*), North American river otter [river otter] (*Lontra canadensis*), desert kit fox (*Vulpes macrotis arsipus*), and red fox (*Vulpes vulpes*).

Natural Communities Conservation Planning Act

The Natural Community Conservation Planning Act, codified in Sections 2800–2835 of the *California Fish and Game Code* and signed into law on October 1991, authorizes the preparation of Natural Community Conservation Plans (NCCPs). The Act is a State of California effort to protect critical vegetative communities and their dependent wildlife species. The purpose of an NCCP is to sustain and restore those species and their habitat identified by the CDFW that are necessary to maintain the continued viability of those biological communities impacted by human changes to the landscape. The NCCP process provides an alternative to protecting species on a "single species basis" as in the federal and State ESAs. Under the Act, the CDFW is responsible for creating process planning and conservation guidelines for NCCP programs. Local governments and landowners may then prepare the NCCPs so that they comply with the CESA.

California Fish and Game Code (Sections 1600 through 1616)

California Fish and Game Code Sections 1600 et seq. establish a process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

California Fish and Game Code Section 1602 requires any person, State, or local governmental agency or public utility to notify the CDFW before beginning any activity that will do one or more of the following:

- substantially obstruct or divert the natural flow of a river, stream, or lake
- substantially change or use any material from the bed, channel, or bank of a river, stream, or lake
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake

Section 1602 of the *California Fish and Game Code* applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. CDFW's regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFW takes jurisdiction to the top bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. A Section 1602 Lake or Streambed Alteration Agreement would be required if impacts to identified CDFW jurisdictional areas occur.

California Porter-Cologne Water Quality Control Act

Pursuant to the California Porter-Cologne Water Quality Control Act, the SWRCB and the nine RWQCBs may require permits (known as "Waste Discharge Requirements" or WDRs) for the fill

or alteration of the waters of the State. The term “waters of the State” is defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (*California Water Code,* Section 13050[e]). The SWRCB and RWQCB have interpreted their authority to require WDRs to extend to any proposal to fill or alter waters of the State, even if those same waters are not under USACE jurisdiction. Pursuant to this authority, the State and Regional Boards may require the submission of a “report of waste discharge” under Section 13260, which is treated as an application for WDRs.

The Porter-Cologne Water Quality Control Act charges the SWRCB and the nine RWQCBs statewide with protecting water quality throughout California. Typically, the SWRCB and RWQCB act in concert with the USACE under Section 401 of the CWA in relation to permitting fill of federally jurisdictional waters. SWRCB and the RWQCBs may require permits (WDRs) for the fill or alteration of the waters of the State.

California Desert Native Plants Act

The California Desert Native Plants Act, codified in Sections 80001–80201 of the *California Food and Agricultural Code*, was enacted to protect California desert native plants from unlawful harvesting on both public and privately owned lands. This act is applicable within Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego counties. Within these counties, the act prohibits the harvest, transport, sale, or possession of specific native desert plants without a valid permit or wood receipt and with the required tags and seals. The appropriate permits, tags, and seals must be obtained from the sheriff or commissioner of the county where collecting will occur; and the county will charge a fee.

The following native plants, or any parts thereof, may not be harvested except for scientific or educational purposes under a permit issued by the commissioner of the county in which the native plants are growing:

- All species of Burseraceae family (elephant tree)
- *Carnegiea gigantea* (saguaro cactus)
- *Ferocactus acanthodes* (barrel cactus)[1]
- *Castela emoryi* (crucifixion thorn)
- *Dudleya saxosa* (Panamint dudleya)
- *Pinus longaeva* (bristlecone pine)
- *Washingtonia filifera* (fan palm)

[1] *Ferocactus acanthodes* is not currently recognized by the Jepson Flora Project (2016). It is assumed to mean either of the two recognized species of Ferocactus in California, the California barrel cactus (*Ferocactus cylindraceus*) or the San Diego barrel cactus (*Ferocactus viridescens*).

The following native plants, or any part thereof, may not be harvested except under a permit issued by the commissioner or the sheriff of the county in which the native plants are growing:

- All species of the family Agavaceae (century plants, nolinas, yuccas)
- All species of the family Cactaceae (cacti), except for the plants listed in subdivisions (b) and (c) of Section 80072, which may be harvested under a permit obtained pursuant to that section
- All species of the family Fouquieriaceae (ocotillo, candlewood)
- All species of the genus *Prosopis* (mesquites)
- All species of the genus *Cercidium* (palos verdes)
- *Acacia greggii* (catclaw)
- *Atriplex hymenelytra* (desert-holly)
- *Dalea spinosa* (smoke tree)
- *Olneya tesota* (desert ironwood), including both dead and live desert ironwood

1.3.3 Regional

California Desert Conservation Area Plan

In 1976, Congress passed the Federal Land Policy Management Act (FLPMA), which directs the management of public lands in the United States. Section 601 of the FLPMA directed the Bureau of Land Management (BLM) to prepare and implement a comprehensive, long-range plan for the management, use, development, and protection of public lands within the California Desert Conservation Area (CDCA).

The CDCA Plan was prepared in 1980 to provide for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield and the maintenance of environmental quality. The CDCA encompasses 25 million acres of desert land in Southern California, approximately 10 million of which is managed by the BLM.

The Plan established guidelines applicable to all multiple-use classes and to be followed throughout the public lands of the CDCA. The guidelines classify each area and determine the intensity of use: Controlled, Limited, Moderate, or Intensive Use. The decisions in this Plan apply only to public lands administered by the BLM.

West Mojave Plan

The West Mojave Plan is an amendment to the CDCA Plan that represents a collaboration of resource agencies, local jurisdictions, and others with a stake in the future of the western Mojave Desert. BLM is the federal Lead Agency, and the state Lead Agencies are the County of San Bernardino and the City of Barstow. The West Mojave Plan includes the West Mojave Desert area encompassing 9.3 million acres in Inyo, Kern, Los Angeles, and San Bernardino Counties: 3.3 million acres of public lands administered by the BLM, 3.0 million acres of private lands, 102,000 acres administered by the State of California, and the balance of military lands administered by the Department of Defense. A Final Environmental Impact Report and Statement for the West Mojave Plan was prepared in 2005. While the USFWS issued a Biological Opinion for the federal portion of the plan in 2006, the State portion of the plan has not been permitted. Until the State portion of the plan is passed, it cannot be used by State or private entities.

The West Mojave Plan establishes a regional biological strategy to conserve plant and animal species and their habitats and prevent future listing and provides for an efficient, equitable, and cost-effective process for complying with Threatened and Endangered species law. The West

Mojave Plan addresses desert tortoise (*Gopherus agassizii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), and over 100 species of plants and animals; designates Areas of Critical Environmental Concern and other special management areas specifically designed to promote species conservation; designates routes of travel on public lands; and establishes other management prescriptions to guide grazing, mineral exploration and development, recreation, and other public land uses.

Desert Renewable Energy Conservation Plan

In response to Executive Order S-14-08, which established a target of obtaining 33 percent of the state's electricity from renewable resources by 2020, the California Energy Commission (CEC), the CDFW, the BLM, and the USFWS have prepared the Desert Renewable Energy Conservation Plan (DRECP). The Plan area encompasses over 22 million acres of the Mojave and Colorado Desert regions in California, including all or a portion of the following counties: Kern, Los Angeles, San Bernardino, Inyo, Riverside, Imperial, and San Diego.

The DRECP is a joint State and federal NCCP and part of one or more Habitat Conservation Plans (HCPs) that are intended to provide for effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects. It is anticipated to provide long-term Threatened and Endangered species permit assurances to renewable energy developers and to provide a process for conservation funding to implement the DRECP. It would also serve as the basis for one or more HCPs under the ESA. The USFWS issued a Biological Opinion for Phase I of the DRECP covering federal (i.e., BLM) lands in 2015 (USFWS 2016a); this portion of the plan is now in effect. Development of Phase II, focusing on State and private lands, is currently underway. Until the State portion of the plan is passed, it cannot be used by State or private entities.

1.3.4 Local

Municipal Code Chapter 8 Sections 7-8.101 to 7-8.108 discusses the treatment of public trees located on public lands.

2.0 METHODS

This section summarizes survey methods employed by Garcia and Associates (GANDA) in May 2016 and by Psomas from January 2017 to present. The study area discussed in this report consists of the Project site and a 50-foot buffer around the Project site and on either side of the centerline of the utility alignment, as well as a portion of the WWTP.

It should be noted that a mapping error was discovered in late May 2017; the Project site boundary used for the 2016 surveys by Garcia and Associates (GANDA 2016) and the initial 2017 surveys by Psomas were slightly shifted by approximately 100 feet to the north and 120 feet to the west. Once the maps were corrected, it was discovered that an approximate "15-acre boundary shift area" was not surveyed during these survey efforts. This is discussed further below.

Areas covered by GANDA in 2016 include the Project site boundary (except for the 15-acre boundary shift area) and the eastern portion of the utility alignment including a 15- to 20-foot buffer on either side of Twenty Mule Team Parkway, Gordon Boulevard, Virginia Boulevard, and 145th Street. The area GANDA surveyed did not include the portion of the utility alignment along California City Boulevard or adjacent to the existing CCCC. Areas covered by Psomas from 2017 to present vary based on survey needs. The definition of survey areas for each of the focused surveys and the jurisdictional delineation are discussed below. Table 1 provides a guide to the various surveys performed in each study area component.

TABLE 1
PORTION OF THE STUDY AREA COVERED FOR VARIOUS SURVEY EFFORTS

Survey Type	Study Area Component					
	Project Site	**50-foot Buffer around Project Site**	**Boundary Shift Area**	**Utility Alignment**	**50-foot Buffer around Utility Alignment**	**Wastewater Treatment Plant**
Psomas Vegetation Mapping (2020)				western portion only		X
Psomas Vegetation Mapping (2017)		X	X	eastern portion only	eastern portion only	
GANDA Vegetation Mapping (2016)	X			eastern portion only	eastern portion only	
Psomas Special Status Plant Survey Area (2020)	early and late spring		early and late spring			
Psomas Special Status Plant Survey Area (2019)			early and late spring			
Psomas Special Status Plant Survey Area (2018)			early and late spring (rainfall inadequate)			
Psomas Special Status Plant Survey Area (2017)	early spring					
GANDA Special Status Plant Survey Area (2016)	late spring			late spring - eastern portion only	late spring - eastern portion only	
GANDA Desert Tortoise Survey Area (2016)	X					
Psomas Burrowing Owl Survey Area (2017)	X		X			
GANDA Mohave Ground Squirrel Survey Area (2016)	X					
Psomas Jurisdictional Delineation (2020)						X
Psomas Jurisdictional Delineation Survey Area (2017)	X		X	X	X	

2.1 LITERATURE REVIEW

Prior to the start of surveys, GANDA and Psomas each conducted a literature search to identify special status plants, wildlife, and habitats reported from the vicinity of the study area; the searches were updated as needed. The study area region is generally defined as the USGS Boron, Boron NW, California City North, California City South, Cantil, Galileo Hill, Johannesburg, Mojave NE, North Edwards, Saltdale SE, and Sanborn 7.5-minute quadrangles. The following sources of information were consulted:

- The CDFW's California Natural Diversity Database (CNDDB) (CDFW 2016a, 2017a, 2018a, 2020a) (see Appendix A)
- The California Native Plant Society's (CNPS') Inventory of Rare and Endangered Plants (CNPS 2016, 2017, 2018, 2020) (see Appendix A)
- The U.S. Fish and Wildlife Service official species list (USFWS 2016b, 2018, 2020) (see Appendix A)
- The Consortium of California Herbaria (CCH 2016)
- Calflora (2017, 2018)
- The CDFW's *Natural Communities List* (CDFW 2018b), *Special Animals* List (CDFW 2020d), and *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2020b)
- NatureServe: Encyclopedia of Life (NatureServe 2016)
- California Desert Native Plant Protection Act list of regulated plant species
- Kern County zoning ordinances (Kern County 2009)
- California Department of Food and Agriculture noxious weed lists (CDFA 2016)
- Draft Desert Renewable Energy Conservation Plan species accounts (Dudek and ICF 2012)
- Beacon Solar Power Project Application for Certification (Beacon 2008)
- Biological survey report for the U.S. Borax 2,530-acre conservation easement near North Edwards (GANDA 2015)
- Recurrent Energy Distributed Solar Project Biological Resources Assessment Supplement (Recurrent Energy 2011)
- Alta-Oak Creek Mojave Project (Terra-Gen 2009)
- West Mojave Plan (BLM 2005; BLM 2012)

2.2 VEGETATION MAPPING AND GENERAL SURVEYS

Vegetation on the Project site and the eastern portion of the utility alignment was mapped by GANDA Botanist Carolyn Chainey-Davis concurrent with special status plant surveys (described below) between May 23 and 27, 2016. Psomas Senior Biologists Allison Rudalevige and Lindsay Messett mapped vegetation and performed general plant and wildlife surveys for the remainder of the utility alignment on January 24, 25, and 26, 2017. The 15 acres not previously included in the Project site boundary was mapped by Ms. Rudalevige concurrent with burrowing owl (*Athene cunicularia*) surveys on June 8, 2017. The portion of the utility alignment on the west and south sides of the existing CCCC was mapped by Psomas Biologist Sarah Thomas on January 3, 2018. The utility alignment along California City Boulevard and a portion of the WWTP were mapped by Ms. Rudalevige on October 27, 2020. The purpose of the surveys was to document existing

biological resources in the study area and to evaluate its potential to support special status species. Vegetation was mapped in the field on an aerial photograph at a scale of 1 inch equals 200 feet (1" = 200'). Vegetation classification follows that of *A Manual of California Vegetation* (*Second Edition)* (Sawyer et al. 2009). This provides the most current naming scheme and is the classification currently used by the CDFW. Representative photographs of the study area are included in Appendix B.

Plant and wildlife species observed during the surveys were recorded in field notes and are listed in Appendix C. Plant species were identified in the field or collected for later identification. Plants were identified using taxonomic keys, descriptions, and illustrations in Baldwin et al. (2012), Hickman (1993), and Munz (1974). Plants were identified to the taxonomic level necessary to determine whether or not they are a special status species. Nomenclature of plant taxa conform to the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2020b) for special status species and the Jepson eFlora (Jepson Flora Project 2016) for all other taxa; ornamental species not listed in the Jepson eFlora are named based on the *Sunset Western Garden Book* (Brenzel 2007).

Active searches for reptiles and amphibians included lifting, overturning, and carefully replacing objects such as rocks, boards, and debris. Birds were identified by visual and auditory recognition. Mammals were identified by visual recognition or evidence of diagnostic sign including scat, footprints, scratch-outs, dust bowls, burrows, and trails. Nomenclature of wildlife taxa conform to the *Special Animals List* (CDFW 2020d) for special status species; nomenclature for non-special status wildlife generally follows Crother (2012) for amphibians and reptiles, AOS (2020) for birds, and the Smithsonian National Museum of Natural History (2011) for mammals.

2.3 FOCUSED SURVEYS

2.3.1 Special Status Plant Species

Due to contract timing, changes in mapping, and multiple years of drought, the first round of focused surveys was completed over multiple years. The first round of surveys to cover the entire Project site consisted of: (1) surveys for late-spring blooming species (i.e., May/June) conducted by GANDA in 2016; (2) surveys for early-spring blooming species (i.e., March/April) conducted by Psomas in 2017; (3) surveys for an additional 15-acre area conducted by Psomas in 2018 (not valid because reference populations did not bloom due to drought); (4) surveys for an additional 15-acre area conducted by Psomas in 2019 (reference populations did bloom). Due to the piecemeal nature of the first round of surveys, a second round of surveys was conducted in spring 2020 to cover the entire project site for all species within the same year. Special status plant surveys did not cover the utility alignment or the WWTP.

Special status plant surveys were floristic in nature and conducted following the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG 2009) for surveys performed in 2017, 2018, and 2019. Surveys conducted in 2020 followed *Protocols for Surveying and Evaluating impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018c).

Rainfall received in the winter and spring determines the germination of many annual and perennial herb species. According to the Western Regional Climate Center (WRCC), the region (data taken from Mojave) received approximately 1.77 inches of precipitation between October 1, 2015, and April 30, 2016; approximately 1.36 inches of precipitation between October 1, 2016, and April 30, 2017; and approximately 0.04 inch of precipitation between October 1, 2017, and April 30, 2018; the average precipitation over this time period is 5.34 inches (WRCC 2018). The region had received below average precipitation for 13 consecutive years. Data from the WRCC was not available from October 2019 to spring 2020. According to the National Oceanic and Atmospheric

Administration's (NOAA's) National Weather Service Forecast Office, the region (data taken from Lancaster) received approximately 10.64 inches of precipitation between October 1, 2019 and April 30, 2020; the average precipitation over this time period is 6.90 inches (NOAA 2020).

Prior to conducting the spring focused plant surveys, reference populations were monitored for annual and difficult-to-detect target species to ensure that the surveys were appropriately timed and comprehensive. This is especially relevant during periods of unusual rainfall patterns or below average rainfall. If conditions at a nearby reference population are suitable for germination and growth, then it can be inferred that conditions would also be suitable in the study area. Table 2 summarizes the flowering status of known reference populations observed during the 2016 to 2020 special status plant survey periods. Reference populations were not monitored for species with a CRPR of 3 or 4; perennials (e.g., Mojave fish-hook cactus [*Sclerocactus polyancistrus*]), which would be identifiable throughout the year; or for species with no extant, publicly accessible reference population in the project region (i.e., the USGS' Boron, Boron NW, California City North, California City South, Cantil, Galileo Hill, Johannesburg, Mojave NE, North Edwards, Saltdale SE, and Sanborn 7.5-minute quadrangles). Based on the reference survey results, the surveys were conducted during a timeframe when the target plant species were observable.

TABLE 2
REFERENCE POPULATION MONITORING

Species	Flowering Status	Date Checked	General Location
Cymopterus deserticola desert cymopterus	(1) detectable; (2) blooming; (3) detectable; (4) blooming	(1) prior to the start of 2016 surveys (May 23, 2016); (2) March 28, 2017; (3) March 27, 2018 (4) March 22, 2020	(1) California City-Mojave-Boron area; (2) North Edwards; (3) North Edwards (4) near Hinkley
Deinandra arida Red Rock tarplant	(1) detectable; (2) blooming; (3) blooming[a]	(1) late April 2016; (2) April 23, 2018 (3) early April 2019	(1) California City vicinity; (2) mouth of Red Rock Canyon; (3) Red Rock Canyon
Eriophyllum mohavense Barstow woolly sunflower	(1) detectable; (2) not detectable; (3) blooming; (4) blooming	(1) prior to the start of 2016 surveys (May 23, 2016); (2) prior to all 2018 survey visits;[b] (3) April 7, 2019 (4) March 22, 2020	(1) California City-Mojave-Boron area; (2) multiple locations in Kramer Junction area; (3) east of Kramer Junction (4) near Hinkley
Mentzelia tridentata creamy blazing star	(1) not detectable	(1) March 27, 2018	(1) Barstow
Phacelia nashiana Charlotte's phacelia	(2) not detectable	(2) March 27 and May 15, 2018	(2) west of Garlock

[a] Reported in the Theodore Payne Foundation Wild Flower Hotline; April 5, 2019.
[b] Although not a target for reference population check, Mojave spineflower (*Chorizanthe spinosa*) was observed blooming on May 18, 2018 during the Barstow woolly sunflower reference population check.

The early spring survey window was missed in 2016 due to the timing of project initiation. A late spring survey was conducted by Ms. Chainey-Davis of GANDA between May 23 and 27, 2016. The total number of person-hours spent in 2016 was 40 hours (32 hours for the Project site and 8 hours for the utility alignment).

Surveys covering the early spring survey window were conducted by Psomas in 2017. The 2017 surveys were conducted by Ms. Rudalevige and Psomas Botanist Ian Cain on March 29 and 30, 2017. Ms. Messett and Psomas Biologist Jonathan Aguayo assisted with the survey on March 30, 2017. The total number of person-hours spent in 2017 was 32.75 hours for the Project site.

Surveys of the approximate 15-acre boundary shift area were conducted by Ms. Rudalevige on March 27, April 23, and June 18, 2018. The total number of person-hours spent in 2018 was 2.75 hours. Surveys were inconclusive for some special status plant species in 2018 due to lack of rainfall and non-germination of reference populations. Therefore, surveys of the boundary shift area were conducted again on April 9 and May 16, 2019, by Ms. Rudalevige. The total number of person-hours spent in 2019 was 3.5 hours.

Surveys of the entire 216.5-acre Project site were conducted by Ms. Rudalevige and Biologist Sarah Thomas on March 31, April 2, and May 22 and 26, 2020. The total number of person-hours spent in 2020 was 51.5 hours.

A systematic survey was conducted throughout the Project site by walking transects spaced at approximately 6- to 50-foot intervals. All plant species observed were recorded in field notes. Plant species were identified in the field or collected for later identification. Plants were identified using taxonomic keys, descriptions, and illustrations in Jepson Flora Project (2016, 2019), Baldwin et al. (2012), Hickman (1993), and Munz (1974) to the taxonomic level necessary to determine whether or not they were a special status species. Nomenclature of plant taxa conform to the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2020b) for special status species and the Jepson eFlora (Jepson Flora Project 2019) for all other taxa; ornamental species not listed in the Jepson eFlora are named based on the *Sunset Western Garden Book* (Brenzel 2007).

For each special status species population observed, data was collected on the number and phenology of individuals and microsite characteristics such as slope, aspect, soil texture, surrounding habitat, and associated species. Voucher specimens collected were deposited with the herbarium at Rancho Santa Ana Botanic Garden in Claremont, California.

The results of GANDA surveys are included in Appendix D. The results of the Psomas special status plant survey efforts are included as Appendix E.

2.3.2 Desert Tortoise

Desert tortoise surveys were conducted following the *Field Survey Protocol for any Non-federal Action That May Occur Within the Range of the Desert Tortoise* (USFWS 1992); however, no surveys were conducted in the zone of influence (ZOI). Surveys were conducted by GANDA Biologists Howard Clark, Minh Dao, Bart Haralson, and Mike Zerwekh between May 23 and 26, 2016. This survey covered the Project site.

Surveys were conducted by slowly and systematically walking linear, east-to-west-oriented transects spaced at 33-foot intervals. Emphasis was placed on searching around the bases of shrubs and along the banks of shallow washes. Surveys were performed during daytime hours.

The location of all tortoise sign was recorded using Global Positioning System (GPS) technology, and photographs were taken of the sign. The height, width, and depth (estimated) of desert tortoise burrows observed were also recorded. Burrows, scat, and other sign were classified using the *Information Index for Desert Tortoise Sign: Burrows and Dens, Scats and Shell Remains* of the field survey protocol. The tortoise burrow classification requires that observers determine if (1) burrows have been recently used and are therefore active (tortoise sign, such as scat, tracks, etc. is present), (2) burrows can be classified as definitely or possibly tortoise, and (3) burrows are in good condition (i.e., could be used by a tortoise in the current condition) or in deteriorated condition (i.e., would need modification by a tortoise to be used). Burrows coded as Class 1, 2, or 3 are identified as tortoise burrows with greater confidence than burrows coded as Class 4 or 5, which have the potential to be a tortoise burrow, but cannot be confirmed as a burrow of that species.

The utility alignment was not surveyed on foot; this area was surveyed via vehicle where accessible along frontage dirt roads (i.e., powerline rights-of-way). Since utility impacts would occur within the existing disturbed footprint of the road, Project utilities would not remove habitat for this species. Therefore, desert tortoise presence will be assumed adjacent to the utility alignment where there is suitable habitat. This survey did not include the WWTP.

The results of GANDA surveys are included in Appendix D.

2.3.3 Burrowing Owl

GANDA performed a habitat assessment and burrow survey concurrently with desert tortoise surveys between May 23 and 26, 2016; surveys were conducted by Mr. Clark, Mr. Dao, Mr. Haralson, and Mr. Zerwekh. This survey covered the Project site, with the exception of the 15-acre boundary shift area.

As described above, surveys were conducted along linear, east-to-west-oriented transects spaced at 33-foot intervals. Surveyors visually searched for burrowing owls and sign. Each burrow encountered was evaluated for burrowing owl use. Special care was taken to search for prey remains, whitewash, pellets, and tracks.

Focused crepuscular surveys for burrowing owl were conducted for the Project site by Psomas in 2017 following the breeding season survey methods in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The CDFW guidelines specify specific time periods in which crepuscular (i.e., occurring near dawn and dusk) surveys should be conducted during the breeding season. The protocol specifies that a total of four surveys should be conducted in three time periods; each survey should be at least three weeks apart. The first survey should be conducted between February 15 and April 15, two surveys should be conducted between April 15 and June 15, and one survey should be conducted between June 15 and July 15 (CDFG 2012).

Detailed survey timing, staffing, and weather information are included in Table 3. The first survey was conducted from March 28 to 30, 2017, by Ms. Messett, Mr. Aguayo, Ms. Rudalevige, and Mr. Cain. The second survey was conducted on May 9 and 10, 2017, by Ms. Rudalevige and Psomas Biologists Steve Norton and Steve Morris. The third survey visit was conducted on June 8, 2017, by Ms. Rudalevige, Mr. Norton, Mr. Morris, and Consulting Biologist Debbie Beckett. The fourth survey was conducted on July 11 and 12, 2017, by Ms. Rudalevige, Mr. Norton, and Psomas Biologists Jonathan Feenstra and Irena Mendez.

TABLE 3
BURROWING OWL SURVEY DETAILS

Survey Number	Date	Surveyor(s)	Survey Time	Weather Conditions		
				Temperature (°F) (Start/End)	Wind (mph) (Start/End)	Cloud Cover (%) (Start/ End)
Crepuscular Survey 1	March 28	Aguayo, Messett	5:00 PM–7:40 PM	73/66	0–2/0–6	0/0
	March 29	Aguayo, Messett	6:30 AM–10:20 AM	44/56	0–4/0–3	0/0
	March 29	Aguayo, Messett	5:15 PM–7:50 PM	77/65	0–4/0–6	0/0
	March 30	Aguayo, Messett, Rudalevige, Cain	6:25 AM–10:30 AM	57/63	0–2/0–12	0/0
Crepuscular Survey 2	May 9	Rudalevige, Norton, Morris	5:45 PM–8:17 PM	75/66	4–11/3–10	45/1
	May 10	Rudalevige, Norton, Morris	5:37 AM–9:45 AM	50/78	4–6/2–6	5/5
	May 10	Rudalevige, Norton, Morris	5:45 PM–7:15 PM	74/67	5–10/3–8	0/0
Crepuscular Survey 3	June 8	Rudalevige, Norton, Morris, Beckett	5:20 AM–10:03 AM	62/88	3/0.5	20/40
	June 8	Rudalevige, Norton, Morris, Beckett	6:04 PM–7:02 PM	84/82	6–12/6–11	10/8
Crepuscular Survey 4	July 11	Rudalevige, Norton, Feenstra, Mendez	6:07 PM–8:20 PM	99/85	4–8/9–15	1/2
	July 12	Rudalevige, Norton, Feenstra, Mendez	5:45 AM–8:30 AM	75/84	1/0–2	0/0

°F: degrees Fahrenheit; mph: miles per hour.

Biologists walked all suitable habitat (i.e., undeveloped areas) on the Project site in transects spaced 50 feet apart to achieve 100 percent visual coverage. Binoculars were used to survey the areas of suitable habitat adjacent to the Project site. The surveys were generally conducted between morning civil twilight[2] and 10:00 AM, or between two hours before sunset and evening civil twilight. Weather conditions during the surveys ranged from 44 to 99 degrees Fahrenheit (°F) with wind speeds no more than 15 miles per hour (mph); surveys were postponed when field conditions were unsuitable (e.g., when winds were greater than 15 mph).

Any natural or man-made cavities large enough to allow a burrowing owl to enter were inspected for evidence of occupation and mapped. Evidence of occupation may include prey remains, cast pellets, white wash, feathers, and observations of owls adjacent to burrows. Binoculars were used to inspect holes; crevices; and potential perches such as rocks, fence posts, and other elevated structures for the presence of owls. Any active burrows and/or burrowing owl sightings were mapped on an aerial photograph and recorded with Global Positioning System (GPS) units.

The utility alignment was not surveyed. Since utility impacts would occur within the existing disturbed footprint of the road, Project utilities would not remove habitat for this species.

[2] Morning civil twilight begins when the sun is six degrees below the horizon and ends at sunrise; evening civil twilight begins at sunset and ends when the sun in six degrees below the horizon.

Therefore, burrowing owl presence will be assumed adjacent to the utility alignment where habitat is suitable.

The WWTP was not surveyed. While improvements would occur within the existing facility, there is potential habitat within the WWTP and burrowing owl presence will be assumed adjacent to the facility structures where habitat is suitable.

The results of the GANDA burrowing owl surveys are included in Appendix D. The results of the Psomas burrowing owl surveys are included as Appendix F.

2.3.4 Mohave Ground Squirrel

GANDA performed Mohave ground squirrel surveys in spring 2016 by deploying nine Bushnell® Trophy Cam HD 12MP Vital Trail Cameras (Bushnell Outdoor Products, Overland Park, KS) systematically throughout the Project site (excluding the 15-acre boundary shift area). Cameras were placed in a 3-by-3 grid formation with each camera spaced an average of 820 feet apart. Cameras were attached to wooden stakes and aimed at a pile of 4-way horse feed bait. Each camera was set to a sensitive setting in order to detect small mammals. Cameras were installed on May 24, 2016, and recovered on May 31, 2016. Protocol-level trapping surveys were not performed due to scheduling constraints. Permission was granted to GANDA by the CDFW to use camera stations as an alternative survey method (GANDA 2016).

No cameras were placed along the utility alignment. Since utility impacts would occur within the existing disturbed footprint of the road, Project utilities would not remove habitat for this species. Therefore, Mohave ground squirrel presence will be assumed adjacent to the utility alignment where habitat is suitable.

The WWTP was not surveyed. While improvements would occur within the existing facility, there is potential habitat within the WWTP and Mohave ground squirrel presence will be assumed adjacent to the facility structures where habitat is suitable.

The results of GANDA Mohave ground squirrel surveys are included in Appendix D.

2.4 JURISDICTIONAL DELINEATION

Jurisdictional water resources considered for this report include waters of the United States under the regulatory authority of the USACE; waters of the State under the regulatory authority of the RWQCB; and the bed, bank, and channel of all lakes, rivers, and/or streams (and associated riparian vegetation), under the regulatory authority of the CDFW.

Non-wetland waters of the United States are delineated based on the limits of the ordinary high water mark (OHWM), which can be determined by a number of factors, including the presence of a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; and the presence of litter and debris. The OHWM limits (i.e., active floodplain) occurring in the jurisdictional delineation survey area were further verified using methods contained in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*, *A Delineation Manual* (Lichvar and McColley 2008) and the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Curtis and Lichvar 2010).

A two-parameter approach based on vegetation and hydrology wetland criteria defined by the USACE (2008), in conjunction with a review of aerial and site photographs, topographic maps, and field data, was employed to make an initial assessment of the presence of wetlands. Areas containing hydrophytic vegetation and one or more indicators of wetland hydrology were

considered to be potential wetlands. In the case of a potential wetland, a soil test pit would have been dug in order to identify the presence/absence of hydric soils and to determine whether or not wetlands are present.

It should be noted that the RWQCB shares USACE jurisdiction unless isolated conditions are present. Water resources lacking connectivity to a Traditional Navigable Water[3] (TNW), whether by definition or through a significant nexus analysis, are considered isolated. If isolated waters are present, the RWQCB takes jurisdiction using the USACE's definition of the OHWM and/or the three-parameter wetlands method pursuant to the 1987 Wetlands Manual. Isolated conditions were assessed prior to the field delineation using aerial imagery from Google Earth and the National Hydrography Dataset (USGS 2017). Note that the USACE does not require continuous surface connectivity in order to establish jurisdiction; waters are considered a tributary even if there is a natural or constructed break along the connection to a TNW. Therefore, drainage channels disrupted by roads in the jurisdictional delineation survey area may still be considered under the jurisdiction of the USACE and/or the RWQCB. Swales and erosional features are not considered jurisdictional (USACE 2007).

For streams with well-defined bed and banks, the limits of CDFW jurisdictional waters were identified as the top of bank or the outer drip line of riparian vegetation. For episodic streams with indistinct bed and banks, the Mapping Episodic Stream Activity (MESA) guidelines were used to determine the extent of CDFW jurisdictional waters (Brady and Vyverberg 2014). This method uses a combination of GIS-based modeling of flow accumulation, aerial photo interpretation, and field indicators of fluvial activity and inactivity to map watercourses (i.e., Flow Accumulation Model).

Field surveys were conducted by Ms. Rudalevige, Ms. Messett, and Ms. Thomas in order to ground truth the modeling results and map the jurisdictional boundaries. The jurisdictional delineation survey area included the Project site and a 50-foot buffer on either side of the centerline of the utility alignment. Surveys of the Project site and most of the utility alignment were performed by Ms. Rudalevige and Ms. Messett on January 24, 25, and 26, and June 8, 2017. The portion of the utility alignment on the west and south sides of the existing CCFF was surveyed by Ms. Thomas on January 3, 2018. A portion of the WWTP was surveyed by Ms. Rudalevige on October 27, 2020. Due to the large number of potential jurisdictional features on the Project site, it was not feasible to take longitudinal measurements along the path of every individual watercourse. Therefore, prior to the field survey, eight site transects were established that spanned the Project site. Site transects were spaced 500 feet apart and oriented approximately perpendicular to the path of stream flow. The path of the streamflow was based on the Flow Accumulation Model. Along the utility alignment, jurisdictional features were mapped on aerial photographs at a scale of 1 inch equals 300 feet (1″ = 300′). At the WWTP, jurisdictional features were mapped on an aerial photograph at a scale of 1 inch equals 200 feet (1″ = 200′). Jurisdictional water resources were either delineated as a drainage centerline with corresponding width measurements or, for waterbodies and wide and/or braided drainages clearly visible on aerial imagery, as a polygon. Episodic Stream Indicator Data Sheets were completed for four non-random, representative MESA transects roughly perpendicular to four drainages on the Project site to document fluvial activity and boundaries.

The results of the jurisdictional delineation are included as Appendix G.

[3] Traditional Navigable Waters are all waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.

2.5 LIMITATIONS THAT MAY INFLUENCE SURVEY RESULTS

The first two crepuscular burrowing owl survey visits of the 2017 survey did not include the 15-acre boundary shift area. However, the 15-acre additional area was included in the third and fourth survey visits. Had burrowing owl occupied this area, it is expected that they would have been detected during these later survey visits. Additionally, because burrowing owl move (making them more detectable), and part of the protocol is to scan the horizon for owls, it is assumed that if they occurred in this area, they may have been detected (if present) during the first and second visits even though it was slightly outside of the area covered by transects (i.e., 100 to 120 feet). Thus, the boundary shift is not expected to have affected the results of the burrowing owl survey.

Similarly, the 2016 desert tortoise and Mohave ground squirrel surveys conducted by GANDA did not include the 15-acre boundary shift area. Because these species were detected throughout the Project site, their presence is assumed in the 15-acre boundary shift area without the need for additional surveys.

Rainfall received in the winter and spring determines the germination of many annual and perennial herb species. According to the Western Regional Climate Center (WRCC), the region (data taken from Mojave) received below average precipitation for 13 consecutive years from 2006 through 2018. Due to lower than average rainfall during the years leading up to the plant surveys, annual species may not have been detectable. However, reference populations of annual species were monitored prior to conducting special status plant surveys. While low rainfall was recorded prior to the 2016, 2017, and 2018 surveys, reference populations bloomed in 2016 and 2017, indicating surveys were valid for annual plant species in those years. In 2018, reference populations for some species demonstrated that the species were detectable, while surveys for others showed that they were not detectable, and thus surveys were inconclusive. Adequate rainfall was recorded and reference populations were blooming prior to the 2019 and 2020 focused plant surveys; therefore, the 2019 survey of the boundary shift area and the 2020 survey of the Project site are considered adequate. Therefore, low rainfall is no longer considered a limitation.

Although plant reference populations and regional rainfall amounts were monitored to ensure the adequacy of the focused plant survey effort, there is still a potential for false negative survey results as a species could possibly be present on a site but not detectable at the time of the surveys. It should be noted that not every individual in a population blooms every year; thus, when populations are of limited size and extent, they may be detectable one year and not another, depending on the collective flowering/germination of individuals in that population. However, it is expected that if a large population were present, it would be detectable (assuming adequate rainfall) because some individuals would always bloom/germinate. In addition, observed differences in population sizes from year to year are not unexpected; population sizes may fluctuate for a variety of reasons, such as differences in annual rainfall. Because special status plant surveys were conducted over multiple years, resulting in two complete rounds of surveys, this is not expected to be a limitation.

Standard protocols were used for focused surveys of special status plants and burrowing owl. The focused surveys for desert tortoise and Mohave ground squirrel did not follow the standard methods for these species. The modified survey protocols and results of each 2016 survey were discussed at a Pre-Application Field Meeting held with the USFWS and CDFW on November 18, 2016 (Psomas 2016). At the meeting with the agencies, Ray Bransfield of the USFWS and Benessa Espino of CDFW agreed that the results of the 2016 GANDA surveys were considered adequate and these focused surveys did not need to be updated in 2017. At the meeting, they also agreed that focused surveys were not needed along the utility alignment; that presence of desert tortoise, Mohave ground squirrel, and burrowing owl would be assumed where suitable habitat was present adjacent to the utility alignments.

3.0 EXISTING BIOLOGICAL RESOURCES

3.1 PHYSICAL ENVIRONMENTAL SETTING

3.1.1 Regional Environment

The Project is located in the California Desert Province within the Western Mojave subregion, specifically Fremont Valley. The Mojave Desert is a large, wedge-shaped basin covering approximately 32 million acres in California, Nevada, Utah, and Arizona. The Great Basin is to the north; the Apache Highlands and Colorado Plateau are to the east; the Colorado Desert, San Gabriel Mountains, and San Bernardino Mountains are to the south; and the Sierra Nevada Mountains and Tehachapi Mountains are to the west.

The Project site is within an area referred to as "the high desert." Elevations range from 282 feet below mean sea level (msl) in Death Valley to over 11,000 feet above msl in the Spring Mountains of Nevada and the Panamint Range in California. Common vegetation communities in the Mojave Desert include creosote bush scrub, shadscale scrub, alkali sink, and Joshua tree woodland (Schoenherr 1992).

The majority (approximately 85 percent) of land in the Mojave Desert is publicly owned, primarily by the State and federal governments (TNC 2010). The BLM is the largest land manager, covering approximately 46 percent of the region. Private lands and Native American tribal lands represent approximately 14.7 and 0.43 percent of the region, respectively. The majority of land in the vicinity of the Project site is privately owned or is part of Edwards Air Force Base.

3.1.2 Climate

California's deserts are a product of the rain-shadow effect, in which the prevailing winds encounter a barrier, such as a mountain range, that causes them to lose their moisture, thus creating a dry region on the leeward side of the barrier. Desert environments typically have an average precipitation of less than 10 inches; experience temperature extremes; are windy with increased evaporation rates; have a high light intensity; have nutrient-poor, alkaline soil; and have low rates of primary production[4] (Schoenherr 1992).

The Mojave Desert experiences precipitation primarily in the winter, with occasional summer thunderstorms. Annual precipitation is generally less than 10 inches. Snow is common at higher elevations. The average annual precipitation in the vicinity of the Project is 6.67 inches, with over half of this falling in the winter. Temperatures in this region average 80.6°F in the summer and 46.1°F in the winter (Arguez et al. 2010).[5]

3.1.3 Local Environment

Topography in the vicinity of the Project site is generally moderately sloping and undulating. Elevations on the Project site range from approximately 2,700 feet above msl in the northeast corner to 2,550 feet above msl in the southwest corner. Elevations along the utility alignment range from approximately 2,575 feet above msl at the eastern end to 2,445 feet above msl at the intersection of Yerba Boulevard and California City Boulevard. The elevation at the WWTP is approximately 2,331 feet above msl.

[4] Primary production is the rate at which photosynthesis converts the sun's energy to organic compounds.

[5] Seasons are climatological; winter is considered to be December, January, and February; and summer is considered to be June, July, and August.

Soils on the Project site are mapped as Cajon loamy sand (0 to 5 percent slopes), Muroc-Randsburg sandy loams (5 to 9 percent slopes), Neuralia sandy loam (2 to 5 percent slopes), and Torriorthents-rock outcrop complex (very steep) (Exhibit 4). Soils along the utility alignment are mapped as Alko-Neuralia sandy loams (0 to 9 percent slopes), Cajon loamy sand (0 to 5 percent slopes), Garlock loamy sand (2 to 9 percent slopes), Muroc-Randsburg sandy loams (5 to 9 percent slopes), and Neuralia sandy loam (2 to 5 percent slopes). Soils at the WWTP are mapped as Alko-Neuralia sandy loams (0 to 9 percent slopes). Granitic bedrock outcrops and rocky to gravelly soils occur along low linear ridges in the northern portion of the Project site (CH2M Hill 2016). These erosional pediment surfaces are overlain by a veneer of sandy-gravelly alluvium and cut by numerous small, episodic channels that drain from the northeast to the southwest, with several smaller channels draining the ridges of rock outcrops in the western portion of the Project site. In some places, the veneer of alluvium is quite thin, and the resulting granitic “balds,” or exposed caliche layers, support a somewhat distinct suite of native annuals. The low point at the southwest corner is flatter, with fewer or no stream channels and better developed and deeper soils. Saline-alkaline soils are not present on or near the site, which is elevated well above Koehn Lake (the nearest playa). No active or stabilized dunes or fine flow sands are present. The Project site is crossed by a network of small off-highway vehicle (OHV) roads.

3.2 VEGETATION TYPES AND OTHER AREAS

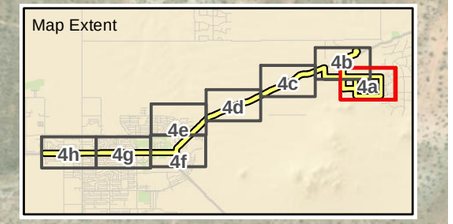
The following vegetation types occur in the study area: creosote bush–white bursage scrub, disturbed creosote bush–white bursage scrub, creosote bush–white bursage scrub/allscale scrub, rubber rabbitbrush scrub, allscale scrub, rubber rabbitbrush–allscale scrub, and semi-natural herbaceous stand (Exhibit 5; Table 4). Other landcover includes open water, ornamental, ornamental/developed, developed, and disturbed areas.

Study Area
Project Site Boundary
Proposed Utility Alignment

Soil Type

- 100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes
- 114 - Cajon loamy sand, 0 to 5 percent slopes
- 137 - Garlock loamy sand, 2 to 9 percent slopes
- 151 - Muroc-Randsburg sandy loams, 5 to 9 percent slopes
- 154 - Neuralia sandy loam, 2 to 5 percent slopes
- 185 - Torriorthents-Rock outcrop complex, very steep

Map Extent



Match Line - Exhibit 4b

Lookout Dr
La Salle St
Gordon Blvd
Fay Ct
Belle St
Lindbergh Blvd
Imes Dr

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: Maxar 2018

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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4a

N W E S

500 250 0 500 Feet

PSOMAS

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Study Area
Project Site Boundary
Proposed Utility Alignment

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes
114 - Cajon loamy sand, 0 to 5 percent slopes
137 - Garlock loamy sand, 2 to 9 percent slopes
151 - Muroc-Randsburg sandy loams, 5 to 9 percent slopes
154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent

4h 4g 4f 4e 4d 4c 4b 4a

Twenty Mule Team Pkwy

Match Line - Exhibit 4a

Match Line - Exhibit 4c

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: Maxar 2018

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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4b

N W E S

500 250 0 500 Feet

PSOMAS

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Study Area

Proposed Utility Alignment

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes

151 - Muroc-Randsburg sandy loams, 5 to 9 percent slopes

154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent

4h 4g 4f 4e 4d 4c 4b 4a

Match Line - Exhibit 4b

Match Line - Exhibit 4d

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: Maxar 2018

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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4c

N W E S

500 250 0 500

Feet

PSOMAS

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Study Area

Proposed Utility Alignment

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes

154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent

4h 4g 4f 4e 4d 4c 4b 4a

Match Line - Exhibit 4c

Match Line - Exhibit 4e

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Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: Maxar 2018

Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4d

N W E S

500 250 0 500 Feet

PSOMAS

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Study Area
Proposed Utility Alignment
Wastewater Treatment Plant

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes
114 - Cajon loamy sand, 0 to 5 percent slopes
154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent

4a 4b 4c 4d 4e 4f 4g 4h

Mendiburu Rd
Rea Ave
Evelyn Ave
Margery Ave
Karen Ave
Susan Ave
Irene Ave
Sally Ave
N Loop Blvd
99th St
101st St
Ethel St
Conkin Blvd
Alder Dr
Bancroft Dr
Calhoun Dr
Trumbull St
Darrow Dr
Garibaldi Ct
Hooker Dr
Sheridan St
Everett Dr
Dolphin Ct
Camille Ct
Jeremy Ct
Jeremy Dr
Keller Dr
N Garibaldi Dr
Joan Ct
Lydia Dr
Everett Ct
S Garibaldi Dr
Electra Ct
Ives Ct
Ives Dr
Randsburg Mojave Rd
Camp Fire Dr
Desert Breeze Dr

Match Line - Exhibit 4d
Match Line - Exhibit 4f

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: Maxar 2018

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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4e

N W E S

500 250 0 500 Feet

PSOMAS

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Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: Maxar 2018

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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4f

N W E S 500 250 0 500 Feet

PSOMAS

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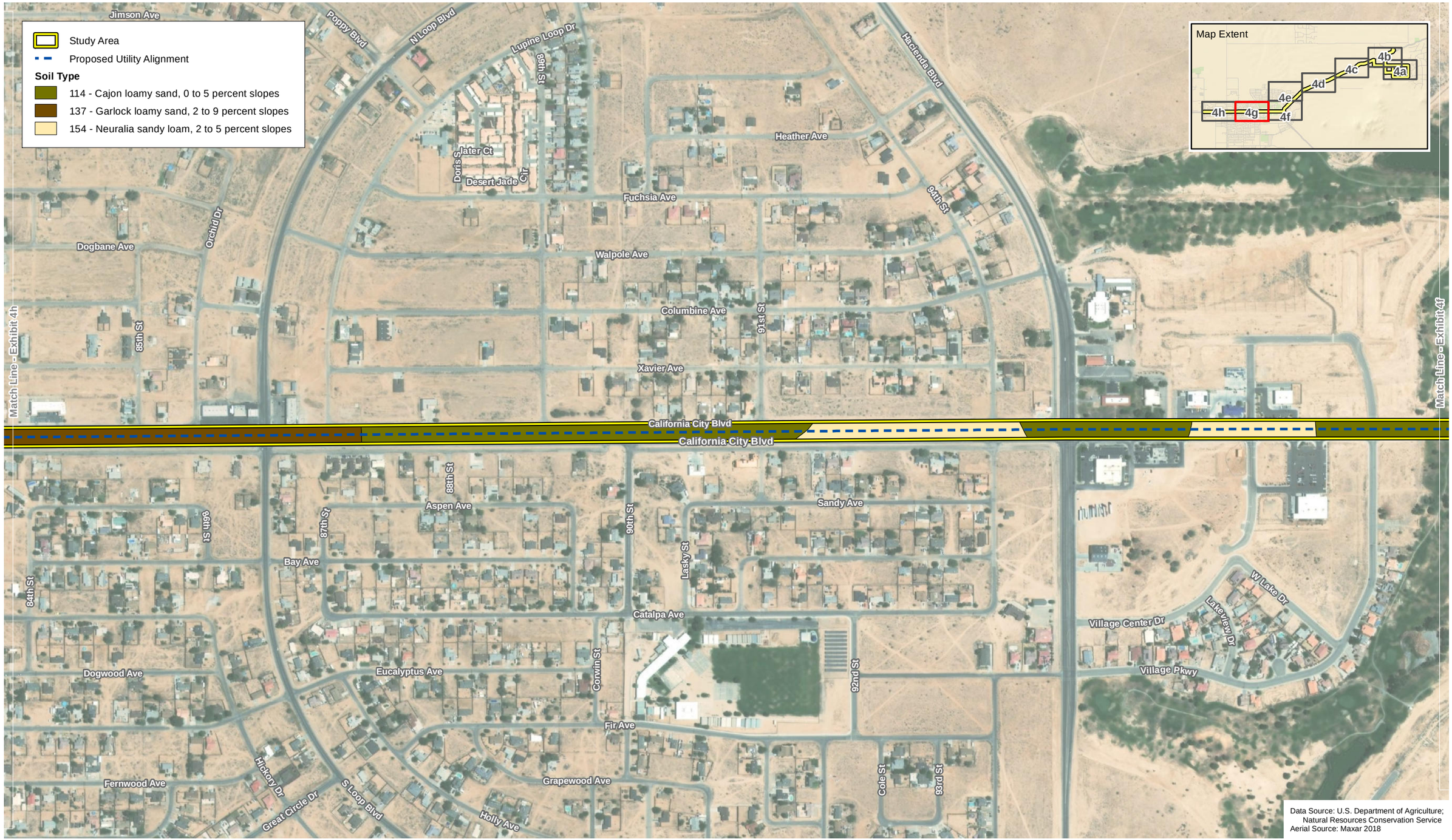

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Soil Types

Correctional Facility at California City (CFCC)

N
W E
S

500 250 0 500

Feet

Exhibit 4g

PSOMAS

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Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: Maxar 2018

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Soil Types

Correctional Facility at California City (CFCC)

Exhibit 4h

N W E S

500 250 0 500 Feet

PSOMAS

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Study Area

Project Site Boundary

Proposed Utility Alignment

Vegetation Types and Other Areas

Creosote Bush - White Bursage Scrub

Developed

Disturbed

Map Extent

5h 5g 5f 5e 5d 5c 5b 5a

Match Line - Exhibit 5b

Lookout Dr

La Salle St

Gordon Blvd

Fay Ct

Belle St

Lindbergh Blvd

Innes Dr

Kim Ct

Aerial Source: Maxar 2018

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Biological Resources

Exhibit 5a

Correctional Facility at California City (CFCC)

N W E S

500 250 0 500

Feet

PSOMAS

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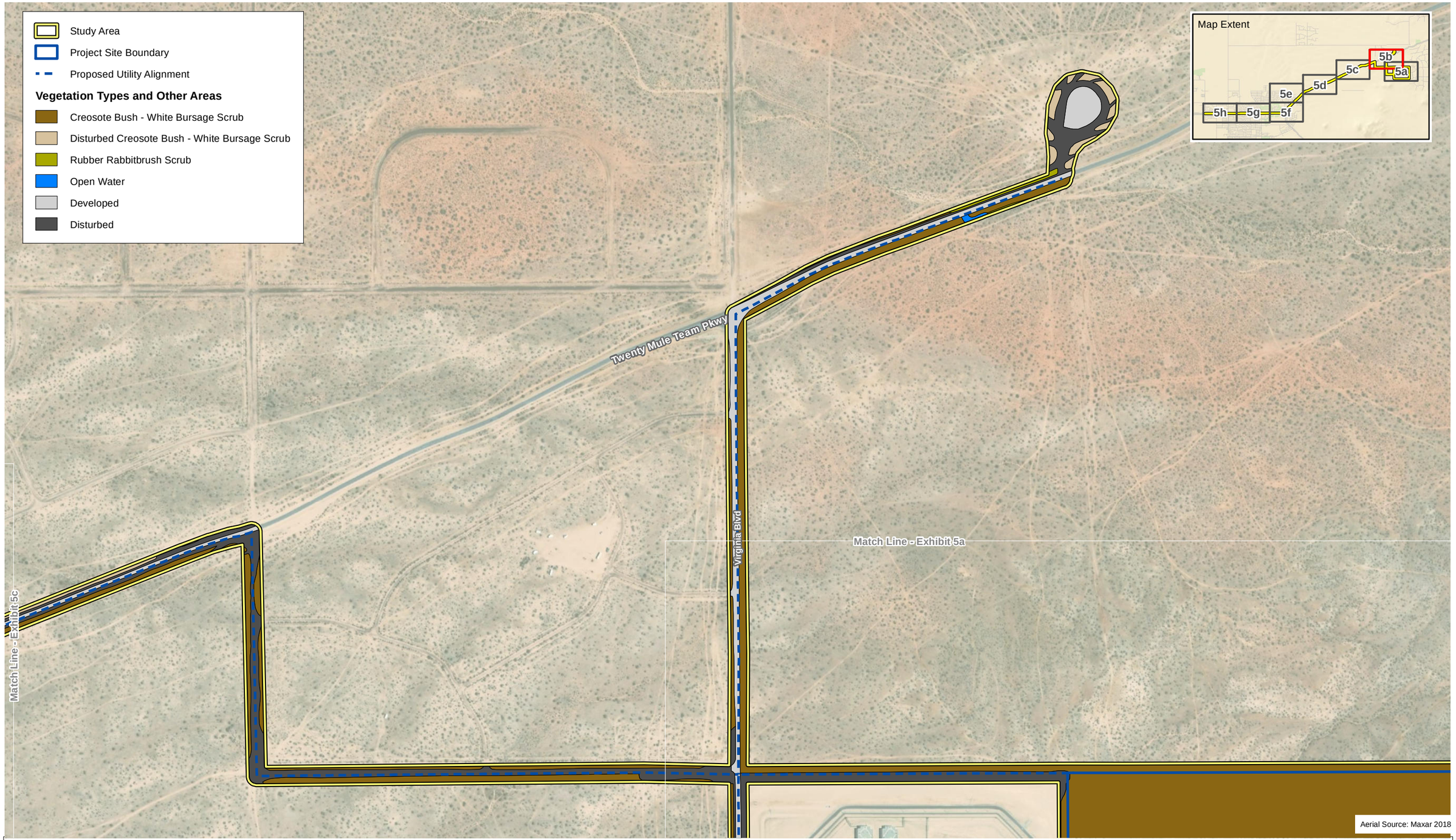

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Biological Resources

Correctional Facility at California City (CFCC)

Exhibit 5b

N W E S

500 250 0 500 Feet

PSOMAS

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Study Area

Proposed Utility Alignment

Vegetation Types and Other Areas

Creosote Bush - White Bursage Scrub

Disturbed Creosote Bush - White Bursage Scrub

Developed

Disturbed

Map Extent

5h 5g 5f 5e 5d 5c 5b 5a

Twenty Mule Team Pkwy

Match Line - Exhibit 5b

Match Line - Exhibit 5d

Aerial Source: Maxar 2018

Biological Resources

Exhibit 5c

Correctional Facility at California City (CFCC)

N W E S

500 250 0 500

Feet

PSOMAS

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Biological Resources

Exhibit 5d

Correctional Facility at California City (CFCC)

N W E S

500 250 0 500

Feet

PSOMAS

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Aerial Source: Maxar 2018

Biological Resources

Exhibit 5e

Correctional Facility at California City (CFCC)

N W E S

500 250 0 500

Feet

PSOMAS

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Biological Resources

Correctional Facility at California City (CFCC)

Exhibit 5f

N W E S

500 250 0 500 Feet

PSOMAS

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Study Area

Proposed Utility Alignment

Vegetation Types and Other Areas

Semi-natural Herbaceous Stand

Developed/Ornamental

Ornamental

Developed

Disturbed

Map Extent

5h 5g 5f 5e 5d 5c 5b 5a

Poppy Blvd
N Loop Blvd
Lupine Loop Dr
89th St
Hacienda Blvd
Heather Ave
Doris Slater Ct
Desert Jade Cir
Fuchsia Ave
94th St
Orchid Dr
Dogbane Ave
Walpole Ave
85th St
Columbine Ave
91st St
Xavier Ave
Match Line - Exhibit 5h
California City Blvd
California City Blvd
Match Line - Exhibit 5f
88th St
86th St
Aspen Ave
87th St
90th St
Sandy Ave
Bay Ave
Lasky St
84th St
W Lake Dr
Lakeview Dr
Catalpa Ave
Village Center Dr
Village Pkwy
Corwin St
92nd St
Dogwood Ave
Eucalyptus Ave
Fir Ave
Hickory Dr
Fernwood Ave
Great Circle Dr
S Loop Blvd
Grapewood Ave
Holly Ave
Cole St
93rd St

Aerial Source: Maxar 2018

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Biological Resources

Exhibit 5g

Correctional Facility at California City (CFCC)

N W E S

500 250 0 500 Feet

PSOMAS

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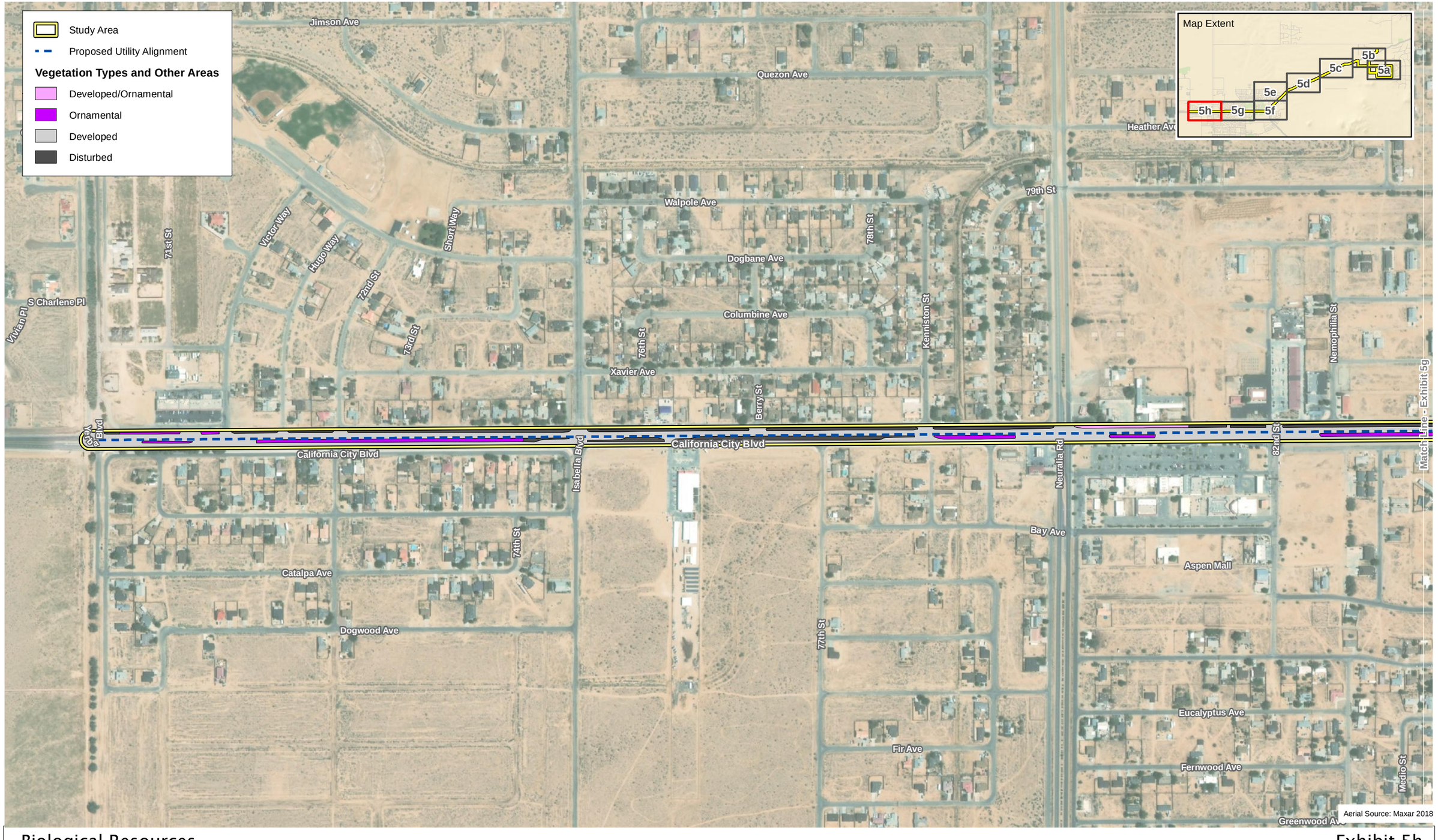

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Biological Resources

Correctional Facility at California City (CFCC)

Exhibit 5h

N W E S

500 250 0 500 Feet

Aerial Source: Maxar 2018

PSOMAS

(Rev: 11-04-2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\BioTech\ex_BioResources.pdf

TABLE 4
VEGETATION TYPES AND OTHER AREAS IN THE STUDY AREA

Vegetation Types and Other Areas	Amount (Acres)			Threat Ranking
	Project Site	Utility Alignment	Wastewater Treatment Plant	
Creosote Bush–White Bursage Scrub	216.45	40.46	0.00	G5, S5
Disturbed Creosote Bush–White Bursage Scrub	0.00	4.10	0.00	G5, S5
Creosote Bush–White Bursage Scrub/Allscale Scrub	0.00	0.10	0.00	–
Rubber Rabbitbrush Scrub	0.00	0.39	0.00	G5, S5
Allscale Scrub	0.00	0.91	0.00	G4, S4
Rubber Rabbitbrush–Allscale Scrub	0.00	0.00	4.82	G4/S4, G5/S5
Semi-natural Herbaceous Stand	0.00	0.25	1.24	–
Ornamental	0.00	5.17	0.00	–
Open Water	0.00	0.08	2.65	–
Developed/Ornamental	0.00	2.04	0.00	–
Developed	0.00	53.75	1.42	–
Disturbed	0.08	41.42	14.01	–
Total	**216.53**	**148.67**	**24.14**	

G: Global; S: State.

Threat Ranking

4 Apparently secure and uncommon but not rare
5 Secure
– No threat rank

3.2.1 Creosote Bush–White Bursage Scrub

Creosote bush–white bursage scrub occurs throughout the Project site and along the eastern half of the utility alignment. This vegetation type has an open cover co-dominated by creosote bush (*Larrea tridentata*) and white bur-sage (*Ambrosia dumosa*). Individual shrubs are widely spaced, though the density of creosote bush is highest in the eastern half of the Project site. Other species noted in this vegetation type include white rabbitbrush (*Ericameria nauseosa* var. *hololeuca*), narrow-scaled cottonthorn (*Tetradymia stenolepis*), California buckwheat (*Eriogonum fasciculatum*), and silver cholla (*Cylindropuntia echinocarpa*). Common burrobrush (*Ambrosia salsola*), rayless goldenhead (*Acamptopappus sphaerocephalus*), and Cooper's box-thorn (*Lycium cooperi*) occur along the drainages.

During the 2016 surveys, total herbaceous vegetative cover was 15 to 35 percent and dominated by non-native Mediterranean grass (*Schismus* spp.) and filaree (*Erodium* spp.) with lesser amounts of tessellated fiddleneck (*Amsinckia tessellata*), brittle spinflower (*Chorizanthe brevicornu*), desert dandelion (*Malacothrix glabrata*), common goldfields (*Lasthenia gracilis*), field sun cup (*Camissonia campestris*), California mustard (*Caulanthus lasiophylla*), gilia (*Gilia* sp.), club-shaped chylismia (*Chylismia claviformis*), Booth's evening-primrose (*Eremothera boothii* ssp. *desertorum*), thistle sage (*Salvia carduacea*), and pincushion (*Chaenactis* spp.). During the January 2017 surveys, this herbaceous annual component was absent; and spaces between the shrubs were either bare or had a sparse component of Mediterranean grass.

This entire area is crossed with numerous OHV roads that lack vegetation; these areas have not been mapped separately.

3.2.2 Disturbed Creosote Bush–White Bursage Scrub

Disturbed creosote bush–white bursage scrub occurs in vacant lots adjacent to residences and between dirt roads along the utility alignment. This vegetation type is also co-dominated by creosote bush and white bur-sage, but shrub cover is at lower densities than in creosote bush–white bursage scrub. Also, non-native annual grasses and weedy species, such as Russian thistle (*Salsola tragus*), make up a larger percentage of the shrub cover; and ground disturbance is present in some areas.

3.2.3 Creosote Bush–White Bursage Scrub/Allscale Scrub

Creosote bush–white bursage scrub/allscale scrub occurs at the eastern edge of residential development in California City. This vegetation type represents a transition between creosote bush–white bursage scrub and allscale scrub and has a mix of creosote bush, white bur-sage, and allscale saltbush (*Atriplex polycarpa*) with no clear dominant species.

3.2.4 Rubber Rabbitbrush Scrub

Rubber rabbitbrush scrub occurs in vacant lots adjacent to residences and along drainages of the utility alignment. This vegetation type is dominated by white rabbitbrush.

3.2.5 Allscale Scrub

Allscale scrub occurs along a drainage at the eastern edge of residential development in California City. This vegetation type is dominated by allscale saltbush with a small amount of creosote bush.

3.2.6 Rubber Rabbitbrush–Allscale Scrub

Rubber rabbitbrush–allscale scrub occurs along the banks of the basins at the WWTP. This vegetation type is co-dominated by white rabbitbrush and allscale.

3.2.7 Semi-natural Herbaceous Stand

Semi-natural herbaceous stands occur adjacent to development along the utility alignment and in patches at the WWTP. This vegetation type is dominated by non-native, weedy species such as Russian thistle, barbwire Russian thistle (*Salsola paulsenii*), eastern sisymbrium (*Sisymbrium orientale*), and grayish shortpod mustard (*Hirschfeldia incana*).

3.2.8 Ornamental

Ornamental vegetation occurs in the center median and on either side of California City Boulevard. This vegetation type consists of a variety of planted landscaping species such as pine (*Pinus* sp.), palo verde (*Parkinsonia* sp.), common oleander (*Nerium oleander*), prickly-pear (*Opuntia* sp.), linear arched desert willow (*Chilopsis linearis* ssp. *arcuata*), and turf grass.

3.2.9 Other Landcover

Other land cover in the study area consists of open water, developed/ornamental areas, developed areas, and disturbed land (Exhibit 5; Table 4).

During vegetation mapping, open water was observed in three of the basins at the WWTP (October 2020) and in a drainage adjacent to the road (water was present due to recent rain in January 2017).

Developed/ornamental areas occur in the western half of the utility alignment and consist of structures (e.g., residences) with associated landscaping.

Developed areas consist of paved roads and structures at the WWTP. Disturbed areas consist of dirt roads, unvegetated road shoulders, center medians, basin bottoms at the WWTP, and graded areas of the WWTP; these areas contain less than five percent vegetation cover.

3.3 WILDLIFE POPULATIONS AND MOVEMENT PATTERNS

Vegetation in and adjacent to the study area provides potential habitat for a number of wildlife species. Common wildlife species observed or expected to occur in the study area and adjacent to the utility alignment are discussed below.

3.3.1 Fish

Surface water is scarce in the Mojave Desert; most water is in underground aquifers (TNC 2010). Streams are ephemeral or intermittent and are fed by springs, snow melt, and rainfall. Drainage features observed in the study area consist of dry desert washes. Because there is no water on the Project site, except immediately following rain, drainage features would not provide suitable habitat for fish, and no fish species are expected to occur. No native fish are expected to occur in the open water of the WWTP basins, although they may be stocked with western mosquitofish (*Gambusia affinis*).

3.3.2 Amphibians

Amphibians require moisture for at least a portion of their life cycle, and many require standing or flowing water for reproduction. Terrestrial species may or may not require standing water for reproduction; they survive in dry areas by aestivating (i.e., remaining beneath the soil in burrows or under logs and leaf litter and emerging only when temperatures are low and humidity is high). Many of these species' habitats are associated with water, and they emerge to breed once the rainy season begins. Soil moisture conditions can remain high throughout the year in some habitat types, depending on factors such as amount of vegetation cover, elevation, and slope/aspect.

Most desert amphibian species are restricted to areas of permanent water, desert washes, desert oases, or moist areas with riparian habitat. Baja California treefrogs (*Pseudacris hypochondriaca*) are believed to have been introduced to California City (Stebbins 2003); however, they are likely limited to landscaped areas that are watered regularly and the basins at the WWTP. Other amphibian species are not expected to occur in the study area due to the lack of permanent water, desert washes, desert oases, moist vegetation types, and landscaped areas.

3.3.3 Reptiles

Reptiles are well-adapted to life in arid habitats. They have several physiological adaptations that allow them to conserve water. Reptiles can also become dormant during weather extremes, allowing them to survive prolonged droughts and paucity of food (Ruben and Hillenius 2005). Reptilian diversity and abundance typically varies with vegetation type and character.

Common reptile species observed in the study area include long-nosed leopard lizard (*Gambelia wislizenii*), desert horned lizard (*Phrynosoma platyrhinos*), yellow-backed spiny lizard (*Sceloporus uniformis*), common side-blotched lizard (*Uta stansburiana*), Great Basin whiptail (*Aspidoscelis tigris tigris*), long-nosed snake (*Rhinochelius lecontei*), California kingsnake (*Lampropeltis californiae*), and northern Mojave rattlesnake (*Crotalus scutulatus scutulatus*).

3.3.4 Birds

A variety of bird species are expected to be residents in the study area, using the habitats throughout the year. Other species are present only during certain seasons. Common bird species observed in the study area include Eurasian collared-dove (*Streptopelia decaocto*), mourning dove (*Zenaida macroura*), lesser nighthawk (*Chordeiles acutipennis*), Anna's hummingbird (*Calypte anna*), killdeer (*Charadrius vociferus*), red-tailed hawk (*Buteo jamaicensis*), northern flicker (*Colaptes auratus*), American kestrel (*Falco sparverius*), olive-sided flycatcher (*Contopus cooperi*), Say's phoebe (*Sayornis saya*), loggerhead shrike (*Lanius ludovicianus*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), rock wren (*Salpinctes obsoletus*), sage thrasher (*Oreoscoptes montanus*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), house finch (*Haemorhous mexicanus*), lark sparrow (*Chondestes grammacus*), sagebrush sparrow (*Artemisiospiza nevadensis*), and white-crowned sparrow (*Zonotrichia leucophrys*). A variety of waterfowl were observed at the WWTP basins, including wood duck (*Aix sponsa*), mallard (*Anas platyrhynchos*), green-winged teal (*Anas crecca*), bufflehead (*Bucephala albeola*), and ruddy duck (*Oxyura jamaicensis*).

3.3.5 Mammals

Small mammals observed in the study area include desert woodrat (*Neotoma lepida*), white-tailed antelope squirrel (*Ammospermophilus leucurus*), and California ground squirrel (*Otospermophilus beecheyi*). Other common small mammals that may occur in the study area include long-tailed pocket mouse (*Chaetodipus formosus*), Botta's pocket gopher (*Thomomys bottae*), and cactus mouse (*Peromyscus eremicus*). Medium to large-sized mammals, or their sign, observed include black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*), and desert kit fox. European mouflon sheep (*Ovis aries*) are also grazed in the study area. Bat species that are either expected to occur or that may occur in the study area for foraging include canyon bat (*Parastrellus hesperus*), western mastiff bat (*Eumops perotis californicus*), and pallid bat (*Antrozous pallidus*). Canyon bat and pallid bat may also occur for roosting, while western mastiff bat would not be expected to roost on site due to the lack of suitable roosting habitat.

3.3.6 Wildlife Movement

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967; Soule 1987; Harris and Gallagher 1989; Bennett 1990). Corridors mitigate the effects of this fragmentation by (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fire or disease) will result in population or local species extinction; and (3) serving as travel routes for individual animals as they move in their home ranges in search of food, water, mates, and other necessary resources (Noss 1983; Farhig and Merriam 1985; Simberloff and Cox 1987; Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas or individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (e.g., foraging for food or water; defending territories; or searching for mates, breeding areas, or cover). A number of terms such as "wildlife corridor," "travel route," "habitat linkage," and "wildlife crossing" have been used in various wildlife movement studies to refer to areas in which wildlife move from one area to

another. To clarify the meaning of these terms and to facilitate the discussion on wildlife movement in this analysis, these terms are defined as follows:

- ***Travel route –*** a landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and to provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another. It contains adequate food, water, and/or cover while moving between habitat areas; and it provides a relatively direct link between target habitat areas.
- ***Wildlife corridor –*** a piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bound by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and to facilitate their movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat linkages" or "landscape linkages") can provide both transitory and resident habitat for a variety of species.
- ***Wildlife crossing –*** a small, narrow area, relatively short in length and generally constricted in nature that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are man-made and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These often represent "choke points" along a movement corridor, which may impede wildlife movement and increase the risk of predation.

It is important to note that in a large, open space area with few or no man-made or naturally occurring physical constraints to wildlife movement, wildlife corridors (as defined above) may not yet exist. Given an open space area that is both large enough to maintain viable populations of species and to provide a variety of travel routes (e.g., canyons, ridgelines, trails, riverbeds, and others), wildlife will use these "local" routes while searching for food, water, shelter, and mates and will not need to cross into other large, open space areas. Based on their size, location, vegetative composition, and availability of food, some of these movement areas (e.g., large drainages and canyons) are used for longer lengths of time and serve as source areas for food, water, and cover, particularly for small- and medium-sized animals. This is especially true if the travel route is within a larger open space area. However, once open space areas become constrained and/or fragmented as a result of urban development or construction of physical obstacles (such as roads and highways), the remaining landscape features or travel routes that connect the larger open space areas become corridors as long as they provide adequate space, cover, food, and water and do not contain obstacles or distractions (e.g., man-made noise, lighting) that would generally hinder wildlife movement.

In general, wildlife corridor discussions typically focus on larger, more mobile mammal species such as southern mule deer (*Odocoileus hemionus*), mountain lion (*Puma concolor*), and coyote. Discussing the needs of larger mammal species typically also captures the needs of mid-sized mammals such as foxes (*Vulpes* sp.), northern raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and American badger (*Taxidea taxus*). Most mammal species have relatively large home ranges through which they move to find adequate food, water, and breeding and wintering habitat. It is assumed that corridors that serve larger, more mobile mammal species also serve as corridors for many smaller, less mobile species, such as reptiles, amphibians, and rodents. Regional movement for these species facilitates gene flow and requires at least some local "stepping stone" movement of individuals between populations.

Discussions of wildlife corridors generally focus less on bird species because they are more mobile and can fly over inhospitable habitat. Long-distance migrants are able to move great distances over unsuitable habitat; however, they must have stopover sites to rest and forage in order to continue their migration. Many resident species are habitat-specific, moving only through their preferred habitat type(s), or similar adjacent habitat; wildlife corridors would be more important for these bird species.

Ideally, an open space corridor should encompass a heterogeneous mix of vegetation types to accommodate the ecological requirements of a wide variety of resident species in any particular region. Most species typically prefer adequate vegetation cover during movement, which can serve as both a food source and as protection from weather and predators. Drainages, riparian areas, and forested canyon bottoms typically serve as natural movement corridors because these features provide cover, food, and often water for a variety of species. Very few species will move across large expanses of open, uncovered habitat unless it is the only option available to them. Landscape linkages must also provide "live-in" habitat (food and cover) to support smaller and less mobile species, such as amphibians, reptiles, and rodents, that require longer periods to traverse a corridor.

Wildlife movement is generally unconstrained surrounding the study area. The study area is almost entirely surrounded by undeveloped open space. The only barrier to wildlife movement from the Project site is the existing California City Correctional Center to the west and roadways carrying a low amount of traffic (e.g., Twenty Mule Team Parkway). Likewise, the WWTP is generally surrounded by unconstrained open space with a low-traffic roadway to the south; drainages surround the WWTP to the west, north, and east that provide for wildlife movement. The only barrier to movement in this area is the WWTP facility fence. The western end of the utility alignment is located in the developed area of California City. Development in this area is low-density; many wildlife (e.g., coyotes, foxes) can move through this type of development to surrounding areas of open space.

3.4 SPECIAL STATUS BIOLOGICAL RESOURCES

The following section addresses special status biological resources that were observed, reported, or have the potential to occur in the study area or in adjacent off-site areas. These resources include plant and wildlife species that have been afforded special status and/or recognition by federal and State resource agencies, as well as private conservation organizations. In general, the principal reason an individual taxon (i.e., species, subspecies, or variety) is given such recognition is the documented or perceived decline or limitations of its population size, geographic range, and/or distribution resulting in most cases from habitat loss. In addition to species, special status biological resources include vegetation types and habitats that are either unique; of relatively limited distribution in the region; or of particularly high wildlife value. These resources have been defined by federal, State, and local government conservation programs. Sources used to determine the special status of biological resources are listed below.

- ***Habitats –*** the CNDDB (CDFW 2018a, 2020a); *NatureServe Conservation Status Assessments: Methodology for Assigning Ranks* (Faber-Langendoen et al. 2012); and the *California Natural Communities List* (CDFW 2018b, 2020c).
- ***Plants –***the CNDDB (CDFW 2018a, 2020a); the Inventory of Rare and Endangered Plants (CNPS 2018); various USFWS *Federal Register* notices regarding listing status of plant species; and the *List of Special Vascular Plants, Bryophytes, and Lichens* (CDFW 2020b).
- ***Wildlife –*** the CNDDB (CDFW 2018a, 2020a); the California Wildlife Habitat Relationships Database System (CDFW 2014); various USFWS *Federal Register* notices regarding listing status of wildlife species; and the *List of Special Animals* (CDFW 2017b, 2020d).

3.4.1 Definitions

A **federally Endangered species** is one facing extinction throughout all or a significant portion of its geographic range. A **federally Threatened species** is one likely to become Endangered within the foreseeable future throughout all or a significant portion of its range. The presence of any federally listed Threatened or Endangered species in a project impact area generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct. "Harm" in this sense can include any disturbance of species' habitats during any portion of its life history.

Proposed species or **Candidate species** are those officially proposed by the USFWS for addition to the federal Threatened and Endangered species list. Because proposed species may soon be listed as Threatened or Endangered, these species could become listed prior to or during implementation of a proposed project. The presence of a Proposed or Candidate species within a project impact area may impose constraints on development if they are listed prior to issuance of project permits, particularly if a project would result in "take" of the species or its habitat.

The State of California considers an **Endangered species** to be one whose prospects of survival and reproduction are in immediate jeopardy, a **Threatened species** as one present in such small numbers throughout its range that it is likely to become an Endangered species in the near future in the absence of special protection or management, and a **Rare species** as one present in such small numbers throughout its range that it may become Endangered if its present environment worsens. "Rare species" only applies only to California native plants. State-listed Threatened and Endangered species are protected against take unless an Incidental Take Permit is obtained from the resource agencies. The presence of any State-listed Threatened or Endangered species in a project impact area generally imposes severe constraints on development, particularly if a project would result in "take" of the species or its habitat.

California Species of Special Concern is an informal designation used by the CDFW for some declining wildlife species that are not State Candidates for listing. This designation does not provide legal protection but signifies that these species are recognized as special status by the CDFW. A few years ago, the CDFW downlisted several species from Species of Special Concern to the **Watch List**. Although not considered special status, Watch List species are tracked by the CNDDB.

Species that are **California Fully Protected** and **Protected** include those protected by special legislation for various reasons, such as the mountain lion and white-tailed kite (*Elanus leucurus*). Fully Protected species may not be taken or possessed at any time. California Protected species include those species that may not be taken or possessed at any time except under special permit from the CDFW issued pursuant to Sections 650 and 670.7 of the *California Code of Regulations,* or Section 2081 of the *California Fish and Game Code.*

Species of **Local Concern** are those that have no official status with the resource agencies but are being watched because either the region has a unique population or the species is declining in the region.

Special Animal is a general term that refers to species that the CNDDB is interested in tracking, regardless of legal or protective status. This term includes species designated as any of the above terms but also includes species that may be considered biologically rare; restricted in distribution; declining throughout their range; have a critical, vulnerable stage in their life cycle that warrants monitoring; are on the periphery of their range and are threatened with extirpation in California; are associated with special status habitats; or are considered by other State or federal agencies or private organizations to be sensitive or declining.

The **CRPR**, formerly known as CNPS List, is a ranking system by the Rare Plant Status Review group[6] and managed by the CNPS and the CDFW (CDFW 2020b). A CRPR summarizes information on the distribution, rarity, and endangerment of California's vascular plants. Plants with a CRPR of **1A** are presumed extirpated from the state because they have not been seen in the wild in California for many years and they are either rare or extinct elsewhere. Plants with a CRPR of **1B** are Rare, Threatened, or Endangered throughout their range. Plants with a CRPR of **2A** are presumed extirpated from California but are more common elsewhere. Plants with a CRPR of **2B** are considered Rare, Threatened, or Endangered in California, but are more common elsewhere. Plants with a CRPR of **3** require more information before they can be assigned to another rank or rejected; this is a "review" list. Plants with a CRPR of **4** are of limited distribution or are infrequent throughout a broader area in California; this is a "watch list". The Threat Rank is an extension that is added to the CRPR to designate the plant's endangerment level. An extension of **.1** is assigned to plants that are considered to be "seriously threatened" in California (i.e., over 80 percent of the occurrences are threatened or have a high degree and immediacy of threat). Extension **.2** indicates the plant is "fairly threatened" in California (i.e., between 20 and 80 percent of the occurrences are threatened or have a moderate degree and immediacy of threat). Extension **.3** is assigned to plants that are considered "not very threatened" in California (i.e., less than 20 percent of occurrences are threatened or have a low degree and immediacy of threat or no current threats are known). The absence of a threat code extension indicates that this information is lacking for the plant(s) in question.

In addition to providing an inventory of special status plant and wildlife species, the CNDDB also provides an inventory of vegetation types that are considered special status by the State and federal resource agencies, academic institutions, and various conservation groups (e.g., the CNPS). Special status natural communities are "of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects"; they may or may not contain special status species (CDFG 2009). Determination of the level of imperilment (i.e., exposure to injury, loss, or destruction) is based on the NatureServe Heritage Program Status Ranks that rank both species and vegetation types on a global (G) and statewide (S) basis according to their rarity, trend in population size or area, and recognized threats (e.g., proposed developments, habitat degradation, and non-native species invasion) (Faber-Langendoen et al. 2012). Global and state ranks are provided for all native vegetation types on the *California Natural Communities List* (CDFW 2018b). The ranks are scaled from 1 to 5. NatureServe considers **G1** and/or **S 1** communities to be critically imperiled and at a very high risk of extinction or elimination due to extreme rarity, very steep declines, or other factors; **G2** and/or **S2** communities to be imperiled and at high risk of extinction or elimination due to very restricted range, very few populations or occurrences, steep declines, or other factors; **G3** and/or **S3** communities to be vulnerable and at moderate risk of extinction or elimination due to a restricted range, relatively few populations or occurrences, recent and widespread declines, or other factors; **G4** and/or **S4** communities to be apparently secure and uncommon but not rare with some cause for long-term concern due to declines or other factors; and **G5** and/or **S5** communities to be secure. A question mark (?) denotes an inexact numeric rank, but existing information points to this rank (Faber-Langendoen et al. 2012). Currently, association ranks are not provided, but associations ranked as S3 or rarer are noted. For vegetation alliances[7] that have State ranks of S1–S3, all associations within the alliance are considered to be highly imperiled.

[6] This group consists of over 300 botanical experts from the government, academia, non-governmental organizations, and the private sector.

[7] A vegetation alliance is "a classification unit of vegetation, containing one or more associations and defined by one or more diagnostic species, often of high cover, in the uppermost layer or the layer with the highest canopy cover" (Sawyer et al. 2009). This term is generally interchangeable with vegetation type.

3.4.2 Special Status Vegetation Types

Creosote bush–white bur-sage scrub, disturbed creosote bush–white bur-sage scrub, and rubber rabbitbrush scrub are considered "secure" by the CDFW on a global and state level (Table 4). Allscale scrub is considered "apparently secure and uncommon, but not rare" by the CDFW on a global and state level (Table 4). Rubber rabbitbrush –allscale scrub is a combination of associations that are considered "secure" and "apparently secure and uncommon, but not rare" by the CDFW (Table 4). Creosote bush–white bursage scrub/allscale scrub does not have a global or state ranking. None of these vegetation types would be considered special status by CDFW.

Semi-natural herbaceous stands and ornamental are not given a threat ranking because they are characterized by non-native species. These areas are considered relatively low in biological value compared to native habitat and would not be considered special status vegetation types.

Disturbed and developed are not given threat rankings because they are unvegetated landcovers.

Open water is included in the discussion of jurisdictional resources.

3.4.3 Jurisdictional Resources

Potential jurisdictional resources mapped in the study area consist of drainage features and artificial basins. The drainage features mapped in the jurisdictional delineation are episodic streams that contain surface water only immediately following storm events. Some of these drainage features likely dissipate into uplands either on or off site; however, others are tributaries of larger streams. The drainages in the northwestern portion of the Project site and along the utility alignment are tributaries of Cache Creek, which ultimately drains into the area around Koehn Lake north of the study area. The drainages in the southeastern portion of the Project site coalesce and drain to the south, near Rogers Lake. Both Koehn Lake and Rogers Lake are dry lakebeds. Because these drainages and dry lakebeds are not navigable, are not interstate waters, and do not have a role in foreign or interstate commerce, they are not considered waters of the United States. Therefore, drainages in the study area do not have connectivity to a TNW and are not under the jurisdiction of USACE. Although there have been recent changes in the delineation of USACE jurisdiction, the changes would not change the jurisdiction of the drainages on the Project site. The artificial basins at the WWTP are isolated and do not have connectivity to a TNW; therefore, they are not under the jurisdiction of the USACE.

The drainage features mapped in the delineation exhibit an OHWM for at least a portion of their length but dissipate into uplands or drain into a dry lake bed. These features do not maintain a continuous surface connection with a TNW; therefore, they are considered isolated waters of the State under the jurisdiction of the RWQCB. The basins at the WWTP exhibit an OHWM; these areas are also isolated waters that may be under the regulatory authority of the RWQCB. Approximately 10.659 acres of isolated waters of the State potentially under the jurisdiction of the RWQCB (2.989 acres on the Project site, 0.022 acre along the utility alignment, and 7.648 acres at the WWTP) occur in the area mapped in the jurisdictional delineation (Table 5; Exhibit 6).

Jurisdictional Delineation Survey Area

Project Site Boundary

Proposed Utility Alignment

Jurisdictional Resources

Drainage* (width in feet)

Topographic Contours (2-foot interval)

Basin (CDFW)

Basin (RWQCB)

*Note: Where two values are provided, the first indicates width of RWQCB waters of the State and the second indicates width of CDFW jurisdictional resources.

N
W E
S

300 150 0 300
Feet

Aerial Source: Maxar 2018

Jurisdictional Resources Exhibit 6a

Correctional Facility at California City (CFCC)

PSOMAS

(Rev: 11/05/2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\BioTech\ex_jd_features.pdf

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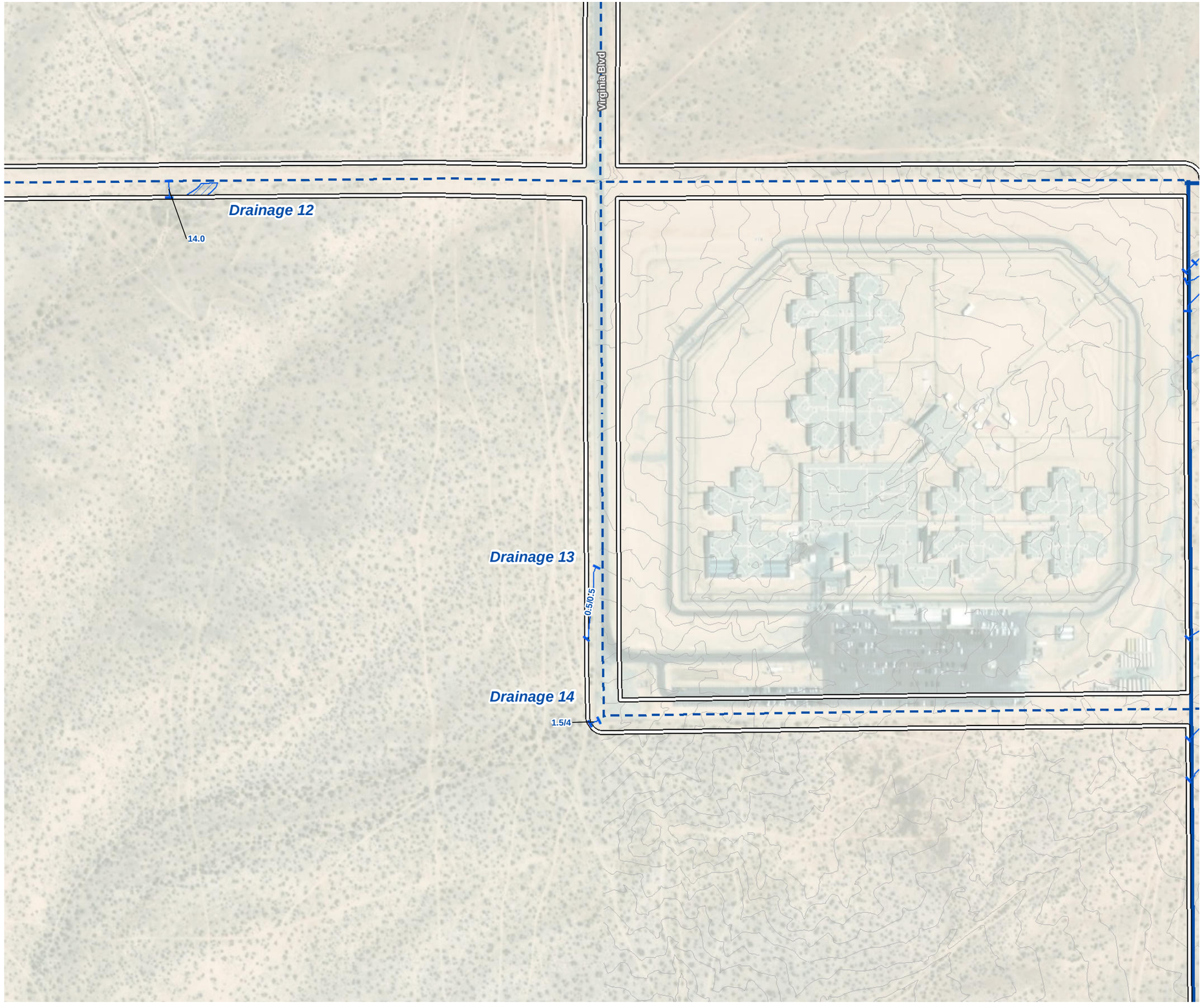

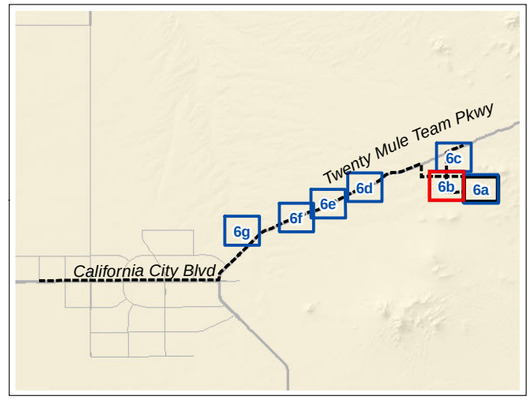

- Jurisdictional Delineation Survey Area
- Project Site Boundary
- Proposed Utility Alignment

Jurisdictional Resources

- Drainage* (width in feet)
- Drainage (polygon)
- Topographic Contours (2-foot interval)
- Basin (CDFW)
- Basin (RWQCB)

*Note: Where two values are provided, the first indicates width of RWQCB waters of the State and the second indicates width of CDFW jurisdictional resources.

N
W E
S

300 150 0 300
Feet

Aerial Source: Maxar 2018

Jurisdictional Resources Exhibit 6b

Correctional Facility at California City (CFCC)

PSOMAS

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Jurisdictional Delineation Survey Area

Proposed Utility Alignment

Jurisdictional Resources

Drainage* (width in feet)

Drainage (polygon)

Basin (CDFW)

Basin (RWQCB)

*Note: Where two values are provided, the first indicates width of RWQCB waters of the State and the second indicates width of CDFW jurisdictional resources.

N
W E
S

300 150 0 300
Feet

Aerial Source: Maxar 2018

Jurisdictional Resources Exhibit 6c

Correctional Facility at California City (CFCC)

PSOMAS

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- Jurisdictional Delineation Survey Area
- Proposed Utility Alignment
- Drainage (polygon)
- Basin (CDFW)
- Basin (RWQCB)

*Note: Where two values are provided, the first indicates width of RWQCB waters of the State and the second indicates width of CDFW jurisdictional resources.

N
W E
S

300 150 0 300
Feet

Aerial Source: Maxar 2018

Jurisdictional Resources Exhibit 6d

Correctional Facility at California City (CFCC)

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Jurisdictional Delineation Survey Area

Proposed Utility Alignment

Jurisdictional Resources

Drainage* (width in feet)

Drainage (polygon)

Basin (CDFW)

Basin (RWQCB)

*Note: Where two values are provided, the first indicates width of RWQCB waters of the State and the second indicates width of CDFW jurisdictional resources.

N

W E

S

300 150 0 300

Feet

Aerial Source: Maxar 2018

Jurisdictional Resources Exhibit 6e

Correctional Facility at California City (CFCC)

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Jurisdictional Delineation Survey Area

Proposed Utility Alignment

Jurisdictional Resources

Drainage* (width in feet)

Drainage (polygon)

Basin (CDFW)

Basin (RWQCB)

*Note: Where two values are provided, the first indicates width of RWQCB waters of the State and the second indicates width of CDFW jurisdictional resources.

N

W E

S

300 150 0 300

Feet

Aerial Source: Maxar 2018

Jurisdictional Resources Exhibit 6f

Correctional Facility at California City (CFCC)

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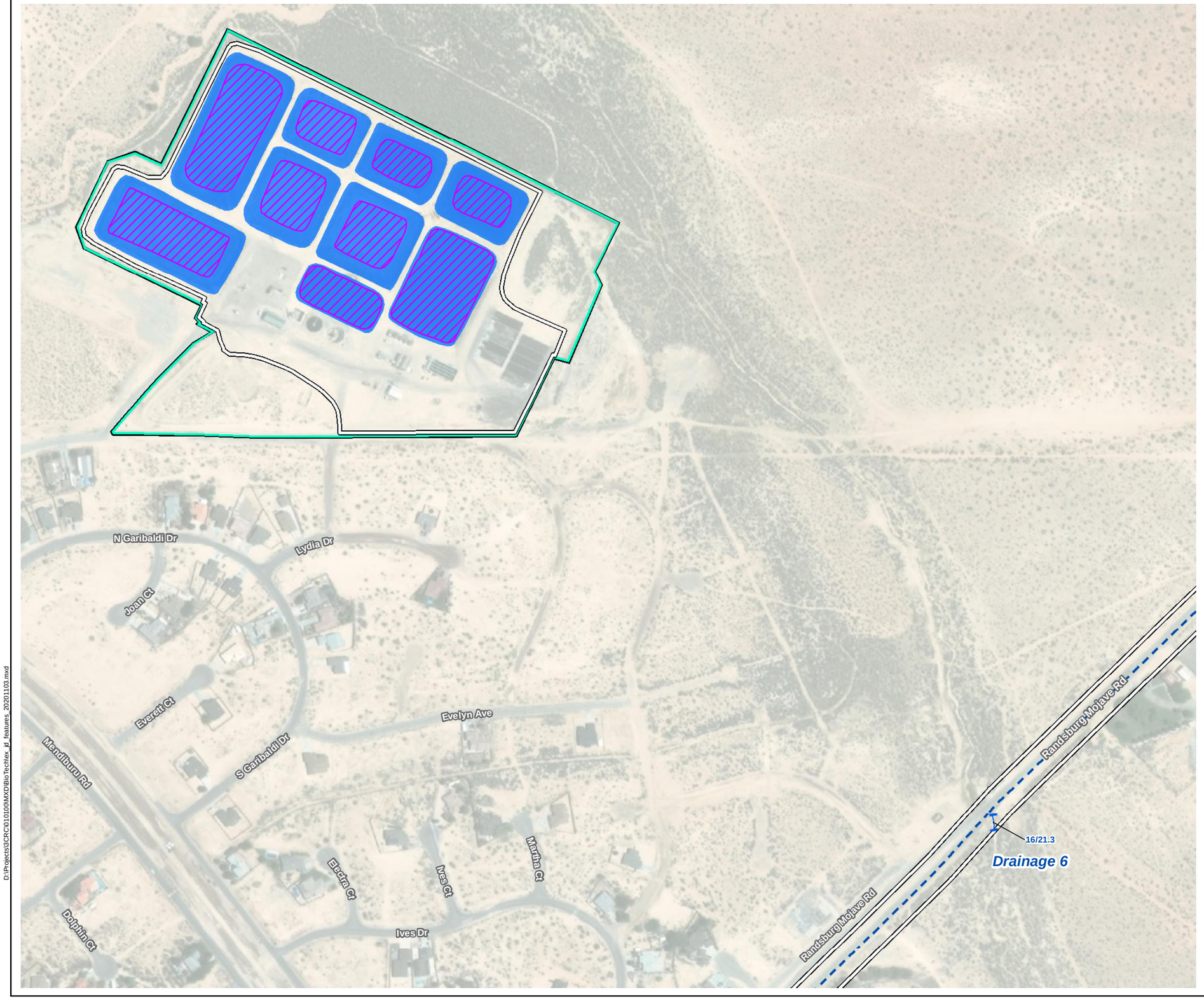

Jurisdictional Delineation Survey Area

Proposed Utility Alignment

Wastewater Treatment Plant

Jurisdictional Resources

Drainage* (width in feet)

Basin (CDFW)

Basin (RWQCB)

*Note: Where two values are provided, the first indicates width of RWQCB waters of the State and the second indicates width of CDFW jurisdictional resources.

N
W E
S

300 150 0 300
Feet

Aerial Source: Maxar 2018

Jurisdictional Resources Exhibit 6g

Correctional Facility at California City (CFCC)

PSOMAS

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TABLE 5
SUMMARY OF JURISDICTIONAL RESOURCES IN THE STUDY AREA

Jurisdiction	Project site (Acres)	Utility Alignment (Acres)	Wastewater Treatment Plant (Acres)	Total (Acres)
Total USACE waters of the United States	0.000	0.000	0.00	0.000
Total RWQCB waters of the State*	2.989	0.022	7.648	10.659
Total CDFW Jurisdictional Resources	2.989	0.414	13.342	16.745

USACE: U.S. Army Corps of Engineers; RWQCB: Regional Water Quality Control Board; CDFW: California Department of Fish and Wildlife; "–": not applicable.

* RWQCB jurisdictional boundaries are defined as those determined for the USACE under waters of the United States; however, the RWQCB also takes jurisdiction over isolated waters.

Most of the drainage features on the Project site did not have defined bed and banks. Instead, these features were mapped according to indicators of fluvial activity or inactivity discussed in the MESA protocol. Generally, the drainage features along the utility alignment exhibited evidence of bed and bank. Therefore, these features were mapped using the top of the stream bank as the potential extent of CDFW jurisdiction. The basins at the WWTP had defined bed and banks with no adjacent riparian vegetation. Approximately 16.745 acres of waters potentially under the jurisdiction of the CDFW (2.989 acres on the Project site, 0.414 acre along the utility alignment, and 13.342 acres at the WWTP) occur in the study area (Table 5, Exhibit 6).

3.4.4 Special Status Plants

Table 6 provides a summary of special status plant species reported to occur in the Project region (i.e., the USGS' Boron, Boron NW, California City North, California City South, Cantil, Galileo Hill, Johannesburg, Mojave NE, North Edwards, Saltdale SE, and Sanborn 7.5-minute quadrangles) and includes information on the status, species background, nearest reported location, potential for occurrence, and results of focused survey efforts. This list includes species reported by the CNDDB and the CNPS, supplemented with species from the Project Biologist's experience that either occur nearby or could occur based on the presence of suitable habitat. Note that these species are listed alphabetically according to their scientific name. Exhibit 7 shows the locations of special status species observed during surveys.

TABLE 6
SPECIAL STATUS PLANT SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status			Species Background[a]	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the Wastewater Treatment Plant (No Focused Surveys Performed)
	USFWS	CDFW	CRPR				
Calochortus striatus alkali mariposa-lily	—	—	1B.2	Alkaline meadows, moist creosote-bush scrub, chenopod scrub, Mojavean desert scrub, and chaparral; 2,625–4,593 feet above msl. Blooms April–June.	Reported approximately 5 miles southwest of the Project site (CDFW 2020a).	Not expected to occur based on lack of suitable habitat (moist alkaline soils). Additionally, not observed during 2016–2020 focused surveys.	Limited potential to occur; marginally suitable habitat.
Canbya candida white pygmy-poppy	—	—	4.2	Sandy gravelly, or granitic soils in Joshua tree woodland, pinyon and juniper woodland, and Mojavean desert scrub; 1,969–4,429 feet above msl. Blooms April–May.	Reported approximately 8.5 miles northeast of California City (CCH 2020).	Not expected to occur because not observed during 2016–2020 focused surveys; suitable habitat.	Limited potential to occur; marginally suitable habitat.
Chorizanthe spinosa Mojave spineflower	—	—	4.2	Sandy or gravelly, sometimes alkaline, soil in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas; 1,969–4,265 feet above msl. Blooms April–July.	Reported along SR-58 approximately 10 miles south of the Project site (CCH 2020).	Observed incidentally during 2017 burrowing owl surveys; not observed during subsequent surveys; suitable habitat.	Limited potential to occur; marginally suitable habitat.
Cryptantha clokeyi Clokey's cryptantha	—	—	1B.2	Rocky to gravelly slopes and ridge crests in desert woodland and Mojavean desert scrub; 2,789–5,413 feet above msl. Blooms April–May.	Reported approximately 13 miles northeast of the Project site (CDFW 2020a).	Not expected to occur because not observed during 2016–2020 focused surveys; suitable rocky habitat in the northern portion of the Project site.	Not expected to occur based on lack of suitable habitat (rocky/gravelly substrate).

TABLE 6
SPECIAL STATUS PLANT SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status			Species Background[a]	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the Wastewater Treatment Plant (No Focused Surveys Performed)
	USFWS	CDFW	CRPR				
Cymopterus deserticola desert cymopterus	—	—	1B.2	Sandy soil in Joshua tree woodland and Mojavean desert scrub; 2,297–4,921 feet above msl. Blooms April.	Reported approximately 4.5 miles south of the Project site (CDFW 2020a).	Not expected to occur because not observed during 2016–2020 focused surveys; limited amount of suitable soils.	Not expected to occur based on lack of suitable habitat (sandy soils).
Deinandra arida Red Rock tarplant	—	SR	1B.2	Clay and volcanic tuff in Mojavean desert scrub, washes, canyon slopes, and edges of springs and seeps; 1,969–3,281 feet above msl. Blooms April–November.	Reported approximately 10.6 miles northwest of the Project site (CDFW 2020a); known only from the Red Rock Canyon area.	Not expected to occur because not observed during 2016–2020 focused surveys; marginally suitable habitat in washes.	Not expected to occur based on lack of suitable habitat (washes).
Deinandra mohavensis Mojave tarplant	—	SE	1B.3	Moist sites in openings of chaparral, desert scrub, woodland, coastal scrub, and riparian scrub; 1,509–5,249 feet above msl. Blooms May–June.	Reported approximately 12.5 miles northwest of the Project site (CDFW 2020a).	Not expected to occur based on lack of suitable habitat (moist habitat). Additionally, not observed during 2016–2020 focused surveys.	Limited potential to occur; marginally suitable habitat.
Delphinium recurvatum recurved larkspur	—	—	1B.2	Poorly drained, fine, alkaline soils in grassland, chenopod scrub, and cismontane woodland; 98–1,969 feet above msl. Blooms March–June.	Reported approximately 13.5 miles south and southeast of the Project site (CDFW 2020a).	Not expected to occur based on lack of suitable habitat (alkaline soils). Additionally, not observed during 2016–2020 focused surveys.	Limited potential to occur; marginally suitable habitat.
Dudleya abramsii ssp. *calcicola* limestone dudleya	—	—	4.3	Carbonate soils in chaparral and pinyon and juniper woodland; 1,640–8,530 feet above msl. Blooms April–August.	Reported approximately 14 miles northwest of the Project Site (CCH 2020).	Not expected to occur based on lack of suitable habitat. Additionally, not observed during 2016–2020 focused surveys.	Not expected to occur based on lack of suitable habitat.

TABLE 6
SPECIAL STATUS PLANT SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status			Species Background[a]	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the Wastewater Treatment Plant (No Focused Surveys Performed)
	USFWS	CDFW	CRPR				
Eremothera boothii ssp. *boothii* Booth's evening-primrose	—	—	2B.3	Sandy flats, steep loose slopes of Joshua tree and pinyon/juniper woodland; 2,953–7,874 feet above msl. Blooms June–August.	Reported approximately 15 miles east of the Project site (CCH 2020a).	Not expected to occur based on lack of suitable habitat (woodlands). Additionally, not observed during 2016–2020 focused surveys.	Not expected to occur based on lack of suitable habitat (woodlands).
Eriophyllum mohavense Barstow woolly sunflower	—	—	1B.2	Creosote-bush scrub, chenopod scrub, and playas; 1,640–2,625 feet above msl. Blooms April–May.	Reported approximately 6 miles southwest of the Project site (CDFW 2020a).	Not expected to occur because not observed during 2016–2020 focused surveys; suitable habitat.	Limited potential to occur; marginally suitable habitat.
Erythranthe rhodopetra Red Rock Canyon monkeyflower	—	—	1B.1	Sandy canyon washes in Mojavean desert scrub; 2,001–3,002 feet above msl. Blooms March–April.	Reported approximately 12 miles northwest of the Project site (CDFW 2020a); known only from the El Paso Mountains (CNPS 2018).	Not expected to occur because not observed during 2016–2020 focused surveys; suitable habitat.	Not expected to occur based on lack of suitable habitat (washes).
Eschscholzia minutiflora ssp. *twisselmannii* Red Rock poppy*	—	—	1B.2	Volcanic tuff in Mojavean desert scrub; 2,231–4,035 feet above msl. Blooms March–May.	Reported approximately 10 miles northeast of the Project site (CDFW 2020a); known only from the Rand and El Paso Mountains (CNPS 2018).	Not expected to occur based on lack of suitable habitat (volcanic soils). Additionally, not observed during 2016–2020 focused surveys.	Not expected to occur based on lack of suitable habitat (volcanic soils).
Euphorbia vallis-mortae Death Valley sandmat	—	—	4.2	Sandy or gravelly soil in Mojavean desert scrub; 755–4,790 feet above msl. Blooms May–October.	Reported approximately 1 mile north of the Project Site (CCH 2020).	Not expected to occur because not observed during 2016–2020 focused surveys; suitable habitat.	Limited potential to occur; marginally suitable habitat.
Goodmania luteola golden goodmania	—	—	4.2	Clay or alkaline soil in Mojavean desert scrub, grassland, playas, meadows, and seeps; 230–7,218 feet above msl. Blooms April–August.	Reported approximately 10 miles south of the Project site (CCH 2020).	Not expected to occur based on lack of suitable habitat (clay or alkaline soils). Additionally, not observed during 2016–2020 focused surveys.	Limited potential to occur; marginally suitable habitat.

TABLE 6
SPECIAL STATUS PLANT SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status			Species Background[a]	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the Wastewater Treatment Plant (No Focused Surveys Performed)
	USFWS	CDFW	CRPR				
Loeflingia squarrosa var. *artemisiarum* sagebrush loeflingia*	—	—	2B.2	Sandy soil in desert dunes, Great Basin scrub, and Sonoran desert scrub; 2,297–5,299 feet above msl. Blooms April–May.	Reported approximately 10 miles south of the Project site (CDFW 2020a).	Not expected to occur because not observed during 2016–2020 focused surveys; limited amount of suitable soils.	Not expected to occur based on lack of suitable habitat.
Mentzelia eremophila solitary blazing star	—	—	4.2	Canyons, rocky slopes, and washes in creosote bush scrub and roadsides; 1,969–4,101 feet above msl. Blooms March–May.	Reported approximately 9 miles south of the Project site (CCH 2020).	Not expected to occur because not observed during 2016–2020 focused surveys; suitable habitat.	Limited potential to occur; marginally suitable habitat.
Mentzelia tridentata creamy blazing star	—	—	1B.3	Rocky, gravelly, or sandy soil in creosote-bush scrub; 2,297–4,265 feet above msl. Blooms April–May.	Reported approximately 14 miles north of the Project site (CDFW 2020a).	Not expected to occur because not observed during 2016–2020 focused surveys; suitable habitat.	Limited potential to occur; marginally suitable habitat.
Muilla coronata crowned muilla	—	—	4.2	Open desert and woodland in chenopod scrub, Mojavean desert scrub, Joshua tree woodland, and pinyon and juniper woodland; 2,198–6,430 feet above msl. Blooms March–April.	Reported approximately 13.5 miles south of the Project site (CCH 2020).	Not expected to occur because not observed during 2016–2020 focused surveys; suitable habitat.	Limited potential to occur; marginally suitable habitat.
Nemacladus gracilis graceful nemacladus	—	—	4.3	Rocky or gravelly slopes and sandy washes in cismontane woodland and grassland; 0–6,234 feet above msl. Blooms March–April.	Reported approximately 14.5 miles southeast of the Project site (CCH 2020).	Not expected to occur because not observed during 2016–2020 focused surveys; suitable habitat.	Not expected to occur based on lack of suitable habitat.

TABLE 6
SPECIAL STATUS PLANT SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status			Species Background[a]	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the Wastewater Treatment Plant (No Focused Surveys Performed)
	USFWS	CDFW	CRPR				
Phacelia nashiana Charlotte's phacelia	—	—	1B.2	Granitic, rocky, and sandy soils in Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; 0–7,874 feet above msl. Blooms February–June.	Reported approximately 7.5 miles west of the Project site (CDFW 2020a).	Not expected to occur because not observed during 2016–2020 focused surveys; suitable habitat.	Limited potential to occur; marginally suitable habitat.
Sclerocactus polyancistrus Mojave fish-hook cactus	—	—	4.2	Limestone soils in hills, canyons, and alluvial slopes in creosote-bush scrub, Great Basin scrub, and Joshua tree woodland; 2,461–6,890 feet above msl. Blooms April–June.	Reported approximately 15 miles north of the Project site (CCH 2020).	Not expected to occur because not observed during 2016–2020 focused surveys and the species is a persistent perennial; suitable habitat.	Not expected to occur based on lack of suitable habitat (limestone soils) and the species is a persistent perennial.

USFWS: U.S. Fish and Wildlife Service; CDFW: California Department of Fish and Wildlife; CNPS: California Native Plant Society; CRPR: California Rare Plant Rank; msl: mean sea level; SR: State Route.

LEGEND:

State (CDFW)

SE Endangered
SR Rare

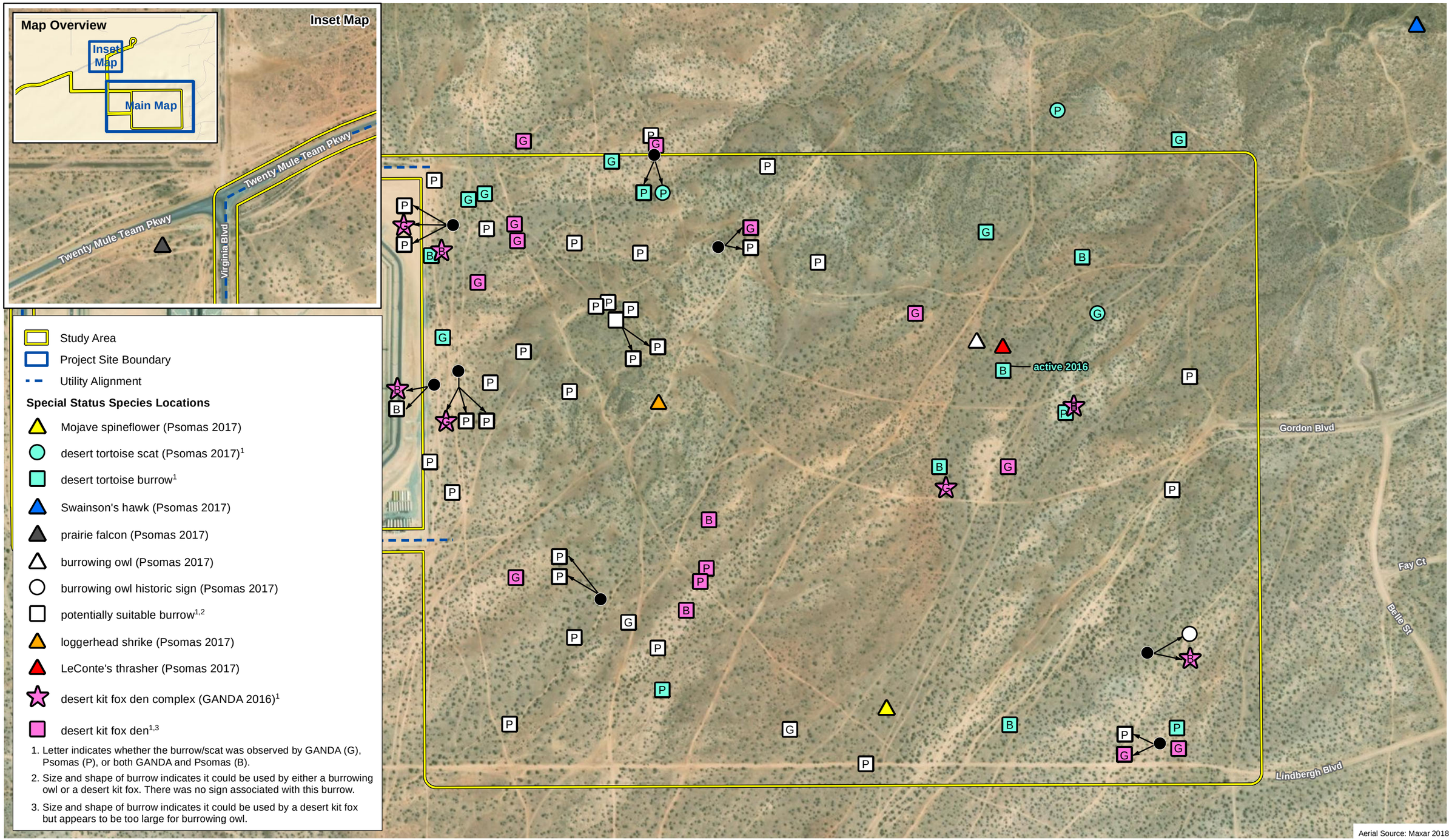
CRPR

1B Plants Rare, Threatened, or Endangered in California and elsewhere
2B Plants Rare, Threatened, or Endangered in California but more common elsewhere
4 Plants of limited distribution – A Watch List

CRPR Threat Code Extensions

.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
.2 Fairly threatened in California (20–80% of occurrences threatened; moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known)

* Subspecies/variety not currently recognized by the Jepson Flora Project (2019)



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Special Status Species Observations

Exhibit 7a

Correctional Facility at California City (CFCC)

N W E S

400 200 0 400

Feet

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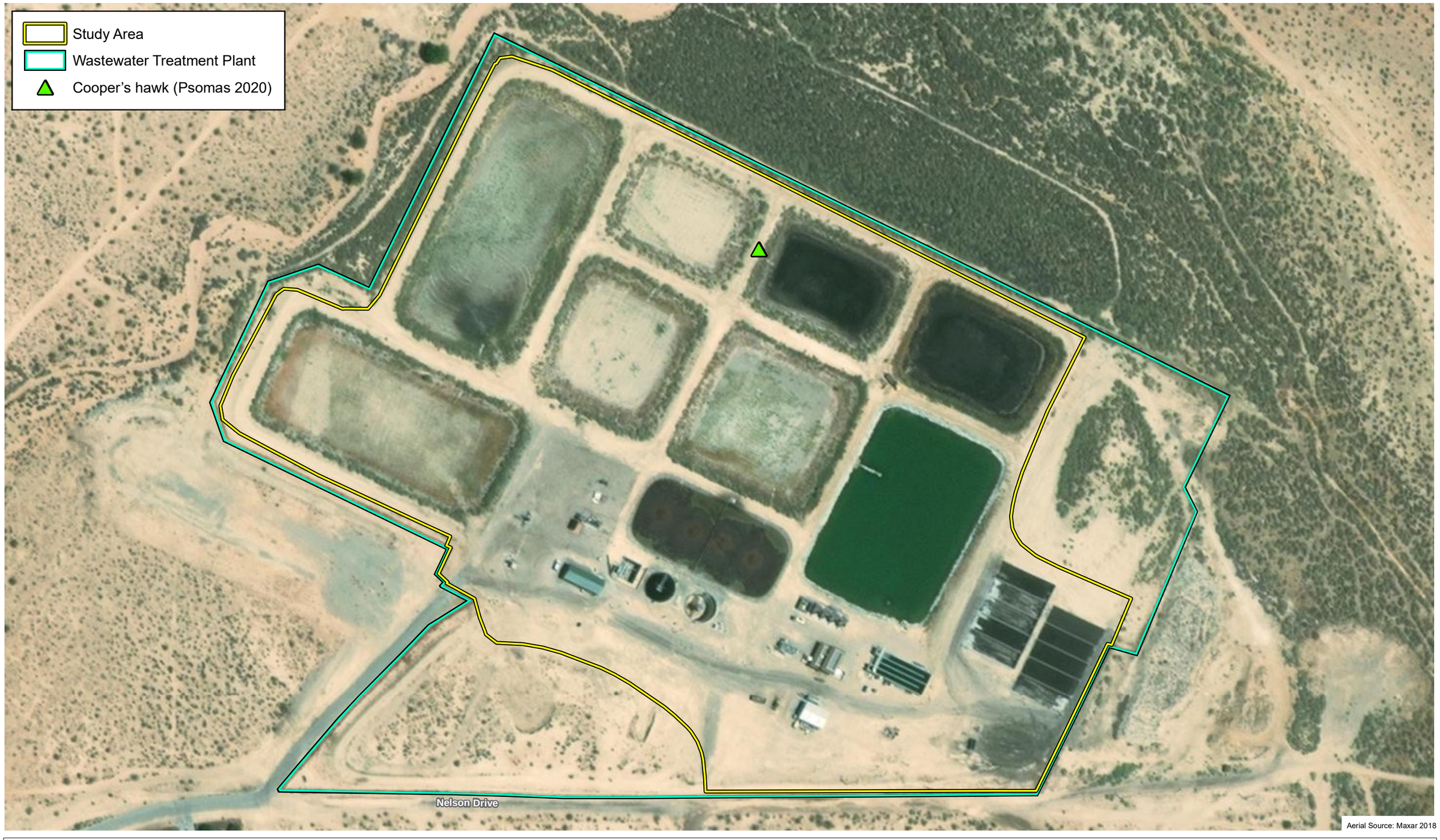

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Special Status Species Observations

Exhibit 7b

Correctional Facility at California City (CFCC)

N
W E
S

150 75 0 150

Feet

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Project Site

Of the species reported from the Project region, one special status plant species, Mojave spineflower, was observed on the Project site; details of this observation are discussed below. The remaining species would not be expected to occur on the Project site because they were not observed during focused surveys between 2016 and 2020. Multiple species have limited potential to occur at the WWTP.

Mojave Spineflower

Mojave spineflower has a CRPR of 4.2. This annual herb typically blooms between April and July. This species occurs in sandy, gravelly, or sometimes alkaline soil in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas (Jepson Flora Project 2019; CNPS 2020). It is known from the Caliente Range of the southern Inner South Coast Ranges and the western Mojave Desert (Jepson Flora Project 2019). The nearest reported location is along State Route (SR) 58 in North Edwards, approximately 10 miles south of the Project site (CCH 2020).

This species was incidentally observed during focused burrowing owl surveys on May 10, 2017. Three individuals were observed near the southern edge of the Project site in creosote bush–white bursage scrub vegetation. The plants were growing in sandy loam soil and were associated with creosote bush, common goldfields, and tessellated fiddleneck. A voucher specimen was collected for identification and deposited in the herbarium at Rancho Santa Ana Botanic Garden.

This observation was during a wildlife survey and was not the focus of that survey effort. Biologists surveying for burrowing owl may not be looking at plants and/or they may not know Mojave spineflower and therefore would be unable to detect it. At the time of the observation in 2017, it was hypothesized that there may be additional Mojave spineflower locations on the Project site because there was no late spring plant survey in 2017 to document the extent of the population during the peak of its blooming. . However, given that this species was not observed during 2016 late spring surveys or 2020 surveys, it is assumed that the Project site supports a relatively small number of individuals.

California Desert Native Plant Species

An inventory of plants protected by the California Desert Native Plants Act was made during the 2016 and 2018 focused surveys. This survey identified nine California barrel cactus (*Ferocactus cylindraceus*), two cottontop cactus (*Echinocactus polycephalus*), and eight silver cholla on the Project site.

3.4.5 Special Status Wildlife

Table 7 provides a summary of special status wildlife species reported to occur in the Project region (i.e., the USGS' Boron, Boron NW, California City North, California City South, Cantil, Galileo Hill, Johannesburg, Mojave NE, North Edwards, Saltdale SE, and Sanborn 7.5-minute quadrangles) and includes information on the status, species background, nearest reported location, potential for occurrence, and results of focused survey efforts (where applicable). This list includes species reported by the CNDDB, supplemented with species from the Project Biologist's experience that either occur nearby or could occur based on the presence of suitable habitat. Note that these species are listed taxonomically. Species observed in the study area are discussed further below. Exhibit 7 shows the locations of special status species, their sign, and/or potential burrows observed during the 2016, 2017, and 2020 surveys. Exhibit 8 highlights the desert tortoise observations, scat, and burrows observed during the 2016 and 2017 surveys.

TABLE 7
SPECIAL STATUS WILDLIFE SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status		Species Background	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the WWTP
	USFWS	CDFW				
Insects						
Bombus crotchii Crotch bumble bee	—	CSE	Occurs in open grassland and scrub habitats; nests underground. Feeds on milkweed (*Asclepias* sp.), pincushion (*Chaenactis* sp,), lupine (*Lupinus* sp.), alfalfa (*Medicago* sp.), phacelia (*Phacelia* sp.), and sage (*Salvia* sp.).	Reported in 1992 approximately 12 miles north of the study area (CDFW 2020a).	Limited potential to occur; believed to be absent from much of its historic range in the Central Valley; sheep grazing detrimental to bee populations; marginally suitable habitat.	Limited potential to occur; believed to be absent from much of its historic range in the Central Valley; marginally suitable habitat.
Reptiles						
Gopherus agassizii desert tortoise	FT	ST	Occurs in creosote bush scrub, Joshua tree woodland, and Mojave-saltbush-allscale scrub.	Reported approximately 5.5 miles northeast of the study area (CDFW 2020a).	Observed; one active burrow, recent sign (scat), and several Class 3 burrows observed during 2016 surveys.	Not expected to occur; exclusion fencing surrounds the facility.
Birds						
Ixobrychus exilis least bittern (nesting)	—	SSC	Breeds in freshwater and brackish marshes with tall, dense emergent vegetation. Forages in emergent vegetation.	Reported less than one mile south of the study area (eBird 2018).	Not expected to occur; lack of suitable habitat (marsh).	Not expected to occur; lack of suitable habitat (marsh).
Gymnogyps californianus California condor	FE	SE, FP	Breeds in scrubby chaparral to forested montane regions subject to winter snowfalls (Finkelstein et al. 2015). Nests on overhanging cliff ledges, boulder pile crevices, potholes, deep caves, and burn-out holes in coast redwoods and giant sequoia trees (Snyder et al. 1986). Forages in relatively open grassland and woodland regions as well as along coastlines (Snyder and Snyder 2000). Species is wide-ranging and can travel	Reported approximately 35 miles west of the study area (CDFW 2020a).	May occur for foraging; suitable foraging habitat. Not expected to occur for nesting; lack of suitable nesting habitat (cliffs).	May occur for foraging; suitable foraging habitat. Not expected to occur for nesting; lack of suitable nesting habitat (cliffs).

TABLE 7
SPECIAL STATUS WILDLIFE SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status		Species Background	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the WWTP
	USFWS	CDFW				
			over 100 miles in one day of foraging (Snyder and Schmitt 2002).			
Pandion haliaetus osprey (nesting)	—	WL	Occurs along ocean shore, bays, freshwater lakes, and larger streams. Nests in treetops near waterbodies, but also on artificial structures such as utility poles.	Reported from the WWTP and multiple locations in the study area vicinity (ebird 2018).	Observed; suitable foraging habitat nearby. Not expected to occur for nesting on the Project site; lack of suitable habitat (trees/utility poles). Limited potential to occur for nesting along the utility alignment; limited suitable nesting habitat (utility poles).	May occur for foraging; suitable foraging habitat nearby. Not expected to occur for nesting; lack of suitable nesting habitat (trees/utility poles).
Accipiter cooperii Cooper's hawk (nesting)	—	WL	Forages in deciduous and mixed forests and open, interrupted, or marginal woodlands, Nests primarily in riparian growths of deciduous trees.	Reported from the WWTP and multiple locations in the study area vicinity (ebird 2018).	May occur for foraging; suitable foraging habitat. Not expected to occur for nesting on the Project site; lack of suitable nesting habitat (trees). Limited potential to occur for nesting along the utility alignment; limited suitable nesting habitat (trees).	Observed foraging; suitable foraging habitat. Not expected to occur for nesting; lack of suitable nesting habitat (trees).

TABLE 7
SPECIAL STATUS WILDLIFE SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status		Species Background	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the WWTP
	USFWS	CDFW				
Aquila chrysaetos golden eagle (nesting and wintering)	—	FP, WL	Breeds in open and semi-open habitats such as tundra, shrublands, grasslands, woodland-brushlands, coniferous forest, farmland, and riparian habitats (Kochert et al. 2002). Nests primarily in rugged mountainous areas with large trees or on cliffs (Johnsgard 2001). Forages in open habitats like grasslands or steppe-like vegetation (Hunt et al. 1999).	Reported approximately 2.5 miles southeast of the study area (CDFW 2020a).	May occur for foraging; suitable foraging habitat. Not expected to occur for nesting; lack of suitable nesting habitat (cliffs/large trees).	May occur for foraging; suitable foraging habitat. Not expected to occur for nesting; lack of suitable nesting habitat (cliffs/large trees).
Buteo swainsoni Swainson's hawk (nesting)	—	ST	Forages in open stands of grass-dominated vegetation; sparse shrublands; and small, open woodlands and has adapted well to foraging in agricultural areas (e.g., wheat and alfalfa) (Woodbridge 1991). Nests in scattered trees within these grassland, shrubland, or agricultural landscapes (e.g., along stream courses or in open woodlands) (Bechard et al. 2010).	Reported from the study area vicinity (ebird 2018), but species is wide ranging with a large home range size (England et al. 2010).	Observed foraging; suitable habitat. Incidentally observed northeast of the Project site during 2017 focused burrowing owl surveys. Not expected to occur for nesting on the Project site; lack of suitable habitat (trees/riparian woodlands). Limited potential to occur for nesting along the utility alignment; limited suitable nesting habitat (utility poles).	May occur for foraging; suitable foraging habitat. Not expected to occur for nesting; lack of suitable nesting habitat (trees/riparian woodlands/utility poles).

TABLE 7
SPECIAL STATUS WILDLIFE SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status		Species Background	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the WWTP
	USFWS	CDFW				
Haliaeetus leucocephalus bald eagle (nesting and wintering)	delisted	SE, FP	Breeds in forested areas adjacent to large bodies of water. Nests in trees, rarely on cliff faces and ground nests in treeless areas (Sherrod et al. 1976). Typically forages in aquatic habitats, but also in arid areas (Buehler 2000). Species is wide-ranging with a large home range size (Buehler 2000).	Reported approximately 15 miles north of the study area (eBird 2018).	May occur for foraging; suitable foraging habitat. Not expected to occur for nesting; no suitable nesting habitat (trees).	May occur for foraging; suitable foraging habitat. Not expected to occur for nesting; no suitable nesting habitat (trees).
Falco mexicanus prairie falcon (nesting)	—	WL	Breeds in open habitat, including shrub-steppe desert, grasslands, mixed shrub and grasslands, and alpine tundra (Steenhof 2013). Forages in grassland and scrub. Nests on cliffs (Clark and Wheeler 2001).	Reported from the study area vicinity; location information suppressed due to species status (CDFW 2020a).	Observed foraging; suitable habitat. Incidentally observed along the utility alignment during 2016 surveys. Not expected to occur for nesting; no suitable nesting habitat (cliffs).	May occur for foraging; suitable foraging habitat. Not expected to occur for nesting; no suitable nesting habitat (cliffs).
Falco peregrinus anatum American peregrine falcon (nesting)	delisted	delisted, FP	Breeds in habitats that contain cliffs, for nesting on ledges, with open gulfs of air and generally open landscapes for foraging. Typically forages less than 5 miles from nesting sites (White et al. 2002).	Reported approximately 1 mile south of the study area (eBird 2018).	May occur for foraging; suitable foraging habitat. Not expected to occur for nesting; no suitable nesting habitat (cliffs).	May occur for foraging; suitable foraging habitat. Not expected to occur for nesting; no suitable nesting habitat (cliffs).
Charadrius alexandrinus nivosus western snowy plover (nesting)	FT*	SSC	In California, most breeding occurs on coastal dune-backed beaches, barrier beaches, and salt-evaporation ponds; infrequently on bluff-backed beaches; and offshore on Channel Island beaches (Page and Stenzel 1981). Nests on the ground often located with respect to some conspicuous feature in fairly barren landscapes (e.g., near	Reported approximately 9.5 miles north of the study area (CDFW 2020a).	Not expected to occur for foraging; no suitable habitat (evaporation ponds/beaches). Not expected to occur for nesting; no suitable nesting	May occur for foraging; suitable foraging habitat. Limited potential to occur for nesting; marginally suitable nesting habitat.

TABLE 7
SPECIAL STATUS WILDLIFE SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status		Species Background	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the WWTP
	USFWS	CDFW				
			a piece of kelp, driftwood, or small growing plant). Forages at beaches, tide flats, river mouths, lagoon margins, salt flats, salt ponds, lake shores, reservoirs, ponds, braided river channels, and playas (Page et al. 2009).		habitat (pond or lake shores/beaches).	
Charadrius montanus mountain plover (wintering)	—	SSC	Breeds outside California and winters from north-central California to the Mexican border. Forages in open, flat, dry tablelands with low, sparse vegetation (e.g., prairies, alkaline flats, and tilled fields), including disturbed areas (Knopf and Wunder 2006)	Reported approximately 9 miles northwest of the study area (CDFW 2020a).	May occur for foraging in winter; suitable foraging habitat. Not expected to occur for nesting; does not nest in the Project region.	May occur for foraging in winter; suitable foraging habitat. Not expected to occur for nesting; does not nest in the Project region.
Asio flammeus short-eared owl (nesting)	—	SSC	Breeds in open country (e.g., prairie and coastal grasslands, heathlands, shrub-steppe, and tundra) in northern U.S. and Canada; nests on the ground. Winters in open areas within woodlots, stubble fields, fresh and saltwater marshes, weedy fields, dumps, gravel pits, rock quarries, and shrub thickets (Wiggins et al. 2006).	Reported approximately 1 mile south of the study area (eBird 2018).	May occur for foraging in winter; suitable foraging habitat. Not expected to occur for nesting; does not breed in the Project region.	May occur for foraging in winter; suitable foraging habitat. Not expected to occur for nesting; does not breed in the Project region.

TABLE 7
SPECIAL STATUS WILDLIFE SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status		Species Background	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the WWTP
	USFWS	CDFW				
Athene cunicularia burrowing owl (burrow sites and some wintering sites)	—	SSC	Occurs in arid and semi-arid environments (e.g., grassland, steppes, deserts, prairies, and agricultural land) with well-drained, level to gently sloping areas with sparse vegetation (Haug et al. 1993; Dechant et al. 2003). Nests in mammal burrows and man-made cavities such as dry culverts.	Reported less than 1,500 feet from the study area and from multiple locations throughout the region (CDFW 2020a).	Observed; one pair observed in 2009 on the berm adjacent to the existing facility parking lot (CH2M Hill 2016); one individual observed during 2017 focused burrowing owl surveys; suitable habitat (desert habitat with burrows).	May occur for foraging; and nesting; suitable foraging and nesting habitat.
Melanerpes lewis Lewis' woodpecker (nesting)	—	SA	Breeds in habitat including ponderosa pine forest, open riparian woodland dominated by cottonwood, logged or burned pine forest, and even oak woodland with an open canopy and a brushy understory (Bock 1970). Nests in cavities excavated in the trunk or large branches of large, dead or decaying trees, including burned trees (Vierling et al. 2013). Forages in air, on tree trunks and branches, in bushes, and on the ground (Vierling et al. 2013).	Reported approximately 1 mile south of the study area (eBird 2018).	Not expected to occur; lack of suitable habitat (forest/woodland).	Not expected to occur; lack of suitable habitat (forest/woodland).

TABLE 7
SPECIAL STATUS WILDLIFE SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status		Species Background	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the WWTP
	USFWS	CDFW				
Contopus cooperi olive-sided flycatcher (nesting)	—	SSC	Breeds in primarily montane and northern coniferous forests. Forages in forest clearings, semi-open forest, and over forest canopies where there are exposed perches (Altman and Sallabanks 2012).	Reported approximately 1 mile south of the study area (eBird 2018).	Observed; migrant incidentally observed during 2016 surveys; suitable foraging habitat. Not expected to occur for nesting; no suitable habitat (forest).	May occur as a migrant;; suitable foraging habitat. Not expected to occur for nesting; no suitable habitat (forest).
Lanius ludovicianus loggerhead shrike (nesting)	—	SSC	Breeds in grasslands and other dry, open habitats. Nests in trees and shrubs that provide cover, usually with thorns. Forages in open landscapes characterized by well-spaced, often spiny, shrubs and low trees, usually interspersed with short grasses, forbs, and bare ground (Yosef 1996).	Reported approximately 5 miles south of the study area (CDFW 2020a).	Observed; incidentally observed near utility alignment during 2016 and 2017 focused burrowing owl surveys; suitable habitat.	May occur; suitable habitat.
Vireo vicinior gray vireo (nesting)	—	SSC	Breeds in mixed juniper/piñon and oak scrub associations and/or chaparral in hot, arid mountains and high plains scrubland. In Southern California, inhabits coastal montane chaparral where redshanks (*Adenostoma sparsifolium*), chamise (*A. fasciculatum*), and ceanothus (*Ceanothus* spp.) dominate (Grinnell and Swarth 1913). Forages in thickets (Hamilton 1962).	Reported approximately 4.5 miles northwest of the study area (CDFW 2020a).	Not expected to occur; no suitable habitat (thickets/chaparral).	Not expected to occur; no suitable habitat (thickets/chaparral).

TABLE 7
SPECIAL STATUS WILDLIFE SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status		Species Background	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the WWTP
	USFWS	CDFW				
Baeolophus inornatus oak titmouse (nesting)	—	SA	Breeds in warm, dry oak or oak-pine woodlands, and also in western juniper (*Juniperus occidentalis*), open pine forests (digger pine [*Pinus sabiniana*], Coulter pine [*P. coulteri*], Jeffrey pine [*P. jeffreyi*]), and single-leaf piñon (*P. monophylla*) or California juniper (*J. californicus*) mixed with Joshua trees (*Yucca brevifolia*) throughout California. Nests in natural tree holes or in woodpecker-excavated cavities. Primarily forages in oak woodland (Cicero 2000).	Reported approximately 1 mile south of the study area (eBird 2018).	Not expected to occur; no suitable habitat (oak/juniper/pine).	Not expected to occur; no suitable habitat (oak/juniper/pine).
Toxostoma bendirei Bendire's thrasher	—	SSC	Occurs in desert habitats and favors relatively open grassland, shrubland, or woodland with scattered shrubs or trees. Nests in shrubs, cacti, or trees, commonly in cholla (*Cylindropuntia* sp.), mesquite (*Prosopis* sp.), juniper (*Juniperus* sp.), Joshua tree and other species of yucca. Forages primarily on the ground but will also glean vegetation for insects and pluck fruit (Ambrose 1963). Study area outside known range for species.	Reported approximately 20 miles northwest of the study area (CDFW 2020a).	Not expected to occur; outside known range.	Not expected to occur; outside known range.

TABLE 7
SPECIAL STATUS WILDLIFE SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status		Species Background	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the WWTP
	USFWS	CDFW				
Toxostoma crissale Crissal thrasher	—	SSC	Occurs in desert washes and riparian thickets; also found in brushy plains, foothill scrub, or open piñon-oak-juniper (*Pinus-Quercus-Juniperus*) woodlands with a shrubby understory. Nests in the interior of the densest shrubs. Forages for insects and other arthropods on the ground and typically from excavations in litter or accumulated detritus beneath shrubs (Cody 1999). Study area outside known range for species.	Reported approximately 16 miles north of the study area (CDFW 2020a).	Not expected to occur; outside known range.	Not expected to occur; outside known range.
Toxostoma lecontei Le Conte's thrasher	—	SSC	Occurs in sparsely vegetated desert flats, dunes, alluvial fans, and gently rolling hills typically with saltbush (*Atriplex* spp.) and/or cholla. Rarely found in creosote scrub. Nests in dense and thorny desert shrubs or cholla (Sheppard 1996).	Reported approximately one mile east of the study area (CDFW 2020a).	Observed; incidentally observed during 2017 focused burrowing owl surveys; suitable habitat.	May occur; suitable habitat.
Setophaga petechia sonorana Sonoran yellow warbler (nesting)	—	SSC	Breeds along the lower Colorado River; forages and nests in willow stands and revegetated cottonwoods (Shuford and Gardali 2008). Study area is outside known range for species.	Not reported in the vicinity of the study area.	Not expected to occur; outside known range; no suitable habitat (riparian).	Not expected to occur; outside known range; no suitable habitat (riparian).
Spizella breweri Brewer's sparrow (nesting)	—	SA	Breeds in shrublands dominated by big sagebrush (*Artemisia tridentata*) (Wiens and Rotenberry 1981); may occur in large openings in piñon-juniper (*Pinus edulus - Juniperus* spp.) woodlands (Sedgwick 1987) or large parklands within coniferous forests; nests and forages in sagebrush (Petersen and Best 1985, Stephens 1985).	Reported approximately 1 mile south of the study area (eBird 2018).	May occur for foraging; suitable habitat. Not expected to occur for nesting; no suitable nesting habitat.	May occur; suitable habitat.

TABLE 7
SPECIAL STATUS WILDLIFE SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status		Species Background	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the WWTP
	USFWS	CDFW				
Agelaius tricolor tricolored blackbird (nesting colony)	—	SSC	Forages in grasslands, agricultural fields with low-growing vegetation, dairies, and feedlots (Shuford and Gardali 2008). Nests in marsh vegetation with bulrushes (*Scirpus* sp.) and cattail (*Typha* sp.), but also in willows (*Salix* sp.), blackberries (*Rubus ursinus*), and mustard (*Brassica* sp.) (Beedy et al. 1991).	Reported less than one mile south of the study area.	Not expected to occur; no suitable habitat (marsh/riparian/ agriculture).	Not expected to occur; no suitable habitat (marsh/riparian/ agriculture).
Mammals						
Antrozous pallidus pallid bat	—	SSC	Occurs in a variety of habitats such as grasslands, shrublands, and woodlands, but most commonly in open habitats with rocky areas for roosting (Zeiner et al. 1990). Roosts in caves, crevices, mines, and occasionally hollow trees and buildings (Whitaker 1980; Zeiner et al. 1990).	Reported approximately 14 miles north of the study area (CDFW 2020a).	May occur for foraging and roosting; suitable foraging and roosting habitat.	May occur for foraging and roosting; suitable foraging and roosting habitat.
Corynorhinus townsendii Townsend's big-eared bat	—	SSC	Occurs in a variety of habitats such as oak woodlands, arid deserts, grasslands, and high-elevation forests and meadows (Hall 1981). Roosts in mine tunnels, limestone caves, lava tubes, buildings, and other man-made structures (Williams 1986).	Reported approximately 14 miles north of the study area (CDFW 2020a).	May occur for foraging; suitable foraging habitat. Not expected to occur for roosting; no suitable roosting habitat (caves).	May occur for foraging and roosting; suitable foraging and roosting habitat.
Euderma maculatum spotted bat	—	SSC	Occurs in a variety of habitats such as arid desert, grassland, and mixed conifer forest (Zeiner et al. 1990). Roosts in rock crevices (Williams 1986).	Reported approximately 12 miles north of the study area (CDFW 2020a).	May occur for foraging; suitable foraging habitat. Not expected to occur for roosting; no suitable roosting habitat (rock crevices).	May occur for foraging; suitable foraging habitat. Not expected to occur for roosting; no suitable roosting habitat (rock crevices).

TABLE 7
SPECIAL STATUS WILDLIFE SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status		Species Background	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the WWTP
	USFWS	CDFW				
Eumops perotis californicus western mastiff bat	—	SSC	Forages in dry desert washes, floodplains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas. Roosts primarily in cliffs high above the ground (WBWG 2005).	Reported approximately 40 miles south of the study area (CDFW 2020a)	May occur for foraging; suitable foraging habitat. Not expected to occur for roosting; no suitable roosting habitat (cliffs).	May occur for foraging; suitable foraging habitat. Not expected to occur for roosting; no suitable roosting habitat (cliffs).
Xerospermophilus mohavensis Mohave ground squirrel	—	ST	Occurs in Mojave desert scrub, alkali scrub, and Joshua tree woodland between 1,800 and 5,000 feet, in sandy to gravelly soils (Kern County Planning and Community Development Department 2012). Forages primarily on the leaves and seeds of forbs and shrubs (BLM 2006).	Reported from multiple occurrences between 0.5 and 5 miles from the study area (Leitner 2015).	Expected to occur; suitable habitat. Not observed during camera surveys of the study area in 2016, known from multiple nearby occurrences.	Limited; marginally suitable habitat (repeated disturbance).
Onychomys torridus tularensis Tulare grasshopper mouse	—	SSC	Inhabits low, open scrub and semi-scrub habitats (e.g., alkali desert scrub and desert scrub) in arid, Lower Sonoran associations. Forages for mostly small animals, with insects forming the bulk of their diets (Bolster 1998).	Reported approximately 15.5 miles north of the study area (CDFW 2020a).	May occur; suitable habitat.	May occur; suitable habitat.
Vulpes macrotis arsipus desert kit fox	—	FBM	Occurs in open desert, areas of desert scrub, grasslands, and sand dunes, in sandy and loamy soils (Kern County Planning and Community Development Department 2012). Forages in the same habitat and primarily eats rodents (McGrew 1979).	Known to occur immediately south of the existing CCCC facility (Psomas 2018).	Expected to occur; one active den and multiple potential burrows observed during 2016 and 2017 surveys; suitable habitat.	May occur; suitable habitat.

TABLE 7
SPECIAL STATUS WILDLIFE SPECIES
REPORTED FROM THE PROJECT REGION

Species	Status		Species Background	Nearest Reported Location	Potential to Occur/Results of Focused Surveys (Project Site)	Potential to Occur at the WWTP
	USFWS	CDFW				
Taxidea taxus American badger	—	SSC	Occurs in a wide range of habitats, but is most abundant in drier, open stages of most shrub, forest, and herbaceous habitats with friable soil (CDFW 2014).	Reported approximately 6 miles northeast of the study area (CDFW 2018a). Known to occur immediately south of the existing CCCC facility (Psomas 2018).	Expected to occur; suitable habitat; known from adjacent project site.	May occur; suitable habitat.

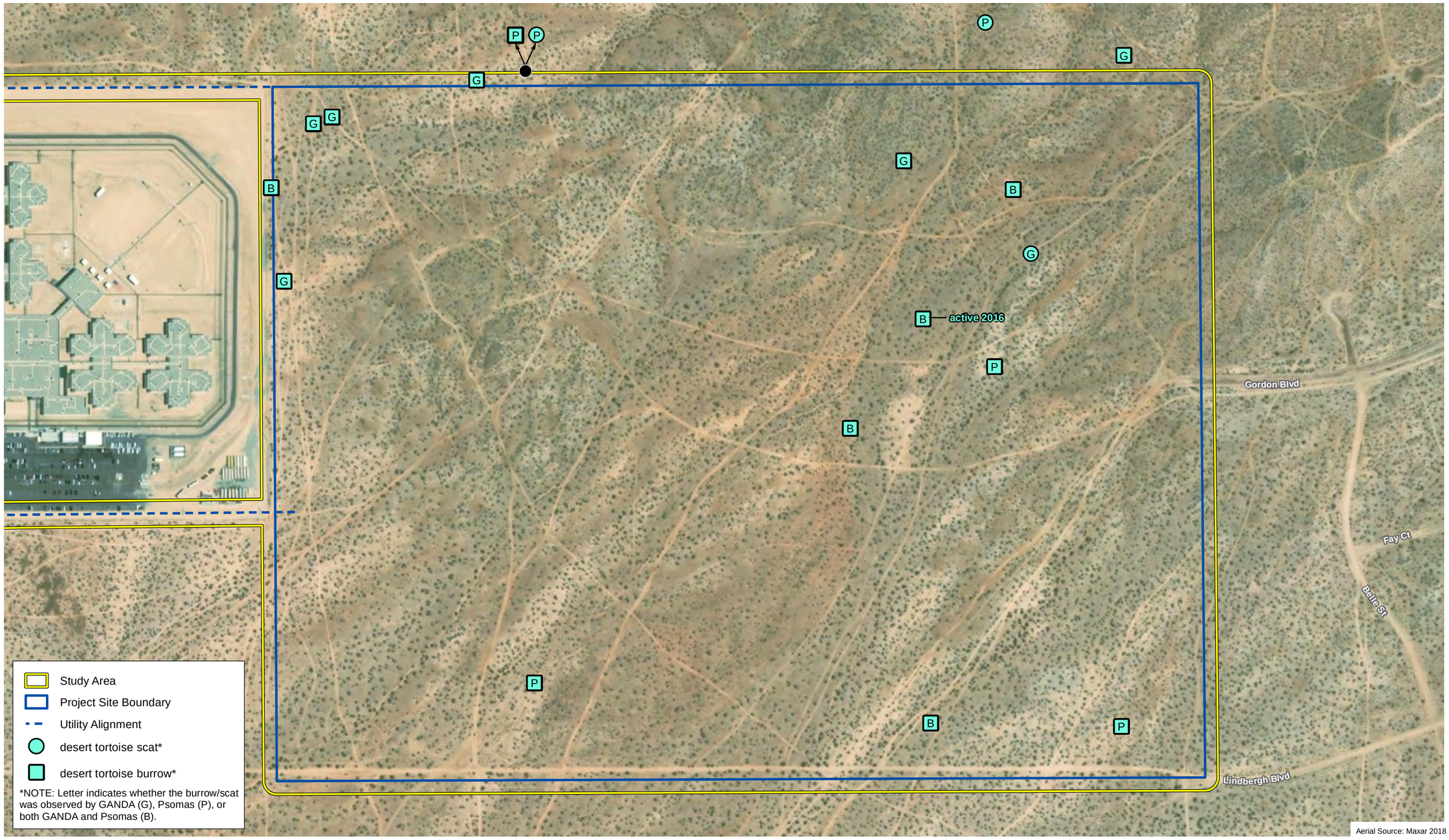
USFWS: U.S. Fish and Wildlife Service; CDFW: California Department of Fish and Wildlife

LEGEND:

Federal (USFWS)		**State (CDFW)**	
FE	Endangered	SE	Endangered
FT	Threatened	CSE	Candidate State Endangered
		ST	Threatened
		FP	Fully Protected
		SSC	Species of Special Concern
		WL	Watch List
		SA	Special Animal (tracked by CNDDB)
		FBM	Fur-bearing Mammal (protected by Fur-bearing Mammal Act)

Species that were observed on site are shown in **boldface type.**

* Federal listing only applicable to the Pacific coastal population.



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Aerial Source: Maxar 2018

Burrow Locations

Correctional Facility at California City (CFCC)

Exhibit 8

PSOMAS

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Invertebrates

Crotch Bumble Bee

The Crotch bumble bee (*Bombus crotchii*) is currently a Candidate for listing by the State. The CDFW has until July 2020 to review the petition, evaluate the available information, and report back to the Commission whether the petitioned actions are warranted (CDFW 2019). The Crotch bumble bee prefers grassland and scrub habitats. It is primarily associated with plants from the following families: Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, and Boraginaceae (Richardson 2017, Thorp et. al. 1983). The Crotch bumble bee is a ground nester and often makes its nest in abandoned mammal burrows and can be found in most native habitat types. The Crotch bumble bee was historically common in the Central Valley but now appears to be absent from much of its historic range (Hatfield et.al. 2015). While the Project site has not been affected by agriculture, it is grazed by sheep. Numerous studies have found sheep grazing to be detrimental to bumble bee populations, likely due to the selective removal of flowers by sheep (Carvell 2002, Hatfield and LeBuhn 2007, Scohier et al. 2012). The Crotch bumble bee was reported in 1992 from the foothills of the Tehachapi Mountains, approximately 10 miles southwest of Garlick Road and Redrock Randsburg Road. Marginally suitable habitat is present for this species. Crotch bumble bee has a limited potential to occur in the study area.

Reptiles

Desert Tortoise

Desert tortoise is a federally and State listed Threatened species. It has two distinct populations, the Mojave and Sonoran. The Mojave population is divided into two subpopulations, the eastern and western Mojave. It has been suggested that these subpopulations could be divided into species, subspecies, distinct population segments, evolutionarily significant units, or management units (Berry et al. 2002); however, these designations remain unresolved. Within the western Mojave range, desert tortoise occur in creosote bush, cactus (*Opuntia* spp.), shadscale scrub habitats, and Joshua tree woodland between sea level and 4,000 feet above msl (Berry 1990). Desert tortoise have unique characteristics that enable them to survive in a desert environment, such as elephantine limbs and well-developed claws that enable tortoises to burrow into desert soils to escape the heat of the day. Introduced plant species have greatly encroached upon native plant species in the desert tortoise's natural range and have degraded the existing natural ecosystem; however, desert tortoise have adapted to eating filaree (*Erodium* spp.) and other non-native plant species (Brooks 1999).

In 1994, the USFWS designated approximately 6.4 million acres as "critical habitat" for the Mojave population of the desert tortoise (USFWS 1994b). The study area is not located within designated critical habitat for this species.

During the 2009 reconnaissance survey, an adult male tortoise was observed just south of the study area on the south side of Lindbergh Road (CH2M Hill 2016). Tortoise sign (burrows and scat) was also observed in the southeast corner of the Project site. During the 2016 focused surveys, an active desert tortoise burrow was found in the central portion of the Project site (Exhibit 8). During the same survey, recent tortoise scat (estimated to be a few weeks old at the time) was found approximately 500 feet northeast of the active burrow. The 2016 survey effort documented one Class 2[8] burrow, nine Class 3[9] burrows, and two Class 4[10] burrows in the study area, indicating desert tortoise use over the past several years. Multiple potential desert tortoise burrows were incidentally observed on the Project site during the 2017 surveys; the class of each

[8] Class 2 burrows are in good condition, definitely desert tortoise; no evidence of recent use.
[9] Class 3 burrows are in deteriorated condition (includes collapsed burrows); definitely desert tortoise
[10] Class 4 burrows are in good condition; possibly desert tortoise.

burrow was not rated, as desert tortoise was not the focus of the 2017 surveys. Exhibits 7 and 8 show the locations of desert tortoise burrows observed by GANDA in 2016 and by Psomas in 2017; some burrows were observed by both GANDA and Psomas. Suitable habitat for the desert tortoise is present throughout the study area, and the species is expected to occur on the Project site. Desert tortoise exclusionary fencing is present around the WWTP. The species is not expected to occur in the WWTP as long as the fencing is maintained.

Birds

Osprey

Osprey (*Pandion haliaetus*) is a Watch List species in California. This species breeds in North America from northwestern Alaska and across Canada south locally to Baja California, Mexico; the Yucatan Peninsula; the Bahamas; and Cuba (Johnsgard 1990). It winters in the Americas from central California, southern Texas, the Gulf coast, Florida, and Bermuda south through the West Indies, Central America, and South America. The species forages near waterbodies with an adequate source of fish. It should be noted that the city's central park (outside the study area) has a large lake that may have fish. Nest sites include dead or open-topped live trees near water, but also include rock outcrops, cliffs, and artificial structures such as utility poles.

Osprey was observed during 2016 surveys in the study area. Limited suitable foraging habitat is present in the study area. Utility poles and ornamental trees along the utility alignment and adjacent to the WWTP have potential to be used for nesting in the study area; however, no utility poles or ornamental trees are present on the Project site.

Cooper's Hawk

Cooper's hawk (*Accipiter cooperii*) is a Watch List species in California. This species breeds from southern Canada, throughout the continental U.S., and into northwestern and north-central Mexico (Curtis and Rosenfield 2006). The wintering range is similar to the breeding range except the northernmost populations are migratory or partially migratory and the winter range extends throughout Mexico and possibly as far south as Panama (Curtis and Rosenfield 2006). Preferred nesting habitats are oak woodlands and riparian woodlands (Hamilton and Willick 1996). This species preys on medium-sized birds and small mammals, foraging primarily in forest habitats (Curtis and Rosenfield 2006). This species is relatively tolerant of man-altered landscapes; however, threats to this species include the loss of appropriate woodlands for breeding and foraging; collisions with man-made objects; and possibly pesticides (Curtis and Rosenfield 2006).

The Cooper's hawk was observed perched at the WWTP during the 2020 vegetation mapping (Exhibit 7b). Suitable foraging habitat is present throughout the study area. Ornamental trees along the utility alignment have potential to be used for nesting in the study area; however, no ornamental trees are present on the Project site or at the WWTP.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a State listed Threatened species. This species migrates between breeding areas in North America and wintering grounds in South America. This species breeds in the western United States and Canada with larger populations in the Central Valley and Great Basin; smaller populations are known from the western Mojave Desert, Antelope Valley, and Owen's Valley (CDFW 2016b). The Swainson's hawk was historically a species adapted to open grasslands and prairies, but it has become increasingly dependent on agriculture as native plant communities have been converted to agricultural lands (CDFG 1993). It typically breeds in riparian woodlands but in desert habitats it also nests in Joshua trees, ornamental trees, and trees along roadsides (CDFW 2014; Bloom 1980).

The Swainson's hawk was incidentally observed foraging northeast of the Project site during the 2017 focused burrowing owl surveys (Exhibit 7a); an individual was circling over an adjacent peak on two consecutive evenings. Suitable foraging habitat is present throughout the study area. Utility poles and ornamental trees along the utility alignment and adjacent to the WWTP have potential to be used for nesting in the study area; however, no utility poles or ornamental trees are present on the Project site.

Prairie Falcon

Prairie falcon (*Falco mexicanus*) is a Watch List species in California. This species occurs in a variety of habitats from grasslands to alpine meadows, most commonly in grasslands, savannahs, rangelands, agricultural areas, and desert scrub habitats. It nests on cliffs (CDFW 2014).

The prairie falcon was incidentally observed foraging along the utility alignment during 2017 surveys for an adjacent project (Exhibit 7b) (Psomas 2017). Suitable foraging habitat is present throughout the study area. However, there are no cliffs in the study area; therefore, this species is not expected to occur for nesting in the study area.

Burrowing Owl

Burrowing owl is a California Species of Special Concern. The species is a grassland specialist distributed throughout western North America, where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Burrowing owls use a wide variety of arid and semi-arid environments, with well-drained, level to gently sloping areas characterized by sparse vegetation and bare ground (Haug et al. 1993; Dechant et al. 2003). Burrowing owls in Florida excavate their own burrows, but western burrowing owls depend upon the presence of burrowing mammals whose burrows are used for roosting and nesting (Haug et al. 1993). The presence or absence of colonial mammal burrows (e.g., California ground squirrels [*Otospermophilus beecheyi*]) is often a factor that limits the presence or absence of burrowing owls. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried and non-functioning drain pipes, stand-pipes, and dry culverts. Burrowing owls may also use burrows beneath rocks; debris; or large, heavy objects such as abandoned cars, concrete blocks, or concrete pads. Large, hard objects at burrow entrances stabilize the entrance from collapse and may inhibit excavation by predators.

Burrowing owls often use "satellite," or non-nesting burrows, moving chicks into them from the nesting burrow, presumably to reduce the risk of predation (Desmond and Savidge 1998) and possibly to avoid nest parasites (Dechant et al. 2003). One pair may use up to ten satellite burrows (James and Seabloom 1968). Individual burrowing owls have a moderate to high site fidelity to previously used burrow complexes and often use the same burrows for nesting year after year.

During the 2009 biological reconnaissance survey, one pair of burrowing owls was observed in the southeastern corner of the parking lot of the existing CCCC facility; the active burrow was located on the north side of the berm that runs along the southern perimeter of the parking lot (CH2M Hill 2016). This burrow was revisited during the 2016 surveys; however, the burrow was no longer active. Despite the numerous potential burrows observed on the Project site, no burrowing owls were observed during the 2016 surveys. Focused surveys for burrowing owl were conducted on the Project site in spring/summer 2017. No breeding burrowing owls were observed during the surveys. However, one burrowing owl was observed in the central portion of the Project site on one survey visit (Exhibit 7a). Because the owl had not been observed on any of the previous survey visits, and due to the timing of the observation in the season, it is assumed that this individual either occupied a burrow off site and was foraging on the Project site or was a young bird that was dispersing. Exhibit 7 shows the locations of potentially suitable burrows observed by GANDA in 2016 and by Psomas in 2017; some burrows were observed by both

GANDA and Psomas. No sign was associated with most of the burrows on Exhibit 7. One burrow complex was observed in the southeastern portion of the Project site that had old burrowing owl sign at its entrance (mapped as "burrowing owl historic sign [Psomas 2017]" on Exhibit 7a). The sign consisted of approximately eight owl pellets that were greater than six months old; no new owl sign was observed at this burrow complex during the course of the focused surveys. Therefore, it is believed that this burrow complex was likely occupied during the previous winter season. Suitable habitat for this species is present throughout the study area.

Olive-Sided Flycatcher

Olive-sided flycatcher is a California Species of Special Concern. This species is a long-distance migrant between its North American breeding grounds and Central and South American wintering grounds (Murphy 1989). Olive-sided flycatcher breeds in Canada and the western United States (Cornell 2018). This species occurs in edges, opening, and natural or human-made clearings in relatively dense forests; they can also occupy semi-open forests (Altman and Sellabanks 2012).

This species was incidentally observed in the study area during the 2016 surveys. As the study area does not contain suitable nesting habitat for this species, it is assumed that the individual was a migrant.

Loggerhead Shrike

Loggerhead shrike is a California Species of Special Concern. This species has a wide distribution across the United States, including south-central Canada and much of Mexico, but it has declined throughout much of this range in recent decades. The loggerhead shrike was considered to be a fairly common year-round resident in Southern California (Garrett and Dunn 1981). It still occupies much of its former California range but has been extirpated locally or has shown reduction in overall numbers at many locations (Shuford and Gardali 2008). Loggerhead shrikes breed mainly in shrublands or in open woodlands with a fair amount of grass cover and areas of bare ground (Shuford and Gardali 2008).

A loggerhead shrike was incidentally observed during 2016 surveys along the utility alignment. Additionally, an individual was observed on the Project site during 2017 focused burrowing owl surveys (Exhibit 7a). Suitable habitat for this species is located throughout the study area.

Le Conte's Thrasher

Le Conte's thrasher (*Toxostoma lecontei*) is a California Species of Special Concern. This species is a resident of the deserts of the southwestern United States and northwestern Mexico. It typically occurs with saltbush (*Atriplex* spp.) and/or cholla (*Cylindropuntia* spp.) and is rarely found in creosote scrub. It nests in dense and thorny desert shrubs or cholla (Sheppard 1996).

A Le Conte's thrasher was incidentally observed on the Project site during the 2017 focused burrowing owl surveys (Exhibit 7a). Suitable habitat for this species is present throughout the study area.

Mammals

Mohave Ground Squirrel

Mohave ground squirrel is a State listed Threatened species. The Mohave ground squirrel is rare throughout its range and is restricted to the Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo Counties (Wessman 1977). This species inhabits desert areas, including alluvial fans, basins, and plains with deep sandy or gravelly friable soils with an abundance of native herbaceous vegetation (Wessman 1977). Mohave ground squirrels can be found in Mojave

creosote bush scrub, shadscale desert scrub, alkali scrub, and Joshua tree woodland. This species feeds on green vegetation and seeds but may also eat carrion (Leitner 2015). This diurnal ground squirrel is active above ground in the spring and early summer (Best 1995). The Mohave ground squirrel is threatened by loss of habitat and degradation of habitat due to urban, suburban, and rural development; agriculture; military activities; energy development; livestock grazing; and off-highway vehicle use (Leitner 2015).

There are several nearby records of the species. Six nearby records of the Mohave ground squirrel occur around the Desert Tortoise Natural Area, approximately 2 to 5 miles north of the study area (Leitner 2015). Two records are approximately 6 miles southeast of the study area.

Habitat throughout the study area is suitable for the species, and multiple potentially suitable burrows were observed. No Mohave ground squirrels were incidentally observed during the 2016 or 2017 surveys. No Mohave ground squirrels were detected during focused camera monitoring that targeted the species; however, camera monitoring cannot conclusively establish absence of the species. The study area appears to support moderately suitable habitat, based on disturbance level (off-road vehicle activity), soil type, and the vegetative community. Based on the multiple records of this species in the vicinity, the Mohave ground squirrel is expected to occur.

Desert Kit Fox

Desert kit fox occurs in the arid regions of southern California (CDFW 2014). The species occurs in annual grasslands, grassy openings, and open shrublands (CDFW 2014). Desert kit foxes are primarily nocturnal. Friable soils are necessary for the construction of dens, which are used throughout the year for cover, thermoregulation, water conservation, and rearing pups (CDFW 2014). Kit foxes typically produce one litter of about four pups per year, with most pups born February through April; pups are weaned at four to five months (CDFW 2014). While the desert kit fox is not federally or State listed as a special status species, it is protected under Title 14, *California Code of Regulations*, Section 460. The *California Fish and Game Code* (§§ 4000 - 4012) defines kit fox as a fur-bearing mammal and prohibits take of this species.

During the 2016 surveys, 13 single-entrance desert kit fox dens and 7 den complexes[11] were observed in the study area. One of the den complexes showed sign of recent use (2016 breeding season), with puppy scat and prey remains scattered at some of the den entrances. Some of the single-entrance dens had scat nearby that was less than one year old. The dens are distributed throughout the Project site and show a range of conditions and use, indicating that the entire area is being used by desert kit fox. Additionally, one potential den and several recent kit fox tracks were incidentally observed during the 2017 surveys (Exhibit 7). Therefore, desert kit fox is expected to occur on the Project site and throughout the study area.

American Badger

The American badger is a California Species of Special Concern. It occurs throughout most of California in dry shrublands, forests, and grasslands with friable soils for burrowing (CDFW 2014). American badgers are mostly nocturnal and are active year-round, although they may go into torpor for periods in the winter (CDFW 2014; Long 1973). They may dig holes when foraging for burrowing rodents. American badgers have one litter of two to three young born in March to April. The American badger was observed foraging on an adjacent project, just south of the existing CCCC (Psomas 2017). Therefore, it is expected to occur on the Project site and throughout the study area.

[11] Den complexes were considered to be natal dens, which are larger and more complex than cover dens and have multiple entrances (GANDA 2016).

4.0 PROJECT IMPACTS

4.1 INTRODUCTION

This section presents an impact analysis of the Project. All construction activities, including staging and equipment areas, on the Project site, utility alignment, and WWTP are assumed to be within the impact boundaries identified on Exhibit 9. Construction of the Project would lead to the permanent removal of all existing vegetation on the Project site. Construction of the utility alignment would consist of the temporary excavation trenches along the utility alignment corridor, which are within the disturbed footprint of the roadway. Improvements to expand the capacity of the WWTP would occur within the area shown as impacted. Because the design of the improvements has not yet been completed, this document assumes that undefined portions of the entire area would be impacted; however, it is expected that the improvements would disturb less than shown.While impacts at the WWTP would reconfigure the basins, the area would still consist of a series of basins. Therefore, impacts to the WWTP are considered temporary because the same biological functions and values will be present following the reconfiguration of basins.

Both “direct” and “indirect” impacts on biological resources have been evaluated. Direct impacts are those that involve the initial loss of habitat or individuals due to vegetation clearing and construction-related activities. Indirect impacts would be those related to impacts on the adjacent remaining habitat due to construction activities (e.g., noise, dust) or operation of a project (e.g., human activity).

Biological impacts associated with the Project were evaluated with respect to the following special status (synonymous with “sensitive”) biological issues:

- Species listed under federal or State Endangered Species Acts
- Species proposed for listing under federal or State Endangered Species Acts
- Non-listed species that meet the criteria in the definition of “Rare” or “Endangered” in the CEQA Guidelines (i.e., 14 *California Code of Regulations,* Section 15380)[12]
- Species designated as California Species of Special Concern
- Vegetation types (synonymous with “habitat” and “community”) suitable to support a federally or State-listed Endangered or Threatened plant or wildlife species
- Streambeds, waterbodies, wetlands, and their associated vegetation
- Vegetation types, other than wetlands, considered special status by regulatory agencies (e.g., the USFWS, the CDFW) or resource conservation organizations
- Other species or issues of concern to regulatory agencies or conservation organizations

The actual and potential occurrence of these resources in the study area were correlated with the significance criteria listed in the next section in order to determine whether Project impacts on these resources would be considered significant.

[12] Section 15380 of the CEQA Guidelines indicates that a lead agency can consider a non-listed species (e.g., plant with a CRPR of 1B.1) to be Endangered, Rare, or Threatened if the species can be shown to meet the criteria in the definition of Rare or Endangered. For the purposes of this discussion, the current scientific knowledge on the population size and distribution for each special status species was considered in determining if a non-listed species meets the definitions for Rare and Endangered according to Section 15380 of the CEQA Guidelines.

4.2 SIGNIFICANCE CRITERIA

The environmental impacts relative to biological resources are assessed using impact significance criteria that mirror the policy contained in CEQA (*California Public Resources Code* §21001[c]). Accordingly, the State Legislature has established it to be the policy of the State to:

> Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities.

Determining whether a project would have a significant effect plays a critical role in the CEQA process. According to Section 15064.7 of the CEQA Guidelines (Thresholds of Significance), each public agency is encouraged to develop and adopt—by ordinance, resolution, rule or regulation—their own significance thresholds that the agency would use in determining the level of significance of environmental effects. A significance threshold defines the quantitative, qualitative, or performance limits of an environmental effect. If these thresholds are exceeded, the agency would consider the effect to be significant.

In the development of significance thresholds for impacts to biological resources, CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and Appendix G, the Environmental Checklist Form, of the CEQA Guidelines. Section 15065(a) states that a project may have a significant effect where:

> The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species.

Appendix G of the CEQA Guidelines is more specific in addressing biological resources and encompasses a broader range of resources to be considered, including candidate, sensitive, or special status species; riparian habitat or other special status natural communities; federally protected wetlands; fish and wildlife movement corridors; local policies or ordinances protecting biological resources; and adopted Habitat Conservation Plans (HCPs). These factors are considered through the checklist of questions answered during the Initial Study process used to determine a project's appropriate environmental documentation (i.e., Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report [EIR]). Because these questions are derived from standards employed in other laws, regulations and commonly used thresholds, it is reasonable to use these standards as a basis for defining significance thresholds in a CEQA document. For each of the thresholds identified below, the section of the CEQA Guidelines upon which the threshold is based has been provided. For the purpose of this analysis, impacts to biological resources are considered significant (before calculating the offsetting impacts of mitigation measures [MMs]) if one or more of the following conditions would result from implementation of the Project:

1. The project has the potential to substantially degrade the quality of the environment (§15065[a])
2. The project has the potential to substantially reduce the habitat of any fish or wildlife species (§15065[a])
3. The project will cause fish or wildlife populations to drop below self-sustaining levels (§15065[a])

4. The project will threaten to eliminate a plant or animal community (§15065[a])
5. The project will reduce the number or restrict the range of an Endangered, Rare, or Threatened species (§15065[a])[13]
6. The project has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a Candidate or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (Appendix G, IV[a])
7. The project has a substantial adverse effect on any riparian habitat or other special status natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (Appendix G, IV[b])
8. The project has 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 (Appendix G, IV[c])
9. The project interferes substantially with the movement of any native or migratory fish or wildlife species, inhibits established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites (Appendix G, IV[d])
10. The project conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Appendix G, IV[e])
11. The project conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan (Appendix G, IV[f])

In order to evaluate whether an impact on biological resources would result in a "substantial adverse effect," both the resource itself and how that resource fits into a regional context must be considered. The Project's regional setting includes the portion of the Mojave Desert encompassed by the USGS' Boron, Boron NW, California City North, California City South, Cantil, Galileo Hill, Johannesburg, Mojave NE, North Edwards, Saltdale SE, and Sanborn 7.5-minute quadrangles. This generally extends north to Cantil, east to Highway 395, south to Highway 58, and west to Highway 14.

For impact analysis purposes, a "substantial adverse effect" is defined as the loss or harm of a magnitude which, based on current scientific data and knowledge, would (1) substantially diminish population numbers of a species or distribution of a habitat type within the region or (2) eliminate the functions and values of a biological resource in the region.

4.3 DIRECT IMPACTS

The actual and potential occurrence of biological resources in the study area vicinity was correlated with the significance criteria described above to determine whether impacts from the Project on these resources would be significant. Potential direct impacts are described below.

[13] "Endangered" and "Threatened" species, as used in this threshold, are those listed by the USFWS and/or CDFW as Threatened or Endangered. Section 15380 of the CEQA Guidelines indicates that a lead agency can consider a non-listed species (e.g., plants with a CRPR of 1B.1) to be Endangered, Rare, or Threatened for the purposes of CEQA if the species can be shown to meet the criteria in the definition of "Rare" or "Endangered". For the purposes of this discussion, the current scientific knowledge on the population size and distribution for each special status species was considered in determining if a non-listed species met the definitions for "Rare" and "Endangered" according to Section 15380 of the CEQA Guidelines.

4.3.1 Vegetation Types and Other Areas

Vegetation types and other areas that would be impacted by the Project are shown in Table 8 and Exhibit 9. These impacts are discussed in more detail below.

TABLE 8
VEGETATION TYPES AND OTHER AREAS
IMPACTED BY THE PROJECT

Vegetation Types and Other Areas	Project site		Utility Alignment		WWTP		Total Impacted (Acres)
	Existing (Acres)	Impacted (Acres)	Existing (Acres)	Impacted (Acres)	Existing (Acres)	Impacted (Acres)	
Creosote Bush–White Bursage Scrub	216.45	216.45	40.46	0.00	0.00	0.00	**216.45**
Disturbed Creosote Bush–White Bursage Scrub	0.00	0.00	4.10	0.00	0.00	0.00	**0.00**
Creosote Bush–White Bursage Scrub/Allscale Scrub	0.00	0.00	0.10	0.00	0.00	0.00	**0.00**
Rubber Rabbitbrush Scrub	0.00	0.00	0.39	0.00	0.00	0.00	**0.00**
Allscale Scrub	0.00	0.00	0.91	0.00	0.00	0.00	**0.00**
Rubber Rabbitbrush–Allscale Scrub	0.00	0.00	0.00	0.00	4.82	4.82	4.82
Semi-natural Herbaceous Stand	0.00	0.00	0.25	0.00	1.24	1.24	**1.24**
Ornamental	0.00	0.00	5.17	0.17	0.00	0.00	**0.17**
Open Water	0.00	0.00	0.08	0.00	2.65	2.65	**2.65**
Developed/Ornamental	0.00	0.00	2.04	0.00	0.00	0.00	**0.00**
Developed	0.00	0.00	53.75	5.80	1.42	1.42	**7.22**
Disturbed	0.08	0.08	41.42	2.46	14.01	14.01	**16.55**
Total	**216.53**	**216.53**	**148.67**	**8.43**	**24.14**	**24.14**	**248.88**

G: Global; S: State; "–": not applicable.

The Project would impact all 216.45 acres of creosote bush–white bursage scrub on the Project site. This vegetation type is ranked as G5 S5, considered secure by the CDFW. Therefore, this impact is considered less than significant, and no mitigation would be required.

The Project would impact up to 4.82 acres of rubber rabbitbrush–allscale scrub at the WWTP. Following the Project, some of this vegetation may be allowed to regrow around the ponds, as it is currently; however, all vegetation is considered permanently impacted because some or all of it may be permanently impacted by the improvements. This vegetation type is ranked as G4/S4 and G5/S5, considered secure/apparently secure and uncommon but not rare by the CDFW. Therefore, this impact is considered less than significant, and no mitigation would be required.

Approximately 0.08 acre of disturbed land would also be impacted on the Project site. The extension of utilities to the Project site would impact 0.17 acres of ornamental, an additional 2.46 acres of disturbed land, and 5.80 acres of developed areas along the utility alignment. Up to 1.24 acres of semi-natural herbaceous stand, 1.42 acres of developed areas, and 14.01 acres of disturbed land would be impacted at the WWTP. Following the Project, it is expected that areas disturbed along the utility alignment and at the WWTP would return to some combination of developed, disturbed, semi-natural herbaceous stand, and ornamental. These areas are considered of low biological value. Therefore, this impact is considered less than significant, and no mitigation would be required.

Project Impacts

- Direct Impact Area (Utility)
- Direct Impact Area (Project Site)
- Indirect Impact Area (Blasting)

Map Extent

9a 9b 9c 9d 9e 9f 9g 9h

Match Line - Exhibit 9b

CALIFORNIA CITY CORRECTIONAL FACILITY

35-ACRE SITE (CONSTRUCTION UNDERWAY)

Virgi

Lookout Dr

La Salle St

Gordon Blvd

Fay Ct

Belle St

Lindbergh Blvd

Innes Dr

Kim Ct

Aerial Source: Maxar 2018

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Project Impacts

Exhibit 9a

Correctional Facility at California City (CFCC)

N W E S

500 250 0 500 Feet

PSOMAS

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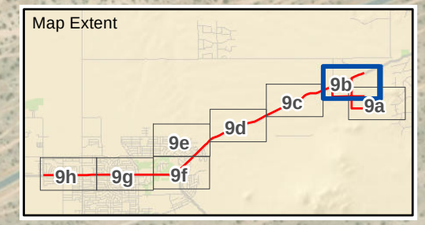
Project Impacts

- Direct Impact Area (Utility)
- Direct Impact Area (Project Site)
- Indirect Impact Area (Blasting)



145th St

Twenty Mule Team Pkwy

Virginia Blvd

Match Line - Exhibit 9c

Match Line - Exhibit 9a

Aerial Source: Maxar 2018

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Project Impacts

Correctional Facility at California City (CFCC)

Exhibit 9b

N W E S

500 250 0 500

Feet

PSOMAS

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Project Impacts

Direct Impact Area (Utility)

Map Extent

9a 9b 9c 9d 9e 9f 9g 9h

Twenty Mule Team Pkwy

Match Line - Exhibit 9b

Match Line - Exhibit 9d

Aerial Source: Maxar 2018

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Project Impacts

Correctional Facility at California City (CFCC)

Exhibit 9c

N W E S

500 250 0 500

Feet

PSOMAS

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Project Impacts

Direct Impact Area (Utility)

Map Extent

9a 9b 9c 9d 9e 9f 9g 9h

Match Line - Exhibit 9c

Twenty Mule Team Pkwy

Randsburg Mojave Rd

Match Line - Exhibit 9e

Aerial Source: Maxar 2018

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Project Impacts

Correctional Facility at California City (CFCC)

Exhibit 9d

N W E S

500 250 0 500 Feet

PSOMAS

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Wastewater Treatment Plant

Project Impacts

Direct Impact Area (Utility)

Direct Impact Area (Wastewater Treatment Plant)*

*Future improvements to increase the capacity of the WWTP will occur within this already-disturbed portion of the WWTP; however, the design plans have not yet been completed.

Map Extent

9a 9b 9c 9d 9e 9f 9g 9h

Mendiburu Rd
Rea Ave
Evelyn Ave
Margery Ave
Karen Ave
Susan Ave
Irene Ave
Sally Ave
N Loop Blvd
99th St
101st St
Ethel St
Conklin Blvd
Alder Dr
Bancroft Dr
Calhoun Dr
Trumbull St
Darrow Dr
Everett Dr
Garibaldi Ct
Hooker Dr
Sheridan St
Dolphin Ct
Camille Ct
Jeremy Ct
Jeremy Dr
N Garibaldi Dr
Joan Ct
Lydia Dr
Everett Ct
S Garibaldi Dr
Keller Dr
Electra Ct
Ives Ct
Ives Dr
Randsburg Mojave Rd
Camp Fire Dr
Desert Breeze Dr
Morning Glory Dr

Match Line - Exhibit 9d

Match Line - Exhibit 9f

Aerial Source: Maxar 2018

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Project Impacts

Correctional Facility at California City (CFCC)

Exhibit 9e

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-03-2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\BioTech\ex_Project_Impacts.pdf

Project Impacts

Direct Impact Area (Utility)

Match Line - Exhibit 9e

N Loop Blvd

Ives Dr

Keller Dr

Reed Pl

Randsburg Mojave Rd

Crab Apple Ln

Lake Shore Dr

Heather Ave

Conklin Ct

Heather Ct

Windsong St

Bancroft Ct

Calhoun Ct

Conklin Blvd

Applewood Dr

Rome Beauty Dr

Match Line - Exhibit 9g

California City Blvd

Proctor Blvd

Aspen Ave

Bay Ave

S College Blvd

108th St

109th St

Harvard Ave

Princeton Ave

Cooper Dr

California City Blvd

Georgetown St

107th St

Melville Dr

Fenmore Dr

Berkman Dr

Map Extent

9h 9g 9f 9e 9d 9c 9b 9a

Aerial Source: Maxar 2018

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Project Impacts

Correctional Facility at California City (CFCC)

Exhibit 9f

N W E S

500 250 0 500 Feet

PSOMAS

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Project Impacts

Direct Impact Area (Utility)

Map Extent

9a 9b 9c 9d 9e 9f 9g 9h

Jimson Ave
Poppy Blvd
N Loop Blvd
Lupine Loop Dr
89th St
Hacienda Blvd
Heather Ave
Doris St
later Ct
Desert Jade Cir
Fuchsia Ave
94th St
Orchid Dr
Dogbane Ave
Walpole Ave
85th St
Columbine Ave
91st St
Xavier Ave
California City Blvd
Match Line - Exhibit 9h
Match Line - Exhibit 9f
88th St
Aspen Ave
87th St
90th St
Sandy Ave
96th St
Bay Ave
Lasky St
84th St
W Lake Dr
Lakeview Dr
Village Center Dr
Catalpa Ave
Village Pkwy
Dogwood Ave
Eucalyptus Ave
Corwin St
92nd St
Fir Ave
Hickory Dr
Fernwood Ave
Great Circle Dr
S Loop Blvd
Grapewood Ave
Holly Ave
Cole St
93rd St

Aerial Source: Maxar 2018

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Project Impacts

Correctional Facility at California City (CFCC)

N W E S

500 250 0 500 Feet

Exhibit 9g

PSOMAS

(Rev: 11-03-2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\BioTech\ex_Project_Impacts.pdf

Project Impacts

Direct Impact Area (Utility)

Map Extent

9h 9g 9f 9e 9d 9c 9b 9a

Jimson Ave
Quezon Ave
Charlene Pl
Landis Dr
Heather Av
Walpole Ave
79th St
Victor Way
Hugo Way
Short Way
71st St
72nd St
73rd St
78th St
Dogbane Ave
S Charlene Pl
Vivian Pl
Columbine Ave
Kenniston St
76th St
Nemophilia St
Xavier Ave
Berry St
Peyton Blvd
California City Blvd
Isabella Blvd
Neuralia Rd
82nd St
Match Line - Exhibit 9g
74th St
Bay Ave
Catalpa Ave
Aspen Mall
77th St
Dogwood Ave
Eucalyptus Ave
Fir Ave
Fernwood Ave
Medio St
Greenwood Av

Aerial Source: Maxar 2018

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Project Impacts

Correctional Facility at California City (CFCC)

Exhibit 9h

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 11-03-2020 MMD) R:\Projects\CRC\3CRC010100\Graphics\BioTech\ex_Project_Impacts.pdf

Improvements at the WWTP would also temporarily impact up to 2.65 acres of open water. Open water is not a vegetation type so it has no threat ranking; however, it is considered a valuable land cover/habitat type. Following the Project, it is expected that the same or more open water would be present at the WWTP following the improvements. Open water is considered potentially under the jurisdiction of the resource agencies (i.e., RWQCB and CDFW) and will be discussed below in Section 4.3.3.

4.3.2 Wildlife

To assess impacts on wildlife, the total impact on particular vegetation types that provide habitat for wildlife was assessed. The following discussion of wildlife impacts focuses on the common wildlife species occurring in the study area.

General Habitat and Wildlife Loss

Native and non-native vegetation provide valuable nesting, foraging, roosting, and denning opportunities for a variety of wildlife species. The Project would permanently impact approximately 216.45 acres of native vegetation types (creosote bush–white bursage scrub) and 0.08 acre of disturbed land on the Project site. It would also temporarily impact approximately 0.17 acre of ornamental and 2.46 acres of disturbed areas along the utility alignment. Removing or altering habitats on the Project site would likely result in the loss of small mammals, reptiles, amphibians, and other slow-moving wildlife that live in the Project's direct impact area. More mobile wildlife species that are now using the Project site would be forced to move into the remaining areas of open space, which would consequently increase competition for available resources in those areas. This situation would result in the loss of individuals that cannot successfully compete. The loss of native and non-native vegetation that provides wildlife habitat is considered an adverse impact. However, the loss of native and non-native habitat on the Project site and utility alignment would not be expected to reduce populations of common wildlife species below self-sustaining levels in the Project region. Therefore, this impact would be considered adverse but less than significant, and no mitigation would be required.

The Project would impact up to 4.82 acres of native vegetation types (rubber rabbitbrush–allscale scrub) and 1.24 acres of semi-natural herbaceous stand, 2.65 acres of open water, and undefined portions of 14.01 acres of disturbed at the WWTP. Following the Project, the basins may be reconfigured, but it is expected that the same or greater basin area would be present. Therefore, the improvements are not expected to decrease the functions and values of the site for wildlife (e.g., open water for foraging). Therefore, this impact would be considered less than significant, and no mitigation would be required.

Several common bird species have the potential to nest in the vegetation or on the ground on the Project site, utility alignment, and the WWTP. Birds may also nest in structures at the WWTP. The loss of an active migratory bird nest, including nests of common species, would be considered a violation of the Migratory Bird Treaty Act (MBTA) and Sections 3503, 3503.5, and 3513 of *California Fish and Game Code*. The MBTA and *California Fish and Game Code* prohibits the taking of migratory birds, nests, and eggs. The potential loss of an active nest would be considered adverse but not significant because the impact does not meet the significance criteria identified above. However, MM BIO 1 has been included that addresses the time frame in which construction could occur to avoid active nests and includes a requirement for pre-construction surveys and avoidance of active nests. Implementation of MM BIO 1 would prevent the adverse impact and ensure that construction impacts would not violate the provisions of the MBTA and *California Fish and Game Code*.

Wildlife Movement

The Project site generally occurs in an area of undeveloped open space where wildlife movement is not presently confined to a corridor. The Project would remove approximately 216.53 acres of live-in habitat and open space that wildlife currently moves through; however, it would not create a barrier to movement because wildlife would be able to move around the Project site during construction and operation of the Project using adjacent areas of open space. Therefore, the impact on wildlife movement would be considered less than significant, and no mitigation would be required.

Construction of utilities would occur along existing roadways. Construction activities would be temporary, and then the landscape would be returned to its existing condition. Construction of the utilities would not introduce any new barriers to wildlife movement; therefore, impacts on wildlife movement would be less than significant, and no mitigation would be required. During construction, wildlife would not be able to move through the area of active construction, but they could move around the small segment of active construction using surrounding areas of open space. Therefore, temporary impacts on wildlife movement would be considered less than significant, and no mitigation would be required.

The WWTP generally occurs in an area of mostly undeveloped open space where wildlife movement likely follows the drainages around the existing facility. The Project would temporarily impact up to approximately 24.14 acres of habitat that mobile wildlife could move through (i.e., those that could move over or through the existing fence); however, it would not create a barrier to movement because wildlife would be able to continue moving around the WWTP during construction and operation of the Project, as currently occurs, using adjacent areas of open space. Therefore, the impact on wildlife movement would be considered less than significant, and no mitigation would be required.

4.3.3 Special Status Biological Resources

Special Status Vegetation Types

No special status vegetation types (i.e., CDFW sensitive communities) occur in the study area. Therefore, no impact on special status vegetation would occur, and no mitigation would be required.

Jurisdictional Resources

Multiple drainage features occur on the Project site and along the utility alignment and nine wastewater treatment basins occur at the WWTP (Table 9; Exhibit 6; Appendix G). These features are potentially under the regulatory authority of the RWQCB and/or the CDFW; the regulatory agencies make the final determination on their jurisdictional extent. Although there have been recent changes in the delineation of USACE and RWQCB jurisdiction, the changes would not change the jurisdiction of the drainages on the Project site.

Approximately 10.659 acres of waters of the State potentially under the jurisdiction of the RWQCB occur in the study area (2.989 acres on the Project site, 0.022 acre along the utility alignment, and 7.648 acres at the WWTP). Approximately 16.745 acres of waters potentially under the

jurisdiction of the CDFW[14] occur in the study area (2.989 acres on the Project site, 0.414 acre along the utility alignment, and 13.342 acres at the WWTP).

TABLE 9
JURISDICTIONAL RESOURCES IMPACTED BY THE PROJECT

Jurisdiction	Project Site		Utility Alignment		Wastewater Treatment Plant		Total Impacted
	Existing	Impacted	Existing	Impacted	Existing	Impacted	
Total USACE waters of the United States							
Acres	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
Linear Feet	0	0	0	0	0	0	**0**
Total RWQCB waters of the State*							
Acres	2.989	2.989	0.022	0.000	7.648	7.648	**10.637**
Linear Feet	31,904	31,904	307	0	n/a	n/a	**31,904**
Total Potential CDFW Jurisdictional Resources							
Acres	2.989	2.989	0.414	0.003	13.342	13.342	**16.334**
Linear Feet	31,904	31,904	307	34	n/a	n/a	**31,940**

USACE: U.S. Army Corps of Engineers; RWQCB: Regional Water Quality Control Board; CDFW: California Department of Fish and Wildlife; n/a: not applicable.

* RWQCB jurisdictional boundaries are defined as those determined for the USACE under waters of the United States; however, the RWQCB also takes jurisdiction over isolated waters.

It is anticipated that 31,904 linear feet of jurisdictional resources on the Project site would be impacted by construction activities, as well as 34 linear feet of identified jurisdictional resources within a 5-foot wide trench along the utility alignment. Based on the results of the data analysis, it was determined that the Project impacts on jurisdictional resources on the Project site and along the utility corridor include:

- RWQCB Jurisdiction: 2.989 acres (2.989 acres on the Project site; 0.000 acre along the utility alignment).
- CDFW Jurisdiction: 2.992 acres (2.989 acres on the Project site; 0.003 acre along the utility alignment).

Improvements to expand the capacity of the WWTP would occur within the area shown as impacted. Because the design of the improvements has not yet been completed, this document assumes that the entire area would be impacted; however, it is expected that the improvements would disturb less than shown. If CDFW were to extend their jurisdiction to cover the operating WWTP ponds that would be upgraded/modified as part of the proposed Project, potential impacts on jurisdictional water resources at the WWTP could include up to:

- RWQCB Jurisdiction: 7.648 acres.

- CDFW Jurisdiction: 13.342 acres.

Impacts are considered significant according to the significance criteria and would require regulatory authorization from the applicable agencies. Thus, the following permit/agreement are

[14] No specific regulatory guidance exists with respect to man-made basins; CDFW jurisdiction is determined on a case-by-case basis through a discussion with the regulator based on site conditions. These basins may or may not be considered jurisdictional.

required from resource agencies prior to initiation of Project activities that involve impacts to jurisdictional waters:

- RWQCB Report of Waste Discharge (RWD) for issuance of Waste Discharge Requirements under the State's Porter-Cologne Water Quality Control Act
- CDFW Section 1602 Notification of Lake or Streambed Alteration for a Lake or Streambed Alteration (LSA) Agreement between CDFW and the Project Applicant/Developer

The WWTP has an existing permit from the RWQCB (Waste Discharge Requirements [WDRs]. Project impacts must be in compliance with the existing WDRs otherwise an amendment or new authorization may be required. The CDFW considers impacts on wastewater treatment basins on a case-by-case basis. Notification of the Project activity should be submitted to the CDFW and they will determine whether a Lake or Streambed Alteration Agreement is necessary. Implementation of MM BIO 2 would ensure compliance with the *Porter-Cologne Water Quality Control Act* and Section 1602 of the *California Fish and Game Code* through habitat preservation, enhancement, and/or creation/restoration. Implementation of MM BIO 2 would reduce impacts to less than significant levels.

Special Status Plant Species

Twenty-two special status plant species have been reported from the study area vicinity. Suitable or marginally suitable habitat for 19 of these species occurs on the Project site, utility alignment, and WWTP. Species with potential to occur based on the presence of suitable or marginally suitable habitat include alkali mariposa-lily (*Calochortus striatus*), white pygmy-poppy (*Canbya candida*), Mojave spineflower, Clokey's cryptantha (*Cryptantha clokeyi*), desert cymopterus (*Cymopterus deserticola*), Red Rock tarplant (*Deinandra arida*), Mojave tarplant (*Deinandra mohavensis*), recurved larkspur (*Delphinium recurvatum*), Barstow woolly sunflower (*Eriophyllum mohavense*), Red Rock Canyon monkeyflower (*Erythranthe rhodoptera*), Death Valley sandmat (*Euphorbia vallis-mortae*), golden goodmania (*Goodmania luteola*), sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*), solitary blazing star (*Mentzelia eremophila*), creamy blazing star (*Mentzelia tridentata*), crowned muilla (*Muilla coronata*), graceful nemacladus (*Nemacladus gracilis*), Charlotte's phacelia (*Phacelia nashiana*), and Mojave fish-hook cactus. Of these, only one species, Mohave spineflower, was observed on the Project site.

One small population of Mojave spineflower (CRPR 4.2) was incidentally observed on the Project site and would be impacted by the Project. Because this population was incidentally observed during a wildlife survey, not targeted at plant species surveys, it was unknown, at the time, whether additional populations were present. However, this species was not detected 2020 focused botanical surveys. Therefore, it is concluded that the number of individuals occurring on the Project site is small. Additionally, several populations are known from the Project region; therefore, impacts on this species would be considered adverse but less than significant. Therefore, no mitigation would be required. No other special status plant species were observed on the Project site during focused surveys between 2016 and 2020. Therefore, they are not expected to occur, and no mitigation would be required.

The utility alignment impacts would occur entirely within the existing disturbed footprint of the roadway, which does not provide suitable habitat for any special status plant species. Therefore, the utility alignment is not expected to impact these species; and no mitigation would be required.

The WWTP was not surveyed during focused surveys between 2016 and 2020. Twelve species have limited potential to occur in this area based on the presence of marginally suitable habitat. If any special status plant species are found in the WWTP, and the size and status of the population is substantial based on the regional population size of the species, the Project's impact

on that species could be significant. Implementation of MM BIO 3 would reduce this potentially significant impact to a less than significant level. This measure describes the procedure to mitigate for each species.

Tree Ordinance

Construction along the utility alignment would be located within public right-of-way; where for the most part, no trees are present. There are a there are no measures protecting particular types of trees. The only trees present in the study area are along the western portion of the utility alignment (e.g., along California City Boulevard). There are a few trees located along existing roadways in the western portion of the utility alignment (e.g., California City Boulevard). It is not yet known whether the alignment would affect ornamental trees along the roadway; however, the City's tree ordinance allows for trees to be removed, pruned or trimmed for purposes of public improvements such as utility improvements (Title 7, Chapter 8, 103). No street trees are proposed by the Project. Thus, the project would not conflict with the City's tree ordinance. Therefore, no mitigation would be required.

Desert Native Plants Act

The Project would impact a total of 19 cactus individuals protected by the California Desert Native Plants Act (CDNPA). These impacts are considered potentially significant and would require a permit from Kern County. Implementation of MM BIO 4 would reduce potential impacts to less than significant and ensure compliance with the CDNPA.

Special Status Wildlife Species

Thirty-two special status wildlife species have been reported from the study area vicinity. Suitable or marginally suitable habitat for 24 of these species occurs on the Project site, along the utility alignment, and/or at the WWTP.

One special status invertebrate, Crotch bumble bee has a limited potential to occur on the Project site, adjacent to the utility alignment, and at the WWTP because suitable host plant species are present in these areas. Approximately 216.45 acres of suitable habitat (i.e., creosote bush–white bursage scrub) for this species would be permanently impacted by the Project. An additional 4.82 acres of suitable habitat (i.e., rabbitbrush–allscale scrub) would be impacted at the WWTP. Additionally, vibration from construction could cause the collapse of burrows in the adjacent habitat, and Crotch bumble bee could be entombed in their burrows. This species is a Candidate for State listing as Endangered. If present, any impact on this species, either through direct mortality or through loss of habitat, would be considered significant. Implementation of MMs BIO 5, 6, and 7 would reduce this impact to a less than significant level by requiring compensatory mitigation for loss of habitat and State permitting for take of this species.

One special status reptile, desert tortoise, may occur on the Project site and along the utility alignment. It is not expected to occur at the WWTP due to the presence of exclusionary fencing. This species was not directly observed during 2016 or 2017 surveys; however, fresh scat, one active burrow, and several Class 3 burrows were observed on the Project site. Therefore, this species is expected to occur throughout the Project site, and may occur along the utility alignment. Approximately 216.45 acres of suitable habitat (i.e., creosote bush–white bursage scrub) for this species occurs within the Project site and would be impacted by the Project. Additionally, vibration from construction could cause the collapse of burrows in the adjacent habitat, and desert tortoise could be entombed in their burrows. Activities along the utility alignment would not impact any suitable habitat but may affect individuals crossing or traversing the alignment. During construction, desert tortoise could fall into trenches or be hit by construction vehicles. The species can also be indirectly impacted by increased predation by common ravens attracted to the

construction area by improper disposal of trash or standing water from dust control. Because this species is federally and State listed as Threatened, any impact on this species, either through direct mortality or through loss of habitat, would be considered significant. Implementation of MMs BIO 5, 6, and 7 would reduce this impact to a less than significant level by requiring compensatory mitigation for loss of habitat, federal and State permitting for take of this species, and measures to avoid and minimize the potential for direct mortality of individuals.

Ten special status raptor species were observed or have potential to forage on the Project site, along the utility alignment, and at the WWTP: California condor (*Gymnogyps californianus*), golden eagle, osprey, Cooper's hawk, Swainson's hawk, bald eagle, prairie falcon, American peregrine falcon (*Falco peregrinus anatum*), short-eared owl (*Asio flammeus*), and burrowing owl. Approximately 216.53 acres of suitable and marginally suitable foraging habitat (i.e., creosote bush–white bursage scrub and disturbed areas) for these species would be permanently impacted within the Project site. . Suitable foraging habitat for these species would be permanently impacted within the Project site and temporarily impacted during construction along the utility alignment and at the WWTP. Impacts to habitat within the Project site would be considered adverse but less than significant because the Project would impact a limited amount of habitat relative to the amount of foraging habitat available in the region. Impacts to foraging activities along the utility alignment and WWTP would be limited because construction would occur in segments and raptors could forage around the small segment of active construction, still using the substantial amount of habitat in the surrounding areas. Therefore, no mitigation would be required for activities along the Project site, the utility alignment, or the WWTP.

Of the ten raptors with potential to occur, one species, burrowing owl, has potential to nest on the Project site, along the utility alignment, and at the WWTP. Two species, Swainson's hawk and osprey, have potential to nest on the electrical utility poles along the utility alignment and adjacent to the WWTP. One species, Cooper's hawk, has limited potential to nest in the ornamental trees adjacent to the utility alignment. Suitable foraging habitat for these species would be permanently impacted within the Project site (216.53 acres) and temporarily impacted during construction along the utility alignment and at the WWTP. The Project would not directly impact suitable nesting habitat for Swainson's hawk, osprey, or Cooper's hawk, but the species could be disturbed by construction adjacent to active nests. Swainson's hawk is State listed as Threatened; and burrowing owl is considered to meet the definition of rare, Threatened, or Endangered in the Project region (i.e., Section 15380 of CEQA); therefore, the loss of active nests/burrows would be considered potentially significant. Additionally, nests of these species are protected by the MBTA and *California Fish and Game Code*. Implementation of MMs BIO 1 and 8 would reduce this impact to a less than significant level through measures that would avoid and minimize the potential for loss of an active nest/burrow and/or the direct mortality of individuals.

Three additional special status bird species have potential to forage on the Project site, adjacent to the utility alignment, and at the WWTP: loggerhead shrike, Le Conte's thrasher, and Brewer's sparrow. Suitable foraging and nesting habitat for these species would be permanently impacted within the Project site (216.53 acres) and temporarily impacted during construction along the utility alignment and at the WWTP. This impact would be considered adverse but less than significant because the Project would impact a limited amount of habitat relative to the amount of habitat available for these species in the region. Therefore, no mitigation would be required for the loss of habitat. However, active nests are protected by the MBTA and *California Fish and Game Code* and could be affected by adjacent construction activities. Implementation of MM BIO 1 would ensure that measures are taken to avoid and minimize impacts on active nests.

One species, western snowy plover (*Charadrius alexandrinus nivosus*) has potential to occur for foraging and limited potential to nest at the basins of the WWTP; suitable habitat is not present on the Project site or along the utility alignment. The Project would temporarily impact a limited

amount of suitable foraging and marginally suitable nesting habitat for the species. Following the Project, it is expected that the same or more basin area would be present at the WWTP following the improvements. This impact would be considered less than significant because it would be a temporary loss of a limited amount of marginally suitable habitat. However, active nests are protected by the MBTA and *California Fish and Game Code* and could be affected by adjacent construction activities. Implementation of MM BIO 1 would ensure that measures are taken to avoid and minimize impacts on active nests.

Two other special status bird species have potential to occur for foraging but would not be expected to nest on the Project site, the utility alignment, or the WWTP: olive-sided flycatcher, and mountain plover (*Charadrius montanus*). While olive-sided flycatcher was observed during surveys, no suitable habitat is present on the Project site or utility alignment; therefore, it is expected that this species would occur only as a migrant. The mountain plover occurs in the Project region only during winter. Additionally, it most commonly winters in agricultural fields and disturbed areas; however, it could forage on the Project site, adjacent to the utility alignment, and at the WWTP. Suitable foraging habitat for these species would be permanently impacted within the Project site (216.53 acres) and temporarily impacted during construction along the utility alignment and at the WWTP. This impact would be considered adverse but less than significant because the Project would impact a limited amount of habitat relative to the amount of habitat available for these species in the region. Therefore, no mitigation would be required for the loss of habitat.

Four special status bat species have potential to forage on the Project site, along the utility alignment, and at the WWTP: pallid bat, Townsend's big-eared bat (*Corynorhinus townsendii*), spotted bat (*Euderma maculatum*), and western mastiff bat. Suitable foraging habitat for these species would be permanently impacted within the Project site (216.53 acres) and temporarily impacted during construction along the utility alignment and at the WWTP. Only pallid bat has potential to roost on the Project site in the rock outcrops. Pallid bat and Townsend's big-eared bat have potential to roost in the buildings and man-made structures at the WWTP. These impacts would be considered adverse but less than significant because the Project would impact a limited amount of foraging habitat relative to the amount of foraging habitat available for these species in the region. Therefore, no mitigation would be required for the loss of foraging habitat. The Project would impact a small amount of potential roosting habitat for pallid bat on the Project site. These impacts would be considered adverse but less than significant because the Project would impact a limited amount of potential roosting habitat relative to the amount of roosting habitat available in the hills and rock outcrops immediately adjacent to the Project site and no mitigation would be required.

Mohave ground squirrel, a State listed Threatened species, may occur on the Project site, adjacent to the utility alignment, and at the WWTP. This species was not directly observed during camera surveys; however, its presence is assumed in suitable habitat throughout the Project site, adjacent to the utility alignment, and at the WWTP because protocol surveys were not conducted to determine presence or absence and because the species is known from multiple locations in the vicinity. The Project would impact 216.45 acres of suitable habitat (i.e., creosote bush–white bur-sage scrub) for this species. Up to an additional 4.82 acres of suitable habitat (i.e., rabbitbrush–allscale scrub) would be impacted at the WWTP. Additionally, vibration from construction could cause the collapse of burrows in the adjacent habitat, and Mohave ground squirrels could be entombed in their burrows. Individuals could also potentially move through the construction area and could fall into trenches or be hit by construction vehicles. Any impact on this species, through either direct mortality or through loss of habitat, would be considered significant. Implementation of MMs BIO 5, 6, and 7 would reduce this impact to a less than significant level by requiring compensatory mitigation for loss of habitat, State permitting for take of this species, and measures to avoid and minimize the potential for direct mortality of individuals.

An additional special status small mammal, Tulare grasshopper mouse (*Onychomys torridus tularensis*), may occur on the Project site, adjacent to the utility alignment, and at the WWTP. The Project would impact 216.45 acres of suitable habitat (i.e., creosote bush–white bur-sage scrub) for this species. An additional 4.82 acres of suitable habitat (i.e., rabbitbrush–allscale scrub) would be impacted at the WWTP. Additionally, vibration from construction could cause the collapse of burrows in the adjacent habitat and Tulare grasshopper mice could be entombed in their burrows. Individuals could also potentially move through the construction area and could fall into trenches or be hit by construction vehicles. These impacts would be considered adverse, but less than significant, because the Project would impact a limited amount of habitat/individuals relative to the amount in the region. Therefore, no mitigation would be required.

Desert kit fox and American badger are expected to occur on the Project site, adjacent to the utility alignment, and at the WWTP due to observations during the 2016 and 2017 surveys, and observation on an adjacent site (Psomas 2018). The Project would impact 216.53 acres of suitable habitat for these species (i.e., (i.e., creosote bush–white bur-sage scrub and disturbed). An additional 20.07 acres of suitable habitat (i.e., rabbitbrush–allscale scrub, semi-natural herbaceous stand, and disturbed) would be impacted at the WWTP. Additionally, vibration from construction equipment could cause burrows in adjacent habitat to collapse, potentially entombing individuals in their burrows. Individuals could also potentially move through the construction area and be hit by construction vehicles. The loss of habitat would be considered adverse but less than significant because the Project would impact a limited amount of habitat relative to the amount of available for these species in the region. However, the desert kit fox is protected by *California Fish and Game Code*, which prohibits take of individuals of this species. While American badgers are not afforded the same protection under *California Fish and Game Code*, the measures to protect active desert kit fox dens can also be applied to protect active American badger dens; thus, this species is typically included in measures to protect active dens. MM BIO 7 and 9 would require measures that would avoid and minimize impacts on desert kit foxes and American badgers and active dens.

4.3.4 West Mojave Plan

While the Project site, utility alignment, and their study area are located within the geographic boundaries of the West Mojave Plan (WM Plan), the Project would not be processed under the WM Plan because it is a private project and the WM Plan can only be used for projects on federal land. However, the Project would not interfere with any conservation areas designed by the WM Plan including Habitat Conservation Areas, Special Review Areas, critical habitat on Military Lands, existing Area of Critical Environmental Concern, or BLM Wilderness Area.

4.4 INDIRECT IMPACTS

Indirect impacts, often called “edge effects,” are those that affect the quality of nearby wildlife habitat resulting from disturbance by construction (such as noise, night lighting, and human activity) and/or the long-term use of the Project site and utility alignment. It is anticipated that some indirect impacts may result from the Project construction and operation; these are described below.

4.4.1 Water Quality

Drainages in the vicinity of the Project could be impacted as a result of changes in water quality. During construction, runoff carrying excessive silt or petroleum residues from construction equipment could potentially impact water quality and, in turn, affect plant and wildlife species using habitat adjacent to the Project. Additionally, standing water resulting from dust control could attract ravens, which are predators of desert tortoise, to the Project site and utility alignment. These are potentially significant impacts. Implementation of MM BIO10, which includes BMPs

that would reduce construction-related pollutants, would reduce this impact to a less than significant level.

4.4.2 Noise and Vibration

During active construction, temporary noise impacts have the potential to disrupt foraging, nesting, roosting, and/or denning activities for a variety of wildlife species. Construction noise could deter wildlife from using habitat adjacent to construction. This impact would be considered adverse but less than significant because a substantial amount of similar habitat is present in the vicinity where the animals may disperse. Therefore, no mitigation would be required.

During construction, the northern portion of the Project site may require blasting to successfully bring the Project site to the appropriate grade; the need for blasting will be confirmed with additional geotechnical work. The noise associated with blasting would likely result in wildlife startling and temporarily leaving the project vicinity. Most wildlife are expected to return to habitat areas adjacent to the Project after blasting has been completed; however, some wildlife may abandon a nest or den following the blasting effort. Furthermore, the vibration associated with blasting could result in the collapse of offsite burrows occupied by wildlife unable to re-excavate and escape their burrows; affected species could include Crotch bumble bee, desert tortoise, Mohave ground squirrel, desert kit fox, American badger, and burrowing owl, as well as other common burrowing wildlife. Noise effects are expected to extend approximately 500 feet from the blasting, while vibration effects are expected to extend approximately 200 feet from the blasting area. This would subject 23.71 additional acres of habitat areas (23.67 acres of creosote bush scrub-white bursage scrub and 0.04 acre of disturbed) to indirect effects due to vibration (Exhibit 9); habitat would remain in these areas, but all burrows in this area would need to be excavated prior to the blasting effort to ensure special status wildlife are not inadvertently killed by burrow collapse. Indirect effects on special status burrowing wildlife (Crotch bumble bee, desert tortoise, Mohave ground squirrel, desert kit fox, American badger, and burrowing owl) would be considered significant. Implementation of MMs BIO 1, 5, 6, 7, 8, and 9 would reduce this level of impact to a less than significant level. Impacts on common burrowing wildlife would be considered adverse but less than significant since the loss of burrows in the indirect impact area would not be expected to substantially reduce the regional population of these species.

Following construction of the Project, the ambient noise levels adjacent to the Project site are expected to incrementally increase. Noise levels are not expected to increase following construction along the utility alignment or at the WWTP. Wildlife species stressed by noise may disperse from the habitat immediately adjacent to the Project site and utility alignment. This impact would be considered adverse but less than significant because it is expected to impact a limited area and a substantial amount of similar habitat remains in the adjacent areas where the animals may disperse. Therefore, no mitigation would be required.

Common and special status bird species have the potential to nest in habitat adjacent to the Project site, the utility alignment, and the WWTP. The loss of an active bird nest would be considered a violation of the MBTA and *California Fish and Game Code* (Sections 3503, 3503.5, and 3513). Implementation of MM BIO 1 would ensure that construction impacts would not violate the provisions of the MBTA or *California Fish and Game Code* Sections 3503, 3503.5, and 3513 through project planning (i.e., construction schedule) and use of pre-construction surveys and measures to protect active nests.

4.4.3 Night Lighting

Night lighting may impact the behavioral patterns of nocturnal and crepuscular (i.e., active at dawn and dusk) wildlife adjacent to night lighting. Of greatest concern is the effect on small, ground-dwelling animals that use the darkness to hide from predators and/or owls, which are specialized

night foragers. Due to the nature of the Project, it is expected to include substantial night lighting of the area immediately adjacent to the Project site. These additional light sources may negatively affect wildlife in the surrounding open space. This impact is potentially significant. Implementation of MM BIO 11, which requires that spillover of night light be limited to the extent practicable, would reduce this impact to a less than significant level. Night lighting is not expected to increase along the utility alignment or at the WWTP.

4.4.4 Invasive Exotic Plant Species

Landscaping that includes the installation of non-native, invasive plant species (e.g., species listed in the California Invasive Plant Council's [Cal-IPC's] invasive plant inventory) can be detrimental to surrounding native habitat. Invasive species have the potential to spread into the surrounding natural open space and displace native species, hybridize with native species (thereby impacting the genetic integrity of the native species), alter biological communities, or alter ecosystem processes (e.g., tamarisk [*Tamarix* sp.] affects hydrology). This could degrade the quality of the adjacent vegetation, including vegetation communities that provide suitable habitat for Threatened or Endangered species. If landscaping is included as part of the Project, this could be a potentially significant impact on adjacent habitat. Implementation of MM BIO 12 would prohibit the use of non-native, invasive plant species in landscaping associated with the Project. This measure would reduce this potential impact to a less than significant level.

Construction activities create disturbance, which in turn provides a place for non-native weedy species to spread. Additionally, construction equipment can introduce non-native weed seeds to the area if equipment is not properly cleaned. Weeds from the construction may then spread to adjacent habitat areas, which would degrade habitat quality for native species. In addition to the negative effects on habitat quality, non-native weeds can also increase the potential for large fires to spread. This impact would be considered potentially significant. MM BIO 13 would require use of Best Management Practices associated with prevention of the spread of weed seeds to reduce this potential impact to a less than significant level.

4.4.5 Human Activity

Construction activities would increase the amount of human activity on the Project site, along the utility alignment, and at the WWTP. This increased human activity could potentially disrupt foraging, nesting, roosting, and/or denning activities for a variety of wildlife species. Increased human activity could deter wildlife from using habitat adjacent to construction. This impact would be considered adverse but less than significant because a substantial amount of similar habitat is present in the vicinity where the animals may disperse. Therefore, no mitigation would be required.

Common and special status bird species have the potential to nest in habitat adjacent to the Project site, along the utility alignment, and at the WWTP. Human activity in the vicinity of an active nest could result in the loss of an active bird nest. This would be considered a violation of the MBTA and *California Fish and Game Code* (Sections 3503, 3503.5, and 3513). Implementation of MM BIO 1 would ensure that construction impacts resulting from increased human activity would not violate the provisions of the MBTA or *California Fish and Game Code* Sections 3503, 3503.5, and 3513 through the use of pre-construction surveys and measures to protect active nests.

Following construction of the Project, human activity adjacent to the Project site is not expected to increase; human activity is expected to be limited within the Project site (i.e., within the fenced limits of the constructed facility). Similarly, human activity along the utility alignment and at the WWTP is not expected to differ from existing conditions following construction. Therefore, no mitigation would be required.

5.0 MITIGATION MEASURES

Implementation of the following measures are required for the Project and would avoid, minimize, or mitigate impacts on biological resources discussed above.

MM BIO 1 **Nesting Birds/Raptors.** To avoid impacts on active nests for common and special status birds and raptors, CoreCivic or its designee shall schedule vegetation clearing and blasting during the non-breeding season (i.e., September 16 to January 31) to the extent feasible. If Project timing requires that vegetation clearing and/or blasting occur between February 1 and September 15, CoreCivic or its designee shall retain a qualified Biologist to conduct a pre-construction survey for nesting birds and raptors. The pre-construction survey shall be conducted by a qualified Biologist within three days prior to vegetation clearing. The pre-construction nesting bird survey area shall include the Project impact area (i.e., disturbance footprint) plus a 250-foot buffer to search for nesting birds and a 500-foot buffer to search for nesting raptors. If blasting is necessary, the pre-construction nesting bird survey shall be expanded to include 500 feet from the blasting area. If no active nests are found, no further mitigation would be required.

If an active nest is located in the pre-construction nesting bird survey area, the Biologist shall delineate an appropriate buffer to protect the nest based on the sensitivity of the species. A protective buffer of 500 feet shall be used to protect nesting raptors. If appropriate, a smaller buffer may be considered based on site topography, existing disturbance, sensitivity of the individuals (established by observing the individuals at the nest), and the type of construction activity. No construction activities shall be allowed in the designated buffer until the Biologist determines that nesting activity has ended. Construction may proceed within the buffer once the Biologist determines that nesting activity has ceased (i.e., fledglings have left the nest or the nest has failed). The designated buffer will be clearly marked in the field and will be mapped as Environmentally Sensitive Areas (ESAs) on construction plans. The Worker Environmental Awareness Program (WEAP) training shall include information on active nests and protective buffers.

Prior to the initiation of construction activities, an email summary of the results shall be submitted to the City with a map of any active nests found and their designated buffers. Construction shall be allowed to proceed if standard buffer distances are employed for any active nests. The Biologist shall then prepare a formal Letter Report describing methods used, results of the survey, recommended buffers, and/or justification for buffer reductions. The Letter Report shall be submitted to the City within one week of completion of the survey. If an active nest is observed during the survey, the Letter Report shall include a map showing the designated protective buffer.

MM BIO 2 **Jurisdictional Permits.** Prior to any impacts on waters under the regulatory authority of the Regional Water Quality Control Board (RWQCB) or the California Department of Fish and Wildlife (CDFW), CoreCivic, or its designee, shall prepare and process an RWQCB Report of Waste Discharge and a CDFW Section 1602 Notification of Lake or Streambed Alteration, as applicable. Notification of Project activities at the WWTP shall be submitted to the CDFW in order to ascertain whether modification of existing wastewater ponds is subject to CDFW jurisdiction As part of the permitting process, it is recommended that CoreCivic, or its designee, schedule a pre-application meeting with RWQCB and CDFW staff to discuss site conditions, the Project, biological and jurisdictional resources, impacts

to jurisdictional resources resulting from implementation of the Project, proposed avoidance and minimization measures, the proposed compensatory mitigation program to offset Project impacts, and the regulatory permit process. The USFWS may also be involved in the pre-application field meeting to discuss species impacts (MM BIO 5). Once the RWQCB and CDFW permits have been obtained, they shall be submitted to the City prior to any ground-disturbing activities.

CoreCivic shall implement and comply with all measures required by the RWQCB and CDFW permits. Compensatory mitigation may include restoration (i.e., re-establishment or rehabilitation), establishment (i.e., creation), enhancement, and/or preservation of jurisdictional resources. Compensatory mitigation may occur through permittee-responsible mitigation, payment to an in-lieu fee program, or purchase of compensatory mitigation credits from an approved mitigation bank. Mitigation ratios (i.e., the amount of mitigation acreage compared to the amount of impacted habitat) shall be negotiated with the regulatory agencies, but shall be no less than 1:1, replacing impacted jurisdictional resources with jurisdictional resources of equivalent or higher quality habitat value. It should be noted that mitigation for impacts on jurisdictional resources can be a subset of compensatory mitigation provided for special status plant or wildlife species habitat (MM BIO 3 or MM BIO 6).

MM BIO 3 **Special Status Plant Species.** Prior to construction activities, CoreCivic shall retain a qualified Biologist to conduct focused surveys for special status plant species at the WWTP. The survey will include the following species: alkali mariposa lily, white pygmy-poppy, Mojave spineflower, Mojave tarplant, recurved larkspur, Barstow woolly sunflower, Death Valley sandmat, golden goodmania, solitary blazing star, creamy blazing star, crowned muilla, and Charlotte's phacelia. The survey shall be performed during the target species' peak blooming period in accordance with the most current protocols approved by the CDFW and the CNPS. If special status plant species are present in the impact area, the qualified Biologist will evaluate the significance with respect to the number of individuals impacted and the status of the species. To the greatest extent practicable, efforts shall be made to avoid any special status plant species population that is observed.

If avoidance is not feasible, the following measures shall be followed:

CRPR 1B and 2B Plants. If plants with a CRPR of 1B or 2B are observed in the impact area and cannot be avoided, the determination of significance will be based on the size of the impacted population relative to the regional population size. The regional population size will be determined based on the current total population sizes (excluding occurrences considered extirpated) of CNDDB and CCH records from the USGS Boron, Boron NW, California City North, California City South, Cantil, Galileo Hill, Johannesburg, Mojave NE, North Edwards, Saltdale SE, and Sanborn 7.5-minute quadrangles. If the impacted population of CRPR 1B or 2B species represents less than five percent of the regional population, the impact will be considered less than significant and no mitigation will be required. If the impacted population of CRPR 1B or 2B species represents five percent or more of the regional population, compensatory mitigation shall be required. Mitigation ratios (i.e., the amount of mitigation required compared to the amount of impact) shall be no less than 1:1, replacing impacted resources with resources of equivalent or higher quality habitat value. CoreCivic shall retain a qualified Biologist to prepare a detailed Special Status Plant Species Mitigation Plan for approval by California City. The mitigation plan

shall include the following topics: (1) responsibilities and qualifications of the personnel to implement and supervise the plan, (2) mitigation site selection criteria, (3) site preparation and planting implementation, (4) implementation schedule, (5) maintenance plan/guidelines, (6) monitoring plan, (7) long-term preservation. CoreCivic shall implement the Plan as approved.

CRPR 3 and 4 Plants. If plants with a CRPR of 3 or 4 are observed in the impact area and cannot be avoided, the determination of significance will be based on the size of the impacted population relative to the regional population size. The regional population size will be determined based on the current total population sizes (excluding occurrences considered extirpated) of CNDDB and CCH records from the USGS Boron, Boron NW, California City North, California City South, Cantil, Galileo Hill, Johannesburg, Mojave NE, North Edwards, Saltdale SE, and Sanborn 7.5-minute quadrangles. If the impacted population of CRPR 3 or 4 species represents less than 20 percent of the regional population, the impact will be considered less than significant and no mitigation will be required If the impacted population of CRPR 3 or 4 species represents 20 percent or more of the regional population, compensatory mitigation shall be required. Mitigation ratios (i.e., the amount of mitigation required compared to the amount of impact) shall be no less than 1:1, replacing impacted resources with resources of equivalent or higher quality habitat value. CoreCivic shall retain a qualified Biologist to prepare a detailed Special Status Plant Species Mitigation Plan for approval by California City. The mitigation plan shall include the following topics: (1) responsibilities and qualifications of the personnel to implement and supervise the plan, (2) mitigation site selection criteria, (3) site preparation and planting implementation, (4) implementation schedule, (5) maintenance plan/guidelines, (6) monitoring plan, and (7) long-term preservation. CoreCivic shall implement the Plan as approved.

MM BIO 4 **California Desert Native Plant Harvesting Permits.** Prior to the initiation of construction, the CoreCivic shall obtain the necessary permits, tags, and/or seals, and shall pay the appropriate fees for removal of any individuals of a species protected by the *California Desert Native Plant Protection Act*. This includes nine California barrel cactus, two cottontop cactus, and eight silver cholla.

MM BIO 5 **Take Permits.** Prior to the issuance of grading or building permits, CoreCivic shall provide a Section 10 Incidental Take Permit from the USFWS for desert tortoise and a Section 2081 Incidental Take Permit from the CDFW for desert tortoise and Mohave ground squirrel. If Crotch bumble bee, a State Candidate species, is listed as State Endangered, the Section 2081 Incidental Take Permit shall also include this species. Compensatory mitigation for impacts on desert tortoise, Mohave ground squirrel, and Crotch bumble bee are described in MM BIO 6.

MM BIO 6 **Compensatory Mitigation for Desert Tortoise and Mohave Ground Squirrel.** CoreCivic or its designee shall provide compensatory mitigation for permanently impacting 216.45 acres of habitat for desert tortoise and 221.27 acres of habitat for Mohave ground squirrel. If Crotch bumble bee, a State Candidate species, is listed as State Endangered, this mitigation shall also compensate for impacting 221.27 acres of habitat for this species. The goal of this mitigation is to ensure no net loss of habitat following implementation of the Project. Mitigation ratios (i.e., the amount of mitigation acreage compared to the amount of impacted habitat)

shall be negotiated with the resource agencies but shall be no less than 1:1, replacing each acre of habitat lost with of an acre of equivalent or higher quality habitat. This mitigation may be in the form of habitat preservation, restoration, enhancement, and/or establishment (i.e., creation), discussed below. CoreCivic shall implement one or a combination of these options, as approved by USFWS and CDFW in permits described in MM BIO 5.

1. Preservation consists of acquisition of mitigation lands containing viable occurrences of the species, or that enhance the sustainability of the occurrences by protecting buffer lands and protecting those occurrences in perpetuity under a conservation easement or an in-lieu fee program that is transferred to a qualified land trust or public agency.
2. Restoration consists of the re-establishment or rehabilitation of mitigation land with the goal of returning natural or historic functions and characteristics. Restoration may result in a gain in habitat function, acreage, or both.
3. Enhancement consists of activities that heighten, intensify, or improve one or more habitat functions. Enhancement results in a gain in habitat function but does not result in a net gain in habitat acreage.
4. Establishment consists of the development of habitat in an area where it did not previously exist through manipulation of the physical, chemical, and/or biological characteristics of the site.

Compensatory mitigation may be in the form of permittee-responsible mitigation, in which the permittee maintains liability for the construction and long-term success of the mitigation site or through mitigation banking/in-lieu fee program, where liability for Project success is transferred to a third party (i.e., a mitigation bank/in-lieu fee sponsor). If CoreCivic elects to provide mitigation through mitigation banking/in-lieu fee program, the mitigation bank/program shall be selected by CoreCivic and approved by the resource agencies and payment shall be made prior to the issuance of grading or building permits.

For permittee-responsible mitigation involving establishment, restoration, or enhancement of habitat, CoreCivic shall retain a qualified Biologist to prepare a Habitat Mitigation Monitoring Plan (HMMP) to mitigate for loss of desert tortoise and Mohave ground squirrel habitat. The HMMP shall be reviewed/approved by the USFWS and CDFW prior to issuance of grading or building permits. The detailed HMMP shall contain the following items:

1. **Responsibilities and Qualifications of the Personnel to Implement and Supervise the Plan.** The responsibilities of CoreCivic or its designee, specialists, and maintenance personnel, as well as the qualifications of specialists and maintenance personnel that will supervise and implement the plan, will be specified.
2. **Site Selection.** Site selection for restoration, establishment, enhancement, and/or preservation mitigation shall be determined in coordination with CoreCivic, or its designee, and resource agencies. The mitigation site(s) shall be located in a dedicated open space area or on land that shall be dedicated and/or purchased off site.
3. **Site Preparation and Planting Implementation.** Site preparation shall include the following, as determined by specific site conditions and permit requirements: protection of existing native species, trash and weed removal,

native species salvage and reuse (i.e., duff), soil treatments (i.e., imprinting, decompacting), temporary irrigation installation, erosion-control measures (i.e., rice or willow wattles), seed mix application, and container species.

4. **Schedule.** A schedule that requires planting to occur between October 1 and March 1 shall be developed.
5. **Maintenance Plan/Guidelines.** The maintenance plan shall include the following, as determined by specific site conditions and permit requirements: weed control, herbivory control, trash removal, irrigation system maintenance, maintenance training, and replacement planting.
6. **Monitoring Plan.** The site shall be monitored and maintained for a minimum of five years to ensure successful establishment of riparian habitat within the restored and created areas. The monitoring plan shall include qualitative monitoring (i.e., photographs and general observations); quantitative monitoring (e.g., randomly placed transects); performance criteria, as approved by the resource agencies; and monthly reports for the first year with quarterly reports thereafter and annual reports for all five years.
7. **Long-Term Preservation.** Long-term preservation of the site shall be outlined in the restoration and enhancement plan to ensure the mitigation site is not impacted by future development.

Although monitoring plans are typically scheduled to last five years, if coverage is successful prior to five years, CoreCivic or its designee may request to be released from monitoring requirements by the USFWS and CDFW.

MM BIO 7 Avoidance and Minimization Measures to Avoid Take.

7A. Biological Monitor. Prior to the initiation of construction activities, CoreCivic shall retain a qualified Biologist to oversee compliance with the protection measures for desert tortoise, Mohave ground squirrel, and other special status species. The Biologist shall monitor all fence installation, vegetation clearance, and ground-disturbance activities throughout the construction phase. The Biologist shall have the authority to halt activities that are in violation of measures designated to protect the desert tortoise, Mohave ground squirrel, or other special status species. Work shall proceed only after hazards to desert tortoise, Mohave ground squirrel, and/or other special status species are removed and the species are no longer at risk. The Biologist shall have in his/her possession a copy of all the compliance measures and permits while work is being conducted on site.

7B. Worker Environmental Awareness Program Training. Prior to the initiation of construction activities, and for the duration of construction activities, all new construction workers for the Project shall attend a Construction Worker Environmental Awareness Program (WEAP) training developed and presented by a qualified Biologist. The training shall address desert tortoise, Mohave ground squirrel, and Crotch bumble bee, as well as other special status biological resources that may be encountered during construction activities; their legal protections; the definition of “take” under the Endangered Species Act; specific measures that each worker shall employ to avoid take of the desert tortoise, Mohave ground squirrel, and other special status species; reporting requirements; and penalties for violation of the Federal and State Endangered Species Acts. A fact sheet conveying this information shall be distributed to all workers. All workers who attend the WEAP training shall sign a training log, which will also be signed

by the qualified Biologist conducting the training. The WEAP training logs shall be submitted with Project construction monitoring reports.

7C. Protective Fencing. Prior to the issuance of grading or building permits, CoreCivic or its designee shall ensure that the entire Project site is enclosed with permanent or temporary desert tortoise exclusion fencing meeting current USFWS specifications. During construction of the utility alignment, temporary exclusion fencing shall be installed between the active work area and adjacent habitat, if suitable habitat is adjacent. All construction-related activities, including staging areas, equipment access, and disposal or temporary placement of spoils, shall be located within exclusion fencing.

Permanent Fencing: The fencing type shall include 1-inch by 2-inch vertical mesh galvanized fence material, extending at least 2 feet above the ground and buried at least 1 foot under the ground surface. Where burial is impossible, the mesh shall be bent at a right angle toward the outside of the fence and covered with dirt, rocks, or gravel to prevent desert tortoise from digging under the fence.

Tortoise Guards: Tortoise guards shall be installed at all site entry points; the tortoise guards shall be engineered so that an escape route is accessible for tortoises on each side of the guard. Additionally, tortoise guards shall drain properly following rain; water should not pond in the bottom of the tortoise guard.

Temporary Fencing: Temporary fencing shall extend at least 2 feet above the ground and shall be buried at least 1 foot under the ground surface. Supporting stakes shall be sufficiently spaced to maintain fence integrity with at least one every 10 feet. Temporary fencing shall be replaced when the integrity of the fencing is no longer reliable.

Monitoring: A qualified Biologist shall monitor construction of the permanent fence and/or installation of temporary fencing to ensure no desert tortoise are impacted by construction of the fence. A qualified Biologist shall inspect all fencing (including existing exclusion fencing at the WWTP when active construction is occurring there) on a weekly basis throughout construction and following any large weather events that may have damaged the fence. The Biologist shall report any damaged sections of the fence to the construction contractor and CoreCivic or its designee so that the fence can be repaired immediately (i.e., within 24 hours). If possible, the Biologist should attempt to temporarily fix the fence or block any opening to prevent tortoise from entering prior to the fence repair by the construction contractor. Sand, soil, plant material, or other debris that builds up against the fence shall be cleared regularly to ensure the fence can be properly inspected by the Biologist and to ensure that it continues to provide adequate exclusion of desert tortoise.

During operation of the Project, the permanent exclusion fence shall be monitored monthly and following any large weather events that may have damaged the fence. Any damage shall be reported and repaired within 48 hours and all repair activities must be monitored by a qualified Biologist. Sand, soil, plant material, or other debris that builds up against the fence shall be cleared regularly to ensure the fence can be properly inspected and to ensure that it continues to provide adequate exclusion of desert tortoise. All instances of substantial damage to the fencing shall be reported in the Annual Report to USFWS. If the qualified Biologist determines that the fence damage was sufficient for desert tortoise to pass through, then the Biologist will conduct a survey of the area between the exclusion

fencing and the security fencing to confirm no desert tortoise are located within the repaired fence. If the Biologist discovers desert tortoise within the fence line, then an Authorized Biologist (i.e., one approved by the USFWS and CDFW to handle desert tortoise), will translocate it outside the fencing per the Desert Tortoise Relocation Plan.

7D. Staging/Access. All construction on the Project site, including the impact area (i.e., disturbance footprint), staging areas, access, and disposal or temporary placement of spoils, shall occur within the Project site boundaries. All construction on the utility alignment, including the impact area (i.e., disturbance footprint), staging areas, access, and disposal or temporary placement of spoils, shall occur within the existing disturbed footprint of the road (i.e., paved and/or graded areas); construction of the utility alignment shall not impact adjacent habitat areas. All construction at the WWTP, including staging areas, access, and disposal or temporary placement of spoils, shall occur within the impact area (i.e., the disturbance footprint). Project-related vehicles shall observe a daytime speed limit of 20 mph, except on City/County roads and state and federal highways. If night-time construction occurs, the speed limit shall be reduced to 10 mph.

During operation of the Project, no vehicles should be operated on non-paved roads beyond the desert tortoise exclusion fencing. If vehicles or equipment need to operate beyond the fencing, all vehicles shall observe a daytime speed limit of 20 mph. The same speed limits shall also be observed on any off-site mitigation properties.

7E. Clearance Surveys. Prior to any vegetation removal or grading but following installation of protective fencing on the Project site, CoreCivic shall retain a qualified Biologist to perform a desert tortoise clearance survey within the fenced area following current USFWS protocol. The survey will be overseen by a Lead Authorized Biologist (i.e., one approved by the USFWS and CDFW to handle desert tortoise) who may be assisted by qualified Biological Monitors under the supervision of the Authorized Biologist. A minimum of two clearance passes shall be completed during the tortoise's active period from late March through May or September to October. Any tortoises found shall be translocated by an Authorized Biologist (i.e., one approved by USFWS and CDFW to handle desert tortoise) to a location outside the Project site using techniques approved by the USFWS and CDFW. Translocation shall occur only when daily ground temperatures do not exceed 107°F (42 degrees Centigrade), so that animals can safely find refuge in potentially unfamiliar areas without the added constraints of lethal temperatures. No tortoises shall be translocated between mid-April and early October unless ambient temperatures are favorable. If the schedule of construction requires that clearance surveys continue past the safe time to translocate tortoises (i.e., past early April), then continued searches for tortoises would include temporarily affixing found tortoises with transmitters for ease of refinding them and translocating them during autumn at a safe time for translocation. Once the Project site is deemed free of desert tortoises after two consecutive clearance passes and excavation of all potential burrows, then heavy equipment shall be allowed to enter the Project site to perform construction activities. Following completion of the clearance survey, a Letter Report shall be prepared by the Biologist to document the methods and results of the clearance surveys, the capture and release locations of all tortoises found, individual tortoise data, and any other relevant data. The report shall be submitted to the USFWS and CDFW within 30 days of completion of the clearance survey.

Prior to blasting, a qualified Biologist shall conduct a pre-construction survey of the indirect impact area (i.e., within 200 feet of the blasting area). Any tortoises found shall be translocated by an Authorized Biologist (i.e., one approved by USFWS and CDFW to handle desert tortoise) more than 500 feet from the blasting area using techniques approved by the USFWS and CDFW. Translocation shall occur only when daily ground temperatures do not exceed 107°F (42 degrees Centigrade), so that animals can safely find refuge in potentially unfamiliar areas without the added constraints of lethal temperatures. Any burrows within 200 feet of the blasting area shall be excavated using standard techniques approved by the USFWS and CDFW.

During construction of the utility alignment, a qualified Biologist shall conduct a pre-construction clearance sweep of the active work area within temporary exclusion fencing prior to the initiation of work each day. Any tortoises found shall be translocated by an Authorized Biologist (i.e., one approved by USFWS and CDFW to handle desert tortoise) to a location outside the active work area using techniques approved by the USFWS and CDFW. Translocation shall occur only when daily ground temperatures do not exceed 107°F (42 degrees Centigrade), so that animals can safely find refuge in potentially unfamiliar areas without the added constraints of lethal temperatures.

In the unlikely event that a tortoise is found in the work area during Project operations, the tortoise shall be captured by an Authorized Biologist (i.e., one approved by USFWS and CDFW to handle desert tortoise); boxed in a clean, escape-proof box; and temporarily maintained in a cool, quiet, safe location until the Authorized Biologist can remove it from the site, within no more than one day. The capture location will be recorded. If ambient temperatures exceed lethal levels on a daily basis, the Authorized Biologist shall consult with the USFWS and CDFW prior to transporting the tortoise off site.

7F. Vehicle Clearance. For the duration of construction activities, CoreCivic shall ensure that vehicle parking and storage shall occur within the desert tortoise exclusion fencing. Prior to moving any vehicles within the Project site or WWTP or vehicles associated with construction along the utility alignment, the worker shall inspect the ground under the vehicle for the presence of desert tortoise before the vehicle is moved. If a desert tortoise is observed, it will be left to move on its own. If it does not move within three hours, an Authorized Biologist (i.e., one approved by the USFWS and CDFW to handle desert tortoise) shall remove and relocate the animal to a safe location outside the Project site or outside the utility alignment work area per the Desert Tortoise Relocation Plan.

During operation of the Project, no vehicles or equipment should be operated on non-paved roads beyond the desert tortoise exclusion fencing. If vehicles or equipment need to operate beyond the fencing, each driver or operator shall inspect the ground under the vehicle for the presence of desert tortoise before the vehicle is moved. If a desert tortoise is observed, it will be left to move on its own. If it does not move within three hours, an Authorized Biologist (i.e., one approved by the USFWS and CDFW to handle desert tortoise) shall remove and relocate the animal to a safe location outside the Project site or outside the utility alignment work area per the Desert Tortoise Relocation Plan.

7G. Work Hours. Work shall occur only during daylight hours unless otherwise approved by the USFWS and CDFW.

7H. Entrapment. At the end of each work day, a qualified Biologist shall survey all trenches, bores, and other excavations to ensure no wildlife are trapped; any wildlife observed shall be relocated to a safe area. Only an Authorized Biologist shall handle desert tortoise and/or Mohave ground squirrel (i.e., one approved by both USFWS and CDFW to handle desert tortoise and/or approved by CDFW to handle Mohave ground squirrel). Following this final inspection, the Biologist shall ensure that the construction contractor has backfilled or adequately covered all trenches, bores, and other excavations to prevent wildlife from falling into them. If backfilling or covering the trenches, bores, and/or excavations is not feasible, then wildlife escape ramps shall be provided at least every 50 feet. Additionally, any pipes, culvert, or similar structures shall be inspected before the material is moved, buried, or installed.

7I. Raven Management. CoreCivic shall retain a qualified Biologist to prepare a Common Raven Management Plan in accordance with USFWS guidelines to describe management measures for common raven during construction and operation of the Project. CoreCivic or its designee shall ensure the plan is implemented. Measures shall include design considerations for structures to eliminate structures that could be used as perches for hunting; management of trash, roadkill, and ponded water so as not to attract common raven to the Project site, and the use of deterrents to discourage nesting by common raven, During construction, water used for dust abatement shall be minimized to prevent the formation of puddles that could attract predators of the desert tortoise to the area. During operation and maintenance, project-related water runoff will be properly managed to not result in puddles outside the designated retention basins. During construction and operation, trash shall be contained in closed containers and removed daily to avoid attracting predators to the area.

7J. Pets. CoreCivic or its designee shall ensure that no pets are allowed at the construction site or outside the exclusion fencing during operation.

7K. Protection of Wildlife. Wildlife shall not be intentionally killed or injured on the Project site, along the utility alignment, at the WWTP, or in the surrounding area during construction or operation.

7L. Pesticides. The use of rodenticides and herbicides on the Project site, at the WWTP, or in surrounding areas shall be restricted. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, the California Department of Food and Agriculture, and other State and federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.

7M. Reporting. For the duration of construction activities, the Biologist shall complete daily monitoring forms that shall be summarized into monthly monitoring reports, which shall be provided to the USFWS and CDFW. The monthly monitoring reports shall document compliance with the mitigation measures and shall include WEAP training logs, weekly fence inspection forms, and California Natural Diversity Database forms for any special status species observations. Additionally, the Biologist shall prepare a final report summarizing compliance throughout Project construction and documenting the level of take associated the Project.

MM BIO 8 **Burrowing Owl.** Per the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012), CoreCivic shall retain a qualified Biologist to conduct a pre-construction survey for the burrowing owl no less than 14 days prior to any ground disturbance by the Project and no greater than 30 days prior to ground disturbance in each Project area. The pre-construction survey shall include the area of proposed disturbance plus a 500-foot buffer (if access is available).

If an active burrow is observed outside the breeding season (September 1 to January 31) and it cannot be avoided, the burrowing owl shall be passively excluded from the burrow following methods described in CDFG 2012. This includes any active burrows within 200 feet of the blasting area (if blasting is required). One-way doors shall be used to exclude owls from the burrows; doors shall be left in place for at least 48 hours. Once the burrow is determined to be unoccupied, as verified by site monitoring and scoping by a desert tortoise Authorized Biologist, the burrow shall be closed by a qualified Biologist who shall excavate the burrow using hand tools. Prior to excluding an owl from an active burrow, a receptor burrow survey shall be conducted to confirm that at least two potentially suitable unoccupied burrows are within approximately 688 feet prior to installation of the one-way door. If two natural receptor burrows are not located, one artificial burrow shall be created for every burrow that would be closed.

If an active burrow is observed outside the breeding season (September 1 to January 31) and it can be avoided, the Biologist shall determine an appropriate protective buffer for the burrow based on CDFW guidelines. The buffer shall range from 160 feet to 1,640 feet depending on the level of impact and the time of year (Table 9). The designated buffer will be clearly marked in the field and will be mapped as an ESA on construction plans. The WEAP training shall include information on the protective buffer. CoreCivic or its designee shall contact CDFW to determine whether a reduced buffer can be accommodated without adversely impacting occupied burrows.

If an active burrow is observed during the breeding season (February 1 to August 31), the active burrow shall be protected until nesting activity has ended (i.e., all young have fledged from the burrow). The Biologist shall determine the appropriate protective buffer for the burrow based on CDFW guidelines. The buffer shall range from 650 to 1,640 feet depending on the level of impact and the time of year (Table 10). The designated buffer will be clearly marked in the field and will be mapped as an ESA on construction plans. The WEAP training shall include information on the protective buffer. CoreCivic or its designee shall contact CDFW to determine whether a reduced buffer can be accommodated without adversely impacting occupied burrows. Construction shall be allowed to proceed when the qualified Biologist has determined that all fledglings have left the nest. Compensatory mitigation for the loss of foraging habitat shall be satisfied with implementation of MM BIO 6.

TABLE 10
BURROWING OWL PROTECTIVE BUFFER SIZES

	Time of Year	Level of Disturbance		
		Low	Medium	High
Nesting sites	April 1 to August 15	656 feet (200 meters)	1,640 feet (500 meters)	1,640 feet (500 meters)
Nesting sites	August 16 to October 15	656 feet (200 meters)	656 feet (200 meters)	1,640 feet (500 meters)
Nesting sites	October 16 to March 31	164 feet (50 meters)	328 feet (100 meters)	1,640 feet (500 meters)

Upon completion of the pre-construction burrowing owl survey, a Letter Report shall be prepared and submitted to CDFW documenting the results of the survey within two weeks of completion of the survey effort. If an active burrow is observed, the Letter Report shall include a description of the protective buffer that has been designated and a summary of any additional correspondence with the CDFW.

If time lapses of greater than 30 days occur during construction in a particular portion of the work area, an additional survey shall be conducted by a qualified Biologist within 24 hours prior to vegetation clearing and/or ground disturbance in that area. If any new burrowing owl burrows are observed, the conditions above shall be applied.

MM BIO 9 **Desert Kit Fox/American Badger Burrows.** CoreCivic shall retain a qualified Biologist to conduct a pre-construction burrow survey for desert kit fox and American badger no less than 14 days and no more than 30 days prior to initiation of ground disturbance/construction activities. Ideally, this survey shall be conducted prior to the initiation of the breeding season (i.e., February 1) to allow for passive exclusion, if necessary. The pre-construction survey shall include the Project site plus a 200-foot buffer (if access is available). If no active burrows are found, no further mitigation would be required.

If an active burrow is observed outside the breeding season (September 16 to January 31) and it cannot be avoided, the burrow shall be closed using passive exclusion. This includes any active burrows within 200 feet of the blasting area (if blasting is required). One-way doors shall be used to exclude American badgers from their burrows; doors shall be left in place for at least five nights. Progressive soil blocking shall be used to discourage use by desert kit fox. Once the burrow is determined to be unoccupied (i.e., not used for five nights), as verified by site monitoring and scoping by a desert tortoise Authorized Biologist, the burrow shall be closed by a qualified Biologist who shall excavate the burrow using hand tools.

If an active burrow is observed outside the breeding season (September 16 to January 31) and it can be avoided, a 50-foot protective buffer shall be delineated around the burrow. The designated buffer will be clearly marked in the field and will be mapped as an ESA on construction plans. The WEAP training shall include information on the protective buffer. CoreCivic or its designee shall consult with CDFW to determine whether a reduced buffer can be accommodated without adversely impacting occupied burrows.

If an active den is observed during the breeding season (February 1 to September 15), the active den shall be protected with a 100-foot buffer until breeding activity has ended. The designated buffer will be clearly marked in the field and will be mapped as an ESA on construction plans. The WEAP training shall include information on the protective buffer. CoreCivic or its designee shall contact CDFW to determine whether a reduced buffer can be accommodated without adversely impacting the occupied den. Construction shall be allowed to proceed when the qualified Biologist has determined that the burrow is no longer active based on site monitoring (i.e., no activity has been observed at the burrow for five nights).

Upon completion of the pre-construction burrow survey, a Letter Report shall be prepared and submitted to CDFW documenting the results of the survey within two weeks of completing the survey effort. If an active burrow/den is observed, the Letter Report shall include a description of the protective buffer that has been designated and a summary of any additional correspondence with the CDFW.

MM BIO 10 **Best Management Practices.** CoreCivic or its designee shall incorporate Best Management Practices (BMPs), including applicable measures required through the National Pollutant Discharge Elimination System (NPDES) requirements, to ensure that the quantity and quality of runoff discharged by Project activities does not adversely affect the Project area. In particular, BMPs shall be designed to prevent (to the extent feasible) the runoff of toxins, chemicals, petroleum products, or other elements that might degrade water quality. Additionally, BMPs shall be used to minimize erosion.

The areas where stockpiling can occur shall be selected in consultation with the monitoring Biologist. Spoils shall be stockpiled in disturbed areas lacking native vegetation. The construction contractor shall clearly mark stockpile areas to define the limits where stockpiling can occur.

The construction contractor shall designate an area for vehicle maintenance that is not within or adjacent to drainages or native vegetation. Fueling and maintenance of equipment shall take place within the vehicle maintenance area. Impervious ground surfaces or plastic covering shall be used to prevent spillage or leakage onto the ground surface. Any spilled hazardous materials shall be immediately cleaned and hazardous materials properly disposed of. Contractor equipment shall be checked for leaks prior to operation and repaired as necessary.

MM BIO 11 **Night Lighting.** CoreCivic or its designee shall ensure that night lighting shall be directed away from open space areas and shielding shall be incorporated in the final Project design to minimize spillover of night lighting into adjacent open space to the greatest extent practicable. Any such light fixtures installed adjacent to open space areas shall direct/reflect light downward and away from adjacent habitat areas.

MM BIO 12 **Landscaping.** CoreCivic or its designee shall retain a qualified Biologist to review the landscaping plan to ensure that any landscaping component of the Project does not include the planting of exotic, invasive species that would potentially degrade the quality of the surrounding natural open space. A list of potential landscaping plant species shall be submitted to the Biologist for review; the Biologist shall ensure that exotic plant species known to be invasive (e.g., those on the California Invasive Plant Council's [Cal-IPC's] invasive plant inventory) are not included on the list. The Biologist shall make recommendations for more

suitable plant species if necessary. Once a final plant palette is prepared, landscaping installed in the development area shall include only species on the approved palette.

MM BIO 13 **Prevention of the Spread of Weed Seeds.** The introduction of exotic plant species shall be avoided and minimized to the extent practicable. Weed seeds entering the construction area via vehicles shall be minimized by requiring construction vehicles to be washed prior to delivery to the Project site. Track-clean or other methods of vehicle cleaning shall be used by the construction contractor to prevent weed seeds from entering/exiting the construction areas on vehicles. Additionally, wattles used for erosion control shall be certified as weed-free.

6.0 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the recommended measures will mitigate biological impacts to a level that is considered less than significant.

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APPENDIX A

LITERATURE REVIEW

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Galileo Hill (3511727) OR Saltdale SE (3511737) OR Johannesburg (3511736) OR Boron NW (3511726) OR Boron (3511716) OR North Edwards (3511717) OR California City South (3511718) OR California City North (3511728) OR Cantil (3511738))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Calochortus striatus alkali mariposa-lily	PMLIL0D190	None	None	G3?	S2S3	1B.2
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
Charadrius montanus mountain plover	ABNNB03100	None	None	G3	S2S3	SSC
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Cryptantha clokeyi Clokey's cryptantha	PDBOR0A3M0	None	None	G3	S3	1B.2
Cymopterus deserticola desert cymopterus	PDAPI0U090	None	None	G2	S2	1B.2
Deinandra arida Red Rock tarplant	PDAST4R010	None	Rare	G1	S1	1B.2
Delphinium recurvatum recurved larkspur	PDRAN0B1J0	None	None	G2?	S2?	1B.2
Eriophyllum mohavense Barstow woolly sunflower	PDAST3N070	None	None	G2	S2	1B.2
Erythranthe rhodopetra Red Rock Canyon monkeyflower	PDPHR01040	None	None	G1	S1	1B.1
Eschscholzia minutiflora ssp. twisselmannii Red Rock poppy	PDPAP0A093	None	None	G5T2	S2	1B.2
Euderma maculatum spotted bat	AMACC07010	None	None	G4	S3	SSC
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Gopherus agassizii desert tortoise	ARAAF01012	Threatened	Threatened	G3	S2S3	
Loeflingia squarrosa var. artemisiarum sagebrush loeflingia	PDCAR0E011	None	None	G5T3	S2	2B.2
Mentzelia tridentata creamy blazing star	PDLOA031U0	None	None	G3	S3	1B.3
Onychomys torridus tularensis Tulare grasshopper mouse	AMAFF06021	None	None	G5T1T2	S1S2	SSC
Phacelia nashiana Charlotte's phacelia	PDHYD0C350	None	None	G3	S3	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Toxostoma crissale Crissal thrasher	ABPBK06090	None	None	G5	S3	SSC
Toxostoma lecontei Le Conte's thrasher	ABPBK06100	None	None	G4	S3	SSC
Vireo vicinior gray vireo	ABPBW01140	None	None	G4	S2	SSC
Xerospermophilus mohavensis Mohave ground squirrel	AMAFB05150	None	Threatened	G2G3	S2S3	

Record Count: 28

CNPS California Native Plant Society

Inventory of Rare and Endangered Plants

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

18 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3511716, 3511726, 3511728, 3511718, 3511738, 3511727, 3511736, 3511821, 3511717 3511737 and 3511811;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	Federal Listing Status	State Listing Status	CA Rare Plant Rank
Calochortus striatus	alkali mariposa lily	Liliaceae	perennial bulbiferous herb	Apr-Jun			1B.2
Canbya candida	white pygmy-poppy	Papaveraceae	annual herb	Mar-Jun			4.2
Chorizanthe spinosa	Mojave spineflower	Polygonaceae	annual herb	Mar-Jul			4.2
Cryptantha clokeyi	Clokey's cryptantha	Boraginaceae	annual herb	Apr			1B.2
Cymopterus deserticola	desert cymopterus	Apiaceae	perennial herb	Mar-May			1B.2
Deinandra arida	Red Rock tarplant	Asteraceae	annual herb	Apr-Nov		CR	1B.2
Deinandra mohavensis	Mojave tarplant	Asteraceae	annual herb	(May)Jun-Oct(Jan)		CE	1B.3
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun			1B.2
Dudleya abramsii ssp. calcicola	limestone dudleya	Crassulaceae	perennial herb	Apr-Aug			4.3
Eriophyllum mohavense	Barstow woolly sunflower	Asteraceae	annual herb	Mar-May			1B.2
Erythranthe rhodopetra	Red Rock Canyon monkeyflower	Phrymaceae	annual herb	Mar-Apr			1B.1
Eschscholzia minutiflora ssp. twisselmannii	Red Rock poppy	Papaveraceae	annual herb	Mar-May			1B.2

Euphorbia vallis-mortae	Death Valley sandmat	Euphorbiaceae	perennial herb	May-Oct	4.2
Loeflingia squarrosa var. artemisiarum	sagebrush loeflingia	Caryophyllaceae	annual herb	Apr-May	2B.2
Mentzelia eremophila	solitary blazing star	Loasaceae	annual herb	Mar-May	4.2
Mentzelia tridentata	creamy blazing star	Loasaceae	annual herb	Mar-May	1B.3
Phacelia nashiana	Charlotte's phacelia	Hydrophyllaceae	annual herb	Mar-Jun	1B.2
Sclerocactus polyancistrus	Mojave fish-hook cactus	Cactaceae	perennial stem succulent	Apr-Jul	4.2

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 23 June 2020].

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To: June 09, 2020
Consultation Code: 08ECAR00-2017-SLI-0171
Event Code: 08ECAR00-2020-E-02759
Project Name: Correctional Development Facility at California City

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2017-SLI-0171

Event Code: 08ECAR00-2020-E-02759

Project Name: Correctional Development Facility at California City

Project Type: DEVELOPMENT

Project Description: Development of a correctional/rehabilitation facility and associated utility alignment.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/35.14899304638328N117.85037576762377W

Counties: Kern, CA

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
California Condor *Gymnogyps californianus* Population: U.S.A. only, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered

Reptiles

NAME	STATUS
Desert Tortoise *Gopherus agassizii* Population: Wherever found, except AZ south and east of Colorado R., and Mexico There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4481	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX B

REPRESENTATIVE PHOTOGRAPHS

Creosote bush - white bursage scrub on the 215-acre Project Site.

Disturbed creosote bush - white bursage scrub (background) and disturbed area (foreground) at eastern end of the Utility Alignment.

Rubber rabbitbrush scrub along the utility alignment adjacent to the existing road.

Allscale scrub along the utility alignment adjacent to the existing road.

Rubber rabbitbrush–allscale scrub around a basin at the Wastewater Treatment Plant.

Rubber rabbitbrush–allscale scrub (background) and semi-natural herbaceous stand (foreground) around a basin at the Wastewater Treatment Plant.

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Representative Photographs

Appendix B-1

CoreCivic – Correctional Development Facility at California City

PSOMAS

(3/26/18 CJS) R:\Projects\CRC\3CRC010100\Graphics\BioTech\AppB1_SP.pdf

Semi-natural herbaceous stand along the utility alignment adjacent to the existing road.

Disturbed (left) and developed (right) areas at the western end of the utility alignment.

Open water surrounded by creosote bush - white bursage scrub at the eastern end of the utility alignment.

Representative Photographs

Appendix B-2

Correctional Facility at California City (CFCC)

PSOMAS

APPENDIX C

PLANT AND WILDLIFE COMPENDIA

PLANT SPECIES OBSERVED DURING SURVEYS

Species	
Scientific Name	**Common Name**
EUDICOTS	
AMARANTHACEAE – AMARANTH FAMILY	
*Amaranthus albus**	tumbleweed
APIACEAE – CARROT FAMILY	
Lomatium mohavense	Mojave lomatium
ASTERACEAE – SUNFLOWER FAMILY	
Acamptopappus sphaerocephalus var. *hirtellus*	hairy rayless goldenhead
Acamptopappus sphaerocephalus var. *sphaerocephalus*	rayless goldenhead
Ambrosia acanthicarpa	annual bur-sage
Ambrosia dumosa	white bur-sage
Ambrosia salsola var. *salsola*	common burrobrush
Chaenactis carphoclinia var. *carphoclinia*	pebble pincushion
Chaenactis fremontii	Fremont pincushion
Chaenactis stevioides	desert pincushion
Ericameria cooperi var. *cooperi*	Cooper's goldenbush
Ericameria nauseosa var. *hololeuca*	white rabbitbrush
Ericameria nauseosa var. *leiosperma*	smooth-fruit rabbitbrush
Eriophyllum wallacei	Wallace's woolly sunflower
Lasthenia gracilis	common goldfields
Leptosyne calliopsidea	calliopsis-like tickseed
Logfia depressa	hierba limpia
Malacothrix coulteri	snake's-head
Malacothrix glabrata	desert dandelion
Rafinesquia californica	California chicory
Stephanomeria exigua ssp. exigua	little stephanomeria
Stephanomeria parryi	Parry's stephanomeria
Stephanomeria pauciflora	wire-lettuce
Syntrichopappus fremontii	Fremont’s syntrichopappus
Tetradymia axillaris	axillary cottonthorn
Tetradymia stenolepis	narrow-scaled cottonthorn
Xylorhiza tortifolia var. *tortifolia*	Mojave-aster
BORAGINACEAE – BORAGE FAMILY	
Amsinckia intermedia	common fiddleneck
Amsinckia tessellata var. *tessellata*	desert fiddleneck
Cryptantha angustifolia	narrow-leaved cryptantha
Cryptantha dumetorum	scrambling cryptantha
Cryptantha micrantha	red-root cryptantha
Cryptantha nevadensis var. *nevadensis*	Nevada cryptantha
Cryptantha pterocarya var. *pterocarya*	winged-nut cryptantha
Heliotropium curassavicum var. oculatum	seaside heliotrope
Pectocarya linearis ssp. *ferocula*	narrow-toothed pectocarya
Pectocarya platycarpa	wide-toothed pectocarya
Pectocarya setosa	round-nut pectocarya
Phacelia fremontii	Fremont's phacelia
Phacelia ramosissima	branching phacelia

PLANT SPECIES OBSERVED DURING SURVEYS

Species	
Scientific Name	**Common Name**
Phacelia tanacetifolia	lacy phacelia
Plagiobothrys cf. *canescens*	valley popcornflower
BRASSICACEAE – MUSTARD FAMILY	
Caulanthus inflatus	desert candle
Caulanthus lasiophyllus	California mustard
Descurainia pinnata	feathery tansy mustard
*Hirschfeldia incana**	grayish shortpod mustard
Lepidium dictyotum	latticed peppergrass
Lepidium flavum	yellow peppergrass
Lepidium nitidum	shining peppergrass
*Sisymbrium altissimum**	tumble mustard
*Sisymbrium irio**	London rocket
*Sisymbrium orientale**	eastern sisymbrium
Tropidocarpum gracile	slender tropidocarpum
CACTACEAE – CACTUS FAMILY	
Cylindropuntia echinocarpa	silver cholla
Echinocactus polycephalus var. polycephalus	many-headed clustered barrel cactus
Ferocactus cylindraceus	California barrel cactus
CHENOPODIACEAE – GOOSEFOOT FAMILY	
Atriplex polycarpa	allscale saltbush
Grayia spinosa	thorny hop-sage
*Salsola paulsenii**	barbwire Russian thistle
*Salsola tragus**	Russian thistle
EUPHORBIACEAE – SPURGE FAMILY	
Croton setiger	turkey-mullein
Euphorbia albomarginata	rattlesnake sandmat
Euphorbia polycarpa	smallseed sandmat
FABACEAE – LEGUME FAMILY	
Acmispon strigosus	strigose deervetch
Astragalus acutirostris	sharp-beaked milkvetch
Astragalus didymocarpus var. *dispermus*	paired two-seeded milkvetch
Astragalus layneae	Layne milkvetch
Lupinus microcarpus	chick lupine
Lupinus microcarpus var. horizontalis	plane chick lupine
Lupinus shockleyi	desert lupine
GERANIACEAE – GERANIUM FAMILY	
*Erodium botrys**	long-beaked filaree
*Erodium cicutarium**	redstem filaree
LAMIACEAE – MINT FAMILY	
Salvia carduacea	thistle sage
Salvia columbariae	chia
LOASACEAE – BLAZING STAR FAMILY	
Mentzelia affinis	similar blazing star
Mentzelia albicaulis	white-stemmed blazing star

PLANT SPECIES OBSERVED DURING SURVEYS

Species	
Scientific Name	**Common Name**
MALVACEAE – MALLOW FAMILY	
Eremalche exilis	white mallow
Sphaeralcea ambigua var. *rugosa*	wrinkled doubtful globemallow
NYCTAGINACEAE – FOUR O'CLOCK FAMILY	
Abronia turbinata	turbinate sand-verbena
Mirabilis laevis var. *retrorsa*	reflexed smooth four o'clock
ONAGRACEAE – EVENING PRIMROSE FAMILY	
Camissonia campestris ssp. *campestris*	field sun cup
Camissonia sp.	sun cup
Chylismia claviformis ssp. *claviformis*	club-shaped chylismia
Eremothera boothii ssp. *desertorum*	desert Booth's evening-primrose
Oenothera deltoides ssp. *deltoides*	devil's lantern
Tetrapteron palmeri	Palmer's tetrapteron
PAPAVERACEAE – POPPY FAMILY	
Eschscholzia minutiflora	minute-flowered eschscholzia
PLANTAGINACEAE – PLANTAIN FAMILY	
Plantago ovata var. *fastigiata*	tall ovate plantain
POLEMONIACEAE – PHLOX FAMILY	
Eriastrum densifolium ssp. *mohavense*	Mojave densely-leaved eriastrum
Eriastrum eremicum ssp. *eremicum*	desert eriastrum
Gilia brecciarum ssp. *brecciarum*	break gilia
Gilia minor	little gilia
Linanthus bigelovii	Bigelow's linanthus
Linanthus dichotomus	evening snow
Linanthus parryae	Parry's linanthus
Loeseliastrum matthewsii	desert calico
Loeseliastrum schottii	Schott’s loeseliastrum
POLYGONACEAE – BUCKWHEAT FAMILY	
Chorizanthe brevicornu var. brevicornu	brittle spineflower
Chorizanthe rigida	devil's spineflower
Chorizanthe spinosa	Mojave spineflower
Eriogonum angulosum	angle-stem wild buckwheat
Eriogonum fasciculatum var. *polifolium*	Mojave Desert California buckwheat
Eriogonum gracillimum	rose-and-white wild buckwheat
Eriogonum inflatum	desert trumpet
Eriogonum trichopes	little desert trumpet
Eriogonum viridescens	two-toothed wild buckwheat
Oxytheca perfoliata	round-leaf puncturebract
SOLANACEAE – NIGHTSHADE FAMILY	
Datura wrightii	Wright's jimsonweed
Lycium andersonii	Anderson's box-thorn
Lycium cooperi	Cooper's box-thorn
TAMARICACEAE – TAMARISK FAMILY	
*Tamarix sp.**	tamarisk

PLANT SPECIES OBSERVED DURING SURVEYS

Species	
Scientific Name	**Common Name**
ZYGOPHYLLACEAE – CALTROP FAMILY	
Larrea tridentata	creosote bush
MONOCOTS	
POACEAE – GRASS FAMILY	
*Bromus rubens**	red brome
*Bromus tectorum**	cheat grass
*Festuca myuros**	rattail sixweeks grass
*Poa annua**	annual blue grass
*Schismus arabicus**	Arabian Mediterranean grass
*Schismus barbatus**	barbed Mediterranean grass
Stipa hymenoides	sand rice grass
Stipa speciosa	desert needle grass
THEMIDACEAE – BRODIAEA FAMILY	
Dichelostemma capitatum ssp. *capitatum*	blue dicks
* non-native species	

WILDLIFE SPECIES OBSERVED DURING SURVEYS

Species	
Scientific Name	**Common Name**
TURTLES	
TESTUDINIDAE - TORTOISES	
Gopherus agassizii	Mohave desert tortoise
LIZARDS	
IGUANIDAE - IGUANID LIZARD FAMILY	
Gambelia wislizenii	long-nosed leopard lizard
PHRYNOSOMATIDAE - SPINY LIZARD FAMILY	
Phrynosoma platyrhinos	desert horned lizard
Sceloporus uniformis	yellow-backed spiny lizard
Uta stansburiana	common side-blotched lizard
TEIIDAE - WHIPTAIL LIZARD FAMILY	
Aspidoscelis tigris tigris	Great Basin whiptail
SNAKES	
COLUBRIDAE - COLUBRID SNAKE FAMILY	
Lampropeltis californiae	California kingsnake
Rhinocheilus lecontei	long-nosed snake
VIPERIDAE - VIPER AND PITVIPER FAMILY	
Crotalus scutulatus scutulatus	Northern Mohave rattlesnake
BIRDS	
ANATIDAE - SWAN, GOOSE, AND DUCK FAMILY	
Aix sponsa	wood duck
Anas platyrhynchos	mallard
Anas crecca	green-winged teal
Bucephala albeola	bufflehead
Oxyura jamaicensis	ruddy duck
ODONTOPHORIDAE - NEW WORLD QUAIL FAMILY	
Callipepla californica	California quail
COLUMBIDAE - PIGEON AND DOVE FAMILY	
Zenaida macroura	mourning dove
CAPRIMULGIDAE - NIGHTJAR FAMILY	
Chordeiles acutipennis	lesser nighthawk
APODIDAE - SWIFT FAMILY	
Aeronautes saxatalis	white-throated swift
RALLIDAE – RAIL AND COOT FAMILY	
Fulica americana	American coot
CHARADRIIDAE - PLOVER FAMILY	
Charadrius vociferus	killdeer
CATHARTIDAE - NEW WORLD VULTURE FAMILY	
Cathartes aura	turkey vulture
PANDIONIDAE - OSPREY FAMILY	
Pandion haliaetus	osprey
ACCIPITRIDAE - HAWK FAMILY	
Accipiter cooperii	Cooper’s hawk
Buteo swainsoni	Swainson's hawk
Buteo jamaicensis	red-tailed hawk

WILDLIFE SPECIES OBSERVED DURING SURVEYS

Species	
Scientific Name	**Common Name**
STRIGIDAE - TYPICAL OWL FAMILY	
Athene cunicularia	burrowing owl
FALCONIDAE - FALCON FAMILY	
Falco columbarius	merlin
TYRANNIDAE - TYRANT FLYCATCHER FAMILY	
Contopus cooperi	olive-sided flycatcher
Sayornis saya	Say's phoebe
LANIIDAE - SHRIKE FAMILY	
Lanius ludovicianus	loggerhead shrike
CORVIDAE - JAY AND CROW FAMILY	
Corvus brachyrhynchos	American crow
Corvus corax	common raven
ALAUDIDAE - LARK FAMILY	
Eremophila alpestris	horned lark
REMIZIDAE - PENDULINE TIT AND VERDIN FAMILY	
Auriparus flaviceps	verdin
TROGLODYTIDAE - WREN FAMILY	
Salpinctes obsoletus	rock wren
REGULIDAE - KINGLET FAMILY	
Regulus calendula	ruby-crowned kinglet
MIMIDAE - MOCKINGBIRD AND THRASHER FAMILY	
Toxostoma lecontei	Le Conte's thrasher
STURNIDAE - STARLING FAMILY	
*Sturnus vulgaris**	European starling*
PASSERIDAE - OLD WORLD SPARROW FAMILY	
*Passer domesticus**	house sparrow*
FRINGILLIDAE - FINCH FAMILY	
Haemorhous mexicanus	house finch
EMBERIZIDAE - SPARROW FAMILY	
Amphispiza bilineata	black-throated sparrow
Chondestes grammacus	lark sparrow
Spizella passerine	chipping sparrow
Spizella breweri	Brewer’s sparrow
Zonotrichia leucophrys	white-crowned sparrow
Artemisiospiza nevadensis	sagebrush sparrow
Artemisiospiza belli	Bell's sparrow
MAMMALS	
SCIURIDAE - SQUIRREL FAMILY	
Ammospermophilus leucurus	white-tailed antelope squirrel
Otospermophilus beecheyi	California ground squirrel
CRICETIDAE – NEW WORLD RATS AND MICE FAMILY	
Neotoma lepida	desert woodrat
LEPORIDAE - HARE AND RABBIT FAMILY	
Lepus californicus	black-tailed jackrabbit
Sylvilagus audubonii	desert cottontail

WILDLIFE SPECIES OBSERVED DURING SURVEYS

Species	
Scientific Name	**Common Name**
CANIDAE - CANID FAMILY	
Canis latrans	coyote
Vulpes macrotis arsipus	desert kit fox
BOVIDAE - BOVID FAMILY	
*Ovis aries**	European mouflon sheep
* non-native species	

APPENDIX D

GANDA SURVEYS

BIOLOGICAL RESOURCES TECHNICAL REPORT

Corrections Corporation of America (CCA)

California City - 215-Acre Site

Prepared for:

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June 7, 2016

SUMMARY

This report summarizes the results of data collected during May 23-27, 2016 on the biological resources of a 215-ac. property owned by the Corrections Corporation of America (CCA) just east of their existing correctional facility in California City, Kern County, California. The property occurs in the Western Mojave Desert ecoregion at an elevation of 2,550 to 2,700 ft.

CCA is proposing to develop correctional/rehabilitation facilities that may be located within one or more operational areas, with supporting facilities and infrastructure on the 215-ac. property located in an undeveloped area approximately 8 mi. east of town. The "project area" includes two components: the 215-ac. site and the alignment for the project utilities ("linears"), which includes segments of Twenty Mule Team Pkwy., Gordon Blvd., Virginia Blvd., and 145th St.

The surveys were conducted in accordance with state and federal guidelines for biological surveys, and included protocol-level surveys for desert tortoise (*Gopherus agassizii*) (DT). Transect-based botanical surveys were conducted concurrent with the protocol-level wildlife surveys. The botanical surveys were floristic in nature; all species encountered were identified to a species or to a level necessary for detecting special-status species, if present. This report includes a discussion of the methods employed to conduct the surveys, including background pre-field research, field surveys, and survey limitations. It includes a description of the environmental setting and a site-specific description of the plant communities that occur within the study area. Special-status species documented within the project area and species known to occur in the project vicinity are discussed, as are noxious weeds found in the project area.

During the protocol-level surveys for DT conducted during May 23-26, one active DT burrow was detected and several Class 3 DT burrows were also mapped. There were no burrowing owl (BUOW) detections, and one active desert kit fox (*Vulpes macrotis arsipus*) natal den (active this year) was found. The nine camera stations that were set up on the site during the surveys (and removed seven days later) detected only common ravens (*Corvus corax*). No active bird nests were found on the site and one loggerhead shrike (*Lanius ludovicianus*) – a California Department of Fish and Wildlife (CDFW) species of special concern – was observed offsite. Weather conditions onsite during the protocol-level surveys were generally warm, clear, and breezy but somewhat below average temperature, based on data collected in nearby Mojave.

No special status plant species were observed on the 215-ac. site or linears during the botanical surveys. Survey timing was adequate for detecting late season species, or species identified by fruit/seed characters, or rare cacti, if present. Prior to the start of surveys, nearby reference populations of two early-blooming and locally occurring rare plant species were visited to determine whether those species were identifiable at the time of the survey and to obtain a visual image of the target species, associated habitat, and the associated natural community. Barstow woolly sunflower (*Eriophyllum mohavense*) and desert cymopterus (*Cymopterus deserticola*) could not be detected at six nearby reference populations, and were likely limited by both timing and low rainfall in the seven months leading up to the survey.

Suitable habitat is present on the 215-ac. site and less-disturbed portions of the linears for Barstow woolly sunflower, a non-listed California Rare Plant Rank (CRPR; formerly CNPS) 1B plant species. Based on the habitat characteristics of nearby reference populations of desert cymopterus, only a small area of suitably loose sandy habitat was present in the project area, located along Twenty Mule Team Pkwy. This same small area could also potentially support another CRPR 2B species known from the area – sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*). However, the portion of the linears closest to the edge of pavement is highly disturbed and weedy, which limits the suitability of the habitat for either species. Desert cymopterus and sagebrush loeflingia are both non-listed CRPR 1B species.

The survey also considered plant species protected under the California Desert Native Plants Act (CDNPA), which requires a permit for harvesting several native tree and cactus species. A total of 19 CDNPA plant species were inventoried on the 215-ac. site: nine barrel cactus (*Ferocactus cylindraceus*) and two cottontop cactus (*Echinocactus polycephalus*) were found on the rock outcrops in the northernmost portion of the project areaac., and eight silver cholla (*Cylindropuntia echinocarpa*) were distributed throughout the alluvial portions of the 215-ac.site.

No rare natural communities (alliances or associations) were found in the project area. Only one distinct plant community occurs in the project area – a creosote bush-white bursage alliance that is common and widespread regionally (Sawyer et al. 2009). No rare or unique associations within this alliance were observed. The rock outcrops that contain barrel cactus and cottontop cactus support an association of creosote bush-white bursage and California buckwheat that is distinct from the surrounding creosote bush scrub; however, it is not a rare association and cacti are only a very minor component (<1%).

The 215-ac. site has a network of primitive off-highway vehicle (OHV) roads that apparently are still used by OHVs on weekends, according to the correctional facility staff. However, soil

disturbance is generally limited to the roads. Elsewhere on the 215-ac. site, the habitat is relatively undisturbed but the herb layer is dominated by the invasive exotic species filaree (*Erodium* spp.) and Mediterranean grass (*Schismus* spp.), characteristic of lands in the Mojave Desert with a history of grazing. On the linears, the area within approximately 10 ft. of the edge of pavement is generally highly disturbed and densely weedy.

No noxious weed species, as defined by the California Department of Agriculture (CDFA), were observed on 215-ac. site except along tortoise fencing on east edge of the existing prison facility. However, a large infestation of the noxious weed Russian thistle occurs on the linears at the west end of Twenty Mule Team Pkwy., south side of the road, with scattered small populations extending to the east along the road edge.

LIST OF ACRONYMS

ac.	acre/acres
BLM	Bureau of Land Management
BRTR	Biological Technical Resources Report
BUOW	Burrowing owl
CALA	Coyote
CCA	Corrections Corporation of America
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDNPA	California Desert Native Plants Act
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNPS	California Native Plant Society
CNDDB	California Natural Diversity Data Base
CRPR	California Rare Plant Rank (formerly CNPS List)
DT	Desert tortoise
FESA	Federal Endangered Species Act
ft.	feet/foot
GANDA	Garcia and Associates
GIS	Geographic Information System
GPS	Global Positioning System
in.	inch/inches
MBTA	Migratory Bird Treaty Act
MGS	Mohave ground squirrel
mi.	mile
NRCS	Natural Resource Conservation Service
Pkwy.	Parkway
U.S.	United States
USFWS	United States Fish and Wildlife Service

USGS	United States Geological Survey
VUMA	Desert kit fox

TABLE OF CONTENTS

FIGURES AND TABLES

1.0 INTRODUCTION

This report summarizes the results of surveys conducted to collect data on plant communities and special-status plants and wildlife collected during a May 23-27, 2016 survey of the proposed improvements to the Corrections Corporation of America (CCA) existing correctional facility in California City, Kern County, California (Figure 1).

A preliminary assessment of biological resources was conducted on the ac. site in 2009 and again in 2016 to identify permitting needs and regulatory compliance issues for the potential future development (CH2M 2016). The results of the February 26 and April 13, 2016 preliminary assessment surveys conducted by CH2M Hill biologists and Howard Clark, the Garcia and Associates (GANDA) lead wildlife biologist for the surveys described in this technical memorandum, are contained under separate cover (CH2M 2016).

The surveys did not include a delineation of state or federal waters. An assessment of the project's potential impacts is contained in the Biological Technical Resources Report (BRTR) prepared by CH2M Hill.

1.1 Project Description

CCA is evaluating options for development of a 215-ac. property ("215-ac. site") adjacent to the existing California City Correctional Center in California City, Kern County, California. CCA owns a total of 320 ac. at this location. The existing correctional facility is located on a 67.5-ac. section of the northwest portion of this parcel. Another proposed 2,200-bed facility has been planned and permitted for the 35-ac. area in the southwest corner of the parcel. The 215-ac. site comprises the remainder of the CCA-owned property to the east of the existing and permitted facilities noted above. The project area also includes the alignment for the project utilities ("linears") shown in Figure 1 to the northwest of the 215-ac. site.

1.1.1 Project Location

The entire project area and linears are located on the *Galileo Hill* USGS 7.5 minute quadrangle in Township 32 South, Range 38 East, Section 12. The linears are located on portions of Sections 10 to 17 and 20. The UTM coordinates at the southwest access point for the project area via Lindberg Blvd are: 3889826N, 422013E.

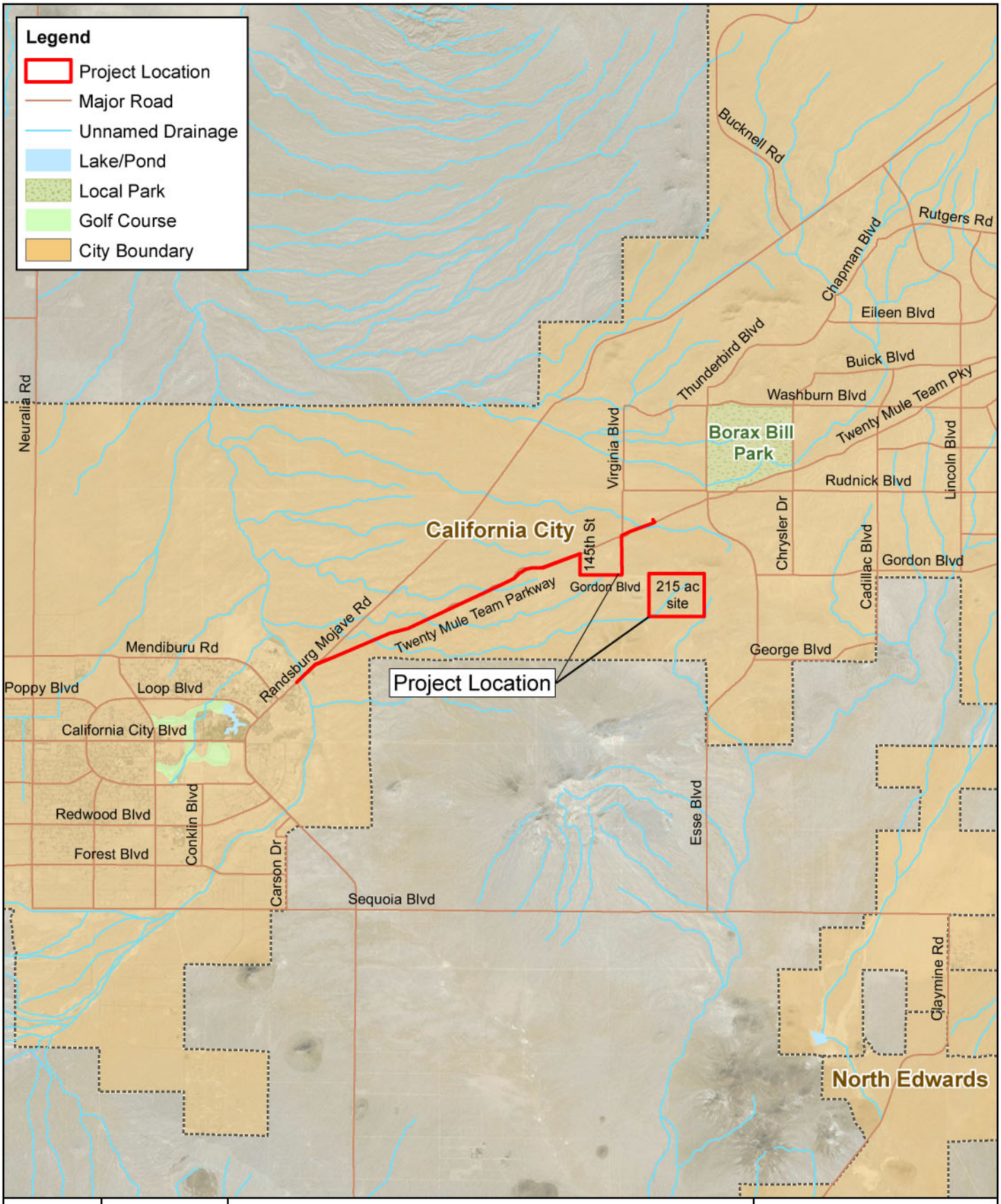


Figure 1.
Project Location
CCA 215-acre Project

Kern County, CA
June 2016

The linears encompass an approximate 4-mile segment of Twenty Mule Team Pkwy. between Randsburg-Mojave Rd. and the existing water storage facility just east of the entrance to the existing facility and west of Borax Bill Park. It also includes the entrance to the existing California City Correctional Facility (Virginia Blvd.), and portions of Gordon Blvd. west of the existing facility, and 145th St. between Twenty Mule Team Pkwy. and Gordon Blvd.

The project area is located within the West Mojave Plan, a Habitat Conservation Plan produced by a coalition of local, state, and federal jurisdictions to provide a conservation strategy and streamlined program for complying with the requirements of the California and federal Endangered Species Acts (CESA and FESA, respectively).

The project area is contained within the Western Mojave Desert ecoregion in the basin between the southern Sierra Nevada to the north, the Tehachapi Mountains to the west, and San Bernardino Mountains to the south. Elevations on the 215-ac. site range from approximately 2,700 ft at the northeast corner to 2,550 ft at the southwest corner. The linears range in elevation from 2,350 ft at the western end, just outside the developed area of California City, to 2,575 ft at the eastern end, near Borax Bill Park.

2.0 METHODS

Comprehensive biological resource surveys of the project area were conducted on May 23-27, 2016, and included both botanical and wildlife surveys. This included the 215-ac. site as well as the linears (Figure 1). The survey of the 215-ac. site was limited to the property boundary. Surveys of the linears encompassed an area extending approximately 15 to20 ft out from the edge of pavement on both sides of the road.

2.1 Pre-field Research

Prior to the start of the surveys, GANDA biologists compiled and reviewed relevant botanical and wildlife information on the project vicinity to provide a regional context and develop a target list of special-status species with potential to occur in the project area. The following sources of information were consulted to develop a target list of special-status species:

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) results for Galileo Hill USGS 7.5 minute quadrangle and surrounding quadrangles (California City North; Cantil; Saltdale SE; Johannesburg; Boron NW; Boron; North Edwards; California City South);
- U.S. Fish and Wildlife Service (USFWS) list of special-status plant and wildlife species known to occur in the general project vicinity (USFWS 2016);
- California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants (CNPS 2016) results for Galileo Hill USGS 7.5 minute quadrangle and surrounding quadrangles;
- Calflora Occurrence Library and Consortium of California Herbaria (Calflora 2016; CCH 2016);
- NatureServe: Encyclopedia of Life (NatureServe 2016);
- California Desert Native Plant Protection Act (CDNPA) list of regulated plant species;
- Kern County zoning ordinances (Kern County 2009);
- California Department of Food and Agriculture (CDFA) noxious weed lists (CDFA 2016);
- Beacon Solar Power Project (BSPP) Application for Certification (Beacon 2008);
- Biological survey report for the U.S. Borax 2,530-ac. conservation easement near North Edwards (GANDA 2015);
- Recurrent Energy (RE) Distributed Solar Project Biological Resources assessment Supplement (Recurrent Energy 2011);

- Alta-Oak Creek Mojave Project (Terra-Gen 2009), and
- West Mojave Plan (WEMO) (BLM 2005; BLM 2012)

Special-status species determined in the pre-field research to have at least some potential to occur in the survey area, based on known or documented general and micro-habitat preferences and local or regional distribution, are provided in Table 1 in the Results section of this report, along with a rationale for the assessment of potential occurrence, and a brief summary of the survey results. A map showing the location of special-status species documented within a five-mile radius of the project is provided as Figure 2.

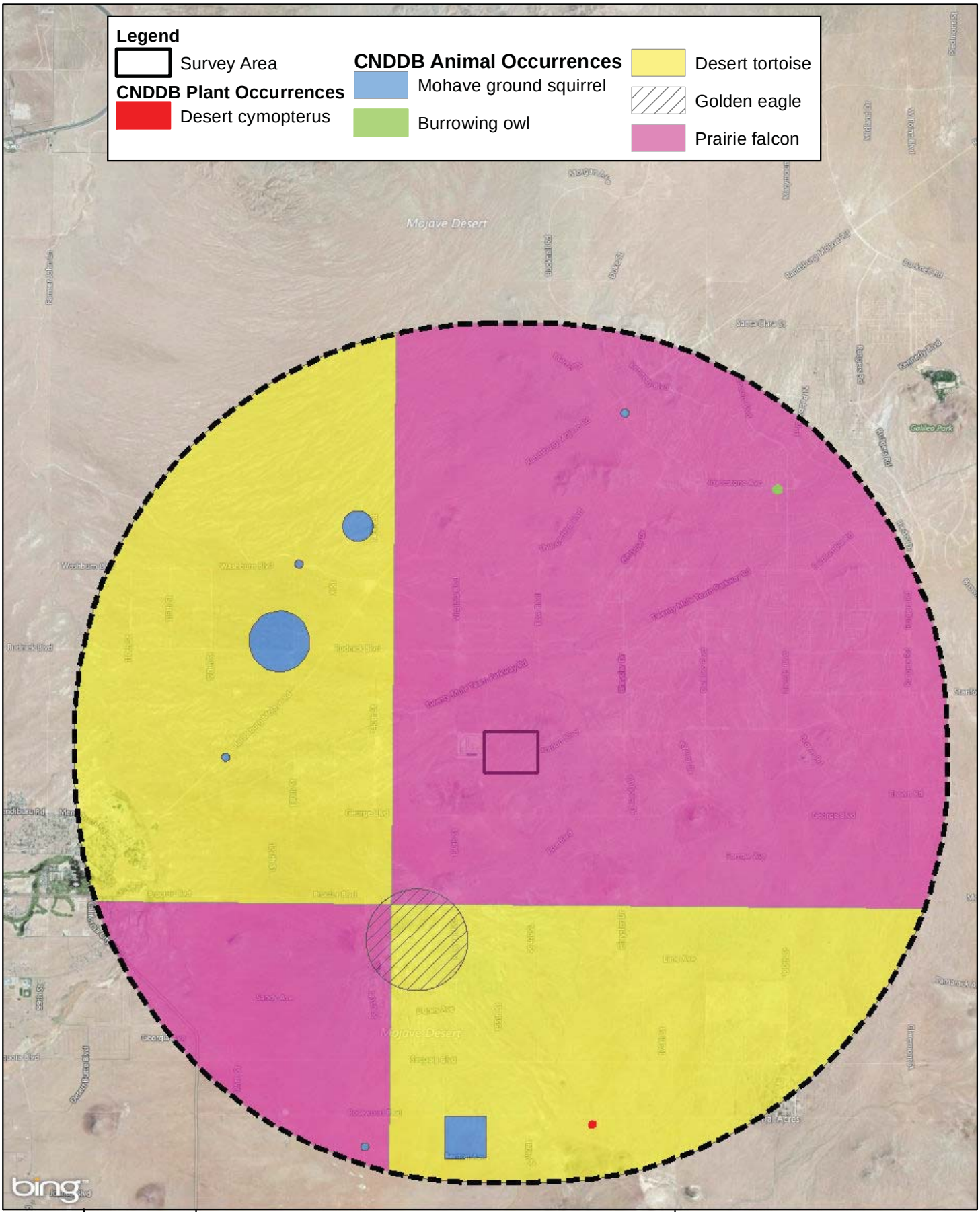
2.2 Wildlife Surveys

The objective of the wildlife surveys was to identify and describe existing wildlife use and habitat on the project area, with a focus on presence/absence surveys for desert tortoise (*Gopherus agassizii*), burrowing owl (*Athene cunicularia*), and Mohave ground squirrel (*Xerospermophilus mohavensis*). Surveys for all other special-status wildlife were conducted concurrently with the protocol-level surveys for desert tortoise, described in more detail below. Study limitations are discussed in the Results section of this report. A list of all animal species observed during the surveys is provided in Appendix B.

Wildlife surveys were led by Howard Clark. Mr. Clark has over 20 years conducting wildlife surveys, including protocol level surveys for the burrowing owl, kit fox, and Mohave ground squirrel. He currently holds an MOU for the Mohave ground squirrel.

2.2.1 Desert Tortoise

Spring 2016 desert tortoise surveys followed the guidelines published in the USFWS *Field Survey Protocol for any Non-Federal Action That May Occur within the Range of the Desert Tortoise* (protocol) (USFWS 1992), with the following exception: no surveys were conducted of the five zone of influence (ZOI) transects that are typically required outside of and parallel to the disturbance area at 100 ft., 300 ft., 600 ft., 1,200 ft. and 2,400 ft.. Desert tortoise surveys were completed between May 23 and May 26, 2016. Project biologists included Howard Clark, Minh Dao, Bart Haralson, and Mike Zerwekh. Surveys were conducted only in the study area footprint.



GANDA

Project Location

0 2 Miles

Basemap: Bing Map Hybrid (2010)

Figure 2.
Special-Status Species Documented Within 5 Miles of the Project Area
CCA 215-acre Project

Kern County, CA
June 2016

The survey area was surveyed according to protocol by spacing transects 10 m apart along east-to-west-oriented transects. The survey was conducted by slowly and systematically walking linear transects while surveyors visually searched for desert tortoise and sign. Particular emphasis was placed on searching around the bases of shrubs and along the banks of shallow washes. All types of tortoise sign were recorded using GPS. Surveys were conducted during the day.

Photographs of tortoise sign were taken, and burrows, scat, and other sign were classified using the *Information Index for Desert Tortoise Sign: Burrows and Dens, Scats and Shell Remains* as in the *USFWS Field Survey Protocol for any Non-Federal Action That May Occur within the Range of the Desert Tortoise* (protocol) (USFWS 1992).

Generally, under this classification system for tortoise sign, burrows coded by the observer as Class 1, 2, or 3, are identified as tortoise burrows with greater confidence than burrows coded as Class 4 or 5, which have the potential to be tortoise burrows but cannot be confirmed as tortoise. The tortoise burrow classification system requires that observers determine the following if:

- burrows have been recently used and are therefore active burrows (there is tortoise sign present, such as scat, tracks, etc.);
- burrows can be classified as definitely or possibly tortoise, and
- burrows are in good condition (i.e., could be used by a tortoise in the current condition) or deteriorated condition (i.e., would need modification by a tortoise to be used).

Height, width, and depth (estimated) measurements of DT burrows were taken.

2.2.2 Burrowing Owl

Spring 2016 burrowing owl surveys followed the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Wildlife 2012) and were conducted at the same time as the desert tortoise surveys. Transects were spaced 10 m apart along east-to-west-oriented transects. The survey was conducted by slowly and systematically walking linear transects while surveyors visually searched for burrowing owls and sign. Each burrow encountered was evaluated for burrowing owl use. Special care was taken to search for prey remains, whitewash, pellets, and tracks. Burrowing owl surveys were completed between May 23 and May 26, 2016. Project biologists included Howard Clark, Minh Dao, Bart Haralson, and Mike Zerwekh.

2.2.3 Mohave Ground Squirrel

Spring 2016 Mohave ground squirrel surveys were conducted by deploying 9 Bushnell® Trophy Cam HD 12MP Vital Trail Cameras (Bushnell Outdoor Products, Overland Park, KS) systematically throughout the project area. Cameras were attached to wooden stakes and aimed at a pile of 4-way horse feed bait. Each camera was set to a sensitive setting in order to detect small mammals. No cameras were placed along the linear portion of the project. Cameras were placed in a 3 x 3 grid formation with each camera spaced an average of 250 m apart. Cameras were established on May 24, 2016 and recovered on May 31, 2016.

2.3 Botanical Surveys

The objective of the botanical surveys was to identify and delineate the existing vegetation communities on the project area, and conduct botanical surveys for special-status plants, as well as plant species protected under the CDNPA and local general plan policies or zoning ordinances.

2.3.1 Special-Status Plant Surveys

Comprehensive transect-based botanical surveys were conducted in accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009), and *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 1996). Six nearby populations (reference sites) for desert cymopterus and Barstow woolly sunflower, located in the California City-Mojave-Boron area, were visited prior to the start of surveys to determine if those two early-blooming species were identifiable at the time of May survey. Limitations of the botanical surveys are discussed in the Results section of this report.

The floristically-based surveys, including visits to nearby reference populations and plant identification, were conducted May 23-27 by botanist Carolyn Chainey-Davis. Ms. Chainey-Davis has over 28 years of experience conducting botanical surveys, including surveys of the California Desert region. Nomenclature is consistent with *The Jepson Manual, Vascular Plants of California, 2nd Edition* (Baldwin et al. 2012) and the *Jepson eFlora* (The Jepson Project 2012).

2.3.2 Vegetation Mapping

During the field survey, vegetation communities in the project study area were characterized based on the classification system in *A Manual of California Vegetation (MCV)* (Sawyer et al.

2009) and mapped using aerial imagery. The *Manual of California Vegetation* and the *List of Vegetation Alliances and Associations* (CDFW 2010) were consulted to determine whether rare natural communities (alliances or associations) were present in the project area.

4.0 RESULTS

4.1 Environmental Setting

The project area and linears are located in the Fremont Valley portion of the Western Mojave subregion of the California Desert Province (Hickman 1993), an area characterized by low precipitation and humidity, high summer temperatures, relatively cool winter temperatures, strong fluctuations in daily temperatures, and strong seasonal winds. The western Mojave Desert lies on an elevated plain with scattered low mountain ranges. Average temperature in the project region ranges from 46.9 to 75.8 degrees Fahrenheit, with an average annual rainfall of 6.2 in.

The project area is situated in the basin between the southern Sierra Nevada to the north, the Tehachapi Mountains to the west, and San Bernardino Mountains to the south. Elevations on the project area range from approximately 2,700 ft at the northeast corner to 2,550 ft at the southwest corner. The linears range in elevation from 2,350 ft at the western end, just outside the developed area of California City, to 2,575 ft at the eastern end, near Borax Bill Park.

The topography is generally moderately sloping (approximately 2-15%) and undulating. Granitic bedrock outcrops and rocky to gravelly soils occur along low linear ridges in the northern portion of the project area. These erosional pediment surfaces are overlain by a veneer of sandy-gravelly alluvium and cut by numerous small (2- to 8-ft wide) channels that drain from the northeast to southwest. In some places, the veneer is quite thin, and the resulting granitic “balds” support a somewhat distinct suite of native annuals. The low point at the southwest corner is flatter, with fewer or no stream channels, and better developed and deeper soils. Saline-alkaline soils are not present on or near the site, which is elevated well above Koehn Lake (the nearest playa). No active or stabilized dunes or fine blow sand present`.

The site is cross-crossed by a network of small, primitive OHV roads. Although traffic is reported to be high on spring and summer weekends (according to facility staff), and the site experiences a high degree of human disturbance, soil disturbance is more or less confined to the roads. Noxious weeds are generally absent in the project area, but the herb layer is dominated by weedy annuals, characteristic of areas currently or historically grazed by sheep.

4.2 Plant Communities

Vegetation in the Mojave Desert is strongly influenced by climate, elevation, and soils. A predominance of plants with morphological adaptations to endure extreme aridity (e.g., waxy or resinous leaf cuticles, drought deciduous or succulent plants, woolly leaf pubescence, and deep tap root systems). The morphological structure of these plants is typically characterized by short stature, with shrubs widely spaced due to competition for soil water resources (Hickman 1993, Moe and Twisselmann 1995).

Vegetation in the project area consists entirely of an alliance of creosote bush-white bursage (*Larrea tridentata- Ambrosia dumosa* alliance). This alliance is common and widespread regionally with no apparent threat to its security (Sawyer et al. 2009). No rare or unique associations within this alliance were observed.

The shrub layer is of a low to moderate diversity, with creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) representing 90 percent or more of the relative cover of shrubs. Total vegetative cover in the shrub layer ranges from about 5 to 8 percent. Creosote bush plants range in size from 3 to 4 ft. high; white bursage plants form dense small mounds to 18 in. and have somewhat higher density along the drainages. Other shrub species comprise a small component of the total cover but include white rubber rabbitbrush (*Ericameria nauseosa* var. *hololeuca*), narrow-scaled horse bush (*Tetradymia stenolepis*), California buckwheat (*Eriogonum fasciculatum*), and silver cholla (*Cylindropuntia echinocarpa*).

Cheesebush (*Ambrosia salsola*) is also found predominantly along the drainages. In general, the drainages have higher species diversity; other species found more often along the drainages include goldenhead (*Acamptopappus sphaerocephalus*), and Cooper's boxthorn (*Lycium cooperi*).

The rock outcrops support an association of creosote bush, white bursage, and California buckwheat, with a very minor component of barrel cactus (*Ferocactus cylindraceus*) and cottontop (*Echinocactus polycephalus*).

Perennials are occasional throughout and include apricot mallow (*Sphaeralcea ambigua*), wire lettuce (*Stephanomeria pauciflora*), wishbone bush (*Mirabilis laevis*), Mojave woody aster (*Xylorhiza tortifolia*), and desert needlegrass (*Stipa speciosa*).

Total vegetative cover in the herb layer is significantly higher, ranging from 15 to 35 percent, but is overwhelmingly dominated by two invasive non-native annuals characteristic of sheep-

grazed habitat in the west Mojave: Mediterranean grass (*Schismus* spp.) and filaree (*Erodium* spp.). Commonly encountered annuals during the May survey that were still identifiable (most well-past blooming stage) included bristly fiddleneck (*Amsinckia tessellata*), brittle spineflower (*Chorizanthe brevicornu*), desert dandelion (*Malacothrix glabrata*), slender goldfields (*Lasthenia gracilis*), suncup (*Camissonia campestris*), California mustard (*Caulanthus lasiophylla*), gilia (*Gilia* sp.), brown eyes (*Chylismia claviformis*), Booth's evening-primrose (*Eremothera boothii* ssp. *desertorum*), thistle sage (*Salvia carduacea*), and pincushion (*Chaenactis* spp.). Annuals still in bloom included: yellow blazing star (*Mentzelia affinis*), desert woollystar (*Eriastrum eremicum*), bright green buckwheat (*Eriogonum viridescens*), angle-stemmed buckwheat (*Eriogonum angulosum*), and pygmy poppy (*Eschscholzia minutiflora* ssp. *covillei*).

This same common and widespread plant community also bounds the alignment for the utilities, or linears. However, the 10- to 20-ft area extending out from the edge of pavement on both sides is disturbed and weedy, and the creosote bush is replaced by dense patches of rabbitbrush (*Ericameria nauseosus*) alternating with more open and weedy areas of invasive non-native plants, particularly along both sides of Twenty Mule Team Pkwy, which has been disturbed by the construction, maintenance, and/or OHV use of the transmission line road that parallels Twenty Mule Team Pkwy. Dominant weedy species include red brome (*Bromus madritensis* ssp. *rubens*), cheatgrass (*Bromus tectorum*), short-podded mustard (*Hirschfeldia incana*), and Oriental hedge-mustard (*Sisymbrium orientale*).

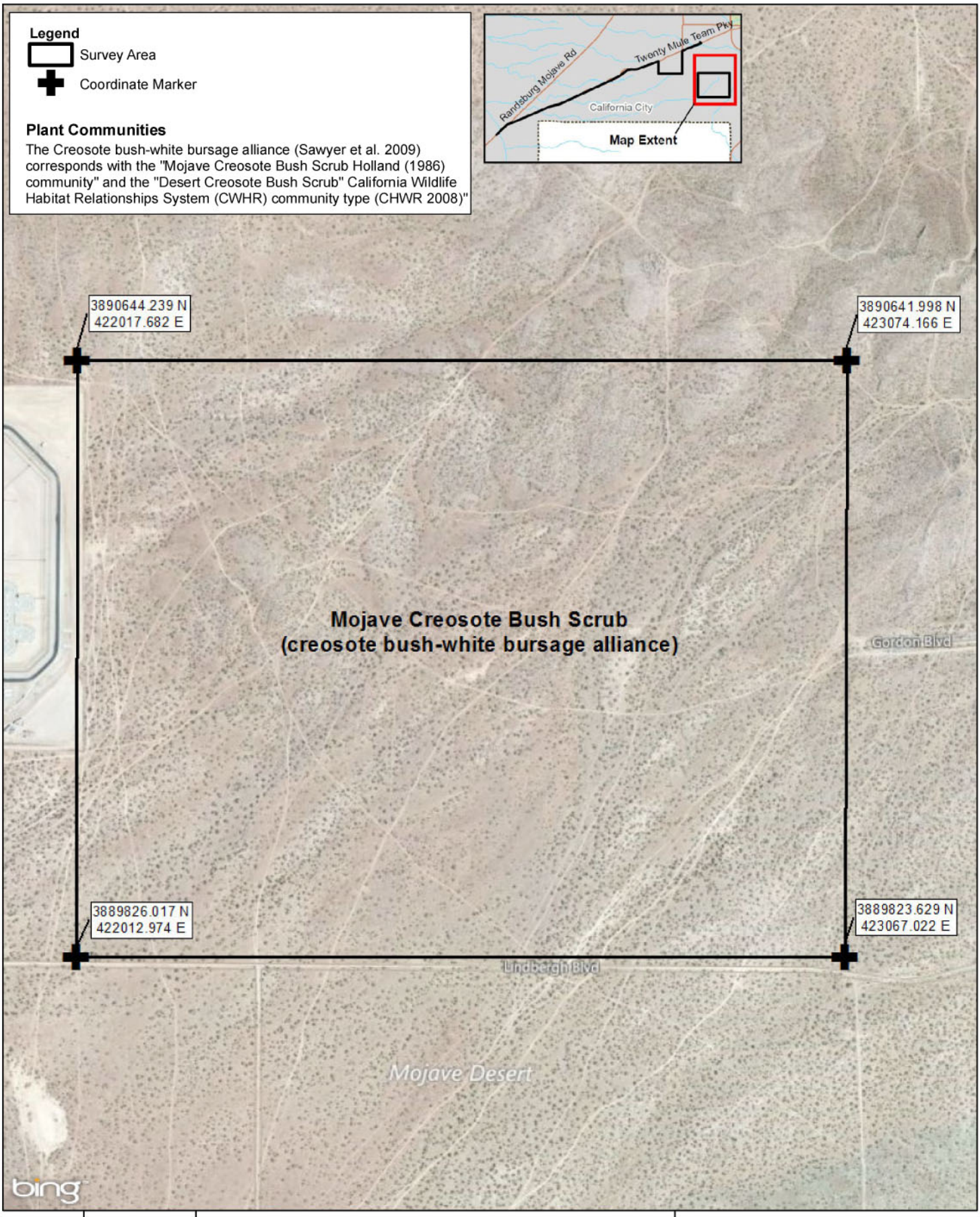
No rare natural communities (alliances or associations) were found in the project area. The only other distinct habitat is the association of creosote bush-white bursage and California buckwheat, but this is not a rare natural community. Cacti are only a very minor component (<1%) of the habitat.

A map showing the distribution of plant communities on the project area is provided in Figure 3. Photographs of the vegetation and geomorphic features are provided in Figure 4.

4.3 Special-Status Species

4.3.1 Special-Status Wildlife

The discussion of survey results for special-status wildlife begins a list of all special-status species considered to have potential to occur in the project area (Table 1), including a summary of their habitat preferences, legal status, and potential to occur in the project area, followed by species accounts for the target species. The species accounts include a description of the life



GANDA

Project Location

0 200 Meters

USGS 7.5' Quad: Galileo Hill (1973), California City North (1973)
Legal Description: T32S, R38E, Sec. 10-17, 20

Basemap: Bing Map Hybrid (2010)

Figure 3. Plant Communities
CCA 215-acre Project

Kern County, CA
June 2016

Figure 4. Photographs of the Project Area Vegetation
Photo 1
Creosote bush scrub characteristic of the 215 ac. property, and the only distinct plant community in the project area. Taken from northeast corner, looking south.

Figure 4. Photographs of the Project Area Vegetation
Photo 2
Granitic bedrock outcrops occur in linear ridges throughout the northern portion of the 215 ac. property, cut by numerous small channels.

Figure 4. Photographs of the Project Area Vegetation
Photo 3
Micro-habitats such as this sparsely vegetated, sandy, granitic bald support a different suite of annuals.

Figure 4. Photographs of the Project Area Vegetation
Photo 4
Small, sandy, distributary channels are common throughout most of the 215 ac. property.

Figure 4. Photographs of the Project Area Vegetation
Photo 5
Habitat typical of the portion of the linears that includes Gordon Blvd and 145th St. Looking east toward the correctional facility.

Figure 4. Photographs of the Project Area Vegetation
Photo 6
Habitat typical of the portion of the linears that encompasses Twenty Mule Team Parkway. Unpaved roads parallel the paved road on the north and south sides.

TABLE 1. SPECIAL-STATUS WILDLIFE POTENTIALLY OCCURRING IN THE PROJECT AREA

Scientific name	**Common Name**	**Status[1] Fed/State/ CDFW/**	**Habitat Preference/ Requirements**	**Survey Results and Discussion**	**Potential for Occurrence in the Project Area[2]**
Aquila chrysaetos	**golden eagle**	--/--/FP,WL	Nests in canyons on cliffs and large trees in open habitats. Forages chiefly for mammalian prey in grasslands and over open areas.	No golden eagles were observed during the 2016 surveys. Nesting substrates are not present on site and no large trees occur on site or nearby. Grassland habitat for foraging is lacking.	**Unlikely.** Due to lack of suitable nesting areas and foraging habitat, the golden eagle is not likely to occur on site.
Falco mexicanus	**prairie falcon**	--/--/WL	Nests primarily on cliff ledges, crevices, or cavities within shrub-steppe deserts and open grasslands.	No prairie falcons were observed during the 2016 surveys. No suitable nesting sites occur within the project footprint.	**Unlikely.** Due to lack of suitable nesting areas and foraging habitat, the prairie falcon is not likely to occur on site.
Lanius ludovicianus	**loggerhead shrike**	--/--/SSC	Occurs in open habitats utilizing shrubs, trees, posts, fences, and low utility lines for perches. Specifically prefers open foothill and valley woodlands with some canopy cover and adequate roosting and foraging perches. Forages in edge habitats, and in particular prefers shrubs adjacent to grasslands.	A single loggerhead shrike was observed just outside of the project area, within 300 ft of the linear component of the project. Loggerhead shrikes are expected to occur in the vicinity; the vegetative communities present on site are suitable for their foraging and nesting needs.	**Present.** A loggerhead shrike was observed within 300 ft of the linear component of the project. The species is likely to occur on site and within the vicinity based on that observation.
Toxostoma lecontei	**Le Conte's thrasher**	--/--/SSC	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in a dense, spiny shrub or densely	No Le Conte's thrashers were observed during the 2016 surveys. Suitable shrubs and cacti occur on site for nesting.	**Possible.** Le Conte's thrashers can potentially occur on site; suitable foraging habitat and nesting sites (spiny shrubs and cacti) occur

			branched cactus in desert wash habitat, usually 2-8 ft above ground.		throughout the site.
Athene cunicularia	**burrowing owl**	--/--/SSC	Inhabits open, dry, annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.	Burrowing owl was not detected during the 2016 surveys. Numerous burrows dug by kit foxes and other species occur on site and can serve as suitable burrows for the owls. The site contains suitable habitat for foraging and other uses.	**Possible.** During the 2009 biological reconnaissance survey, a pair of burrowing owls was observed in the southeastern corner of the parking lot of the existing correctional facility. The burrow was located on the north side of the berm that runs along the southern perimeter of the parking lot. The active burrows recorded in 2009 were revisited during the 2016 survey. No burrowing owls or active burrowing owl burrows were observed during this survey. The Project site does contain suitable habitat for burrowing owl.
Xerospermophilus mohavensis	**Mohave ground squirrel**	--/**ST**/--	Inhabits open desert scrub, alkali scrub, and Joshua tree woodland; feeds in annual grasslands; restricted to Mojave Desert. Prefers sandy to gravelly soils, avoids rocky areas. Uses burrows at base of shrubs for cover. Nests are in burrows.	Reconnaissance and camera surveys did not detect Mohave ground squirrel. Other squirrel species, such as white-tailed antelope squirrels, were in very low densities site wide. The site occurs within the range of the species and, overall, the site is characterized as moderate quality habitat, based on disturbance	**Possible.** According to Leitner (2015), six nearby records of the Mohave ground squirrel occur, mainly around the Desert Tortoise Natural Area, approximately 2 to 5 mi. north of the project area. Two incidental observations were recorded approximately 6 mi. southeast of the project area.

				level, soil type, and vegetative community.	
Gopherus agassizii	**desert tortoise**	**FT**/**ST**/--	Prefers creosote bush habitat with annual wildflower blooms. Inhabits friable soil for burrow and nest construction, occurs in most desert habitats.	During the 2009 reconnaissance survey an adult male tortoise was observed just south of the Project site on the south side of Lindbergh Road. Tortoise sign (burrows and scat) was also observed in the southeast corner of the site. During the 2016 surveys an active tortoise den was found in the northeast quadrant of the site. Tortoise scat approximately a few weeks old was found 500 ft northeast of the den.	**Present.** An active desert tortoise burrow was found during the 2016 surveys. Numerous class 3 burrows were found throughout the 215-ac. site indicating historic use by unknown individuals over the past several years. During the 2009 reconnaissance surveys, an adult male was observed south of the site along Lindbergh Road.
Taxidea taxus	**American badger**	--/--/SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Needs sufficient food and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	No badger sign (prey excavations, dens, scat) was found during the 2016 surveys.	**Possible.** American badgers occur within the Mojave Desert at rather low densities, however, an occasional transient individual can move through the area. Prey species, such as kangaroo rats, occur on the site.
Vulpes macrotis arsipus	**desert kit fox**	--/--/FPM	Open desert, on creosote bush flats, and among sand dunes, generally in areas with less than 20 percent vegetation cover. Kit fox natal dens have several entrances, and a fox usually has several dens within its home range. The burrow entrance is a	Kit fox dens, scats, and other sign were observed during the 2009 reconnaissance and the 2016 surveys. Several natal dens were recorded, with one den likely active during the 2015-2016 breeding season, indicated by the presence of puppy scat and prey	**Present.** During the 2009 and 2016 surveys sign of kit fox use of the site was commonly encountered. Several natal dens, ranging from one to several years old, indicate continual historic use of the site. Prey species, such as kangaroo rats, occur on site at

			little higher than wide and too narrow for a coyote (*Canis latrans*) to enter. Tunnels extend for three to six meters. Several different dens are used during the year.	remains at the den entrances. Numerous single entrance dens, scattered throughout the site, indicate year-round use of the site by kit foxes.	moderate densities.

[1] STATUS CODES

FT = Federally threatened; FE = Federally endangered;

SE = State endangered; ST = State threatened;

CDFW = FP = CA Fully Protected; SSC = CA Species of Special Concern; FPM = PFM: Protected Fur-bearing Mammal ; WL: Watch List

[2] POTENTIAL RANKING: The potential for special-status species to occur in the Project area was categorized using the following criteria:

None: Project is well outside the known geographic or elevational range, or lacks suitable habitat necessary for the species. Animals with highly restricted ranges are considered to have no potential to occur if the Project area is outside their known range, even if the required habitat characteristics are present onsite. **Unlikely:** Project may contain suitable habitat for this species but is outside its known geographic or elevational range.

Possible: Project is within the geographic and elevational range and has suitable habitat for the species.

Present: The species was observed during limited field investigations.

Potentially suitable habitat was assessed using species-specific requirements: Vegetation type (for example, shrublands); Habitat components (for example, substrate type, vegetation density, slope/aspect, if known); United States Department of Agriculture Soil Survey (if endemic to certain parent materials or soil texture or chemistry)

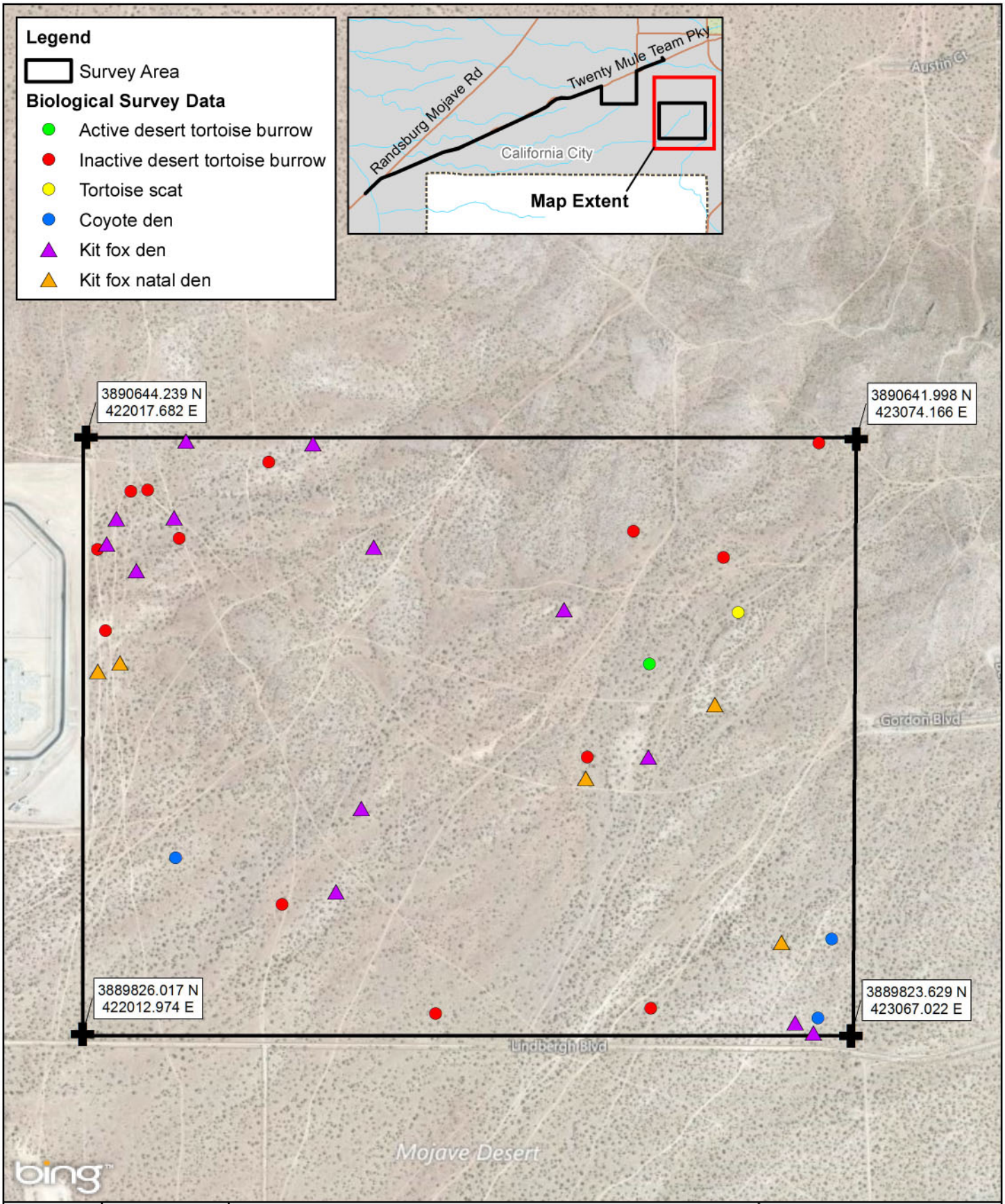
histories and habitat preferences of the target species, followed by a discussion of the survey results and survey limitations. A complete list of all wildlife species encountered during the surveys is provided in Appendix B.

During the protocol-level surveys for DT conducted May 23-26, one active DT burrow was detected and several Class 3 DT burrows were also mapped. There were no BUOW detections, and one active desert kit fox natal den (active this year) was found. The nine camera stations that were set up on the site during the surveys (and removed seven days later) detected only common ravens. No active bird nests were found on the site, and one loggerhead shrike – a CDFW species of special concern – was observed off site. Weather conditions on site during the protocol-level surveys were generally warm, clear, and breezy but somewhat below average temperature, based on data collected in nearby Mojave. The results of the surveys are discussed in more detail below, following each species account. A map showing the distribution of wildlife sign and observations in the project area is presented in Figure 5.

4.3.1.1 DESERT TORTOISE

The desert tortoise is a large slow growing herbivorous reptile that is well adapted to a variable and often harsh desert environment. In the United States, the desert tortoise's range includes portions of the Mojave and Sonoran desert regions of southern California, southern Nevada, southwestern Utah, and western Arizona. In Mexico, the species is found throughout most of Sonora and into portions of Sinaloa. Based on genetic differences there are two recognized populations of desert tortoise in the United States; these are the Mojave and Sonoran populations. Recently, genetic data suggest these groups are unique species. Although the species often look similar, the differentiation between the Mojave and Sonoran assemblages of the desert tortoise are supported via multiple forms of evidence, including morphology, ecology, and genetics (Weinstein and Berry 1987; Lamb et al. 1989; Lamb and Lydehard 1994; Berry et al. 2002). The Mojave population includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, southwestern Utah, and in the Colorado Desert in California (a division of the Sonoran Desert).

Range wide, desert tortoises occupy a variety of physical locations including alluvial fans, washes, canyon bottoms, rocky hillsides, and bajadas. In the Mojave population, desert tortoises are most commonly observed in desert scrub communities dominated by creosote bush, white bursage (*Ambrosia salsola*), Mojave yucca (*Yucca schidigera*), and blackbrush (*Coleogyne ramosissima*). At higher elevations, Joshua tree (*Yucca brevifolia*) and big galleta grass (*Pleuraphis rigida* = *Hilaria rigida*) are common indicators of tortoise habitat (USFWS 1994). However, the species is also known to occur in a variety of desert scrub communities



GANDA

0 200 Meters

USGS 7.5' Quad: Galileo Hill (1973),
California City North (1973)
Legal Description: T32S, R38E, Sec. 10-17, 20

Basemap: Bing Map Hybrid (2010)

Figure 5.
Biological Survey Results
CCA 215-acre Project

Kern County, CA
June 2016

and microphyll woodlands (USFWS 1994). Desert tortoises in the Mojave Desert are generally active between April and June, with a secondary activity period from September through October.

An important functional component that characterizes desert tortoise habitat is the availability of preferred forage, particularly annual forbs, native grasses, and succulents (i.e., cactus). While many species of plants are taken, forbs are preferred over grasses, and green vegetation is preferred over dry (Zeiner et al. 1988). Some of the preferred forage species for desert tortoises in the Mojave Desert include various species of milk-vetch (*Astragalus* spp.), primrose (*Camissonia* spp.), spurges (*Euphorbia* spp.), lotus (*Lotus* spp.), and wishbone (*Mirabilis* sp.) (Jennings 1993). Jennings (1997) noted that about 70 percent of the bites taken by observed tortoises were on annual plants. Friable soils, such as sand and fine gravel, are an important habitat component, particularly for burrow excavation and nesting. The presence of soil suitable for digging burrows is considered a limiting factor to desert tortoise distribution. Burrows provide shelter from predators and thermal stress in areas where ground temperatures may range from below freezing to over 140° F. Depending on the location desert tortoises can construct and maintain a series of single-opening burrows, and may use between seven to 12 burrows at a given time (Bulova 1994).

Desert tortoise have several natural predators including common ravens, desert kit foxes, American badgers (*Taxidea taxus*), roadrunners (*Geococcyx californianus*), and coyotes (*Canis latrans*). Bobcats (*Lynx rufus*) and mountain lions (*Puma concolor*) are also known to prey on this species. A variety of birds prey on desert tortoise, including red-tailed hawks (*Buteo jamaicensis*), golden eagles (*Aquila chrysaetos*), loggerhead shrikes, American kestrels (*Falco sparverius*), and burrowing owls (Boarman 2003).

During the 2009 reconnaissance survey (CH2M 2016), an adult male tortoise was observed just south of the project area on the south side of Lindbergh Road. Tortoise sign (burrows and scat) was also observed in the southeast corner of the site. During the 2016 surveys, an active tortoise den was found in the northeastern quadrant of the site. Tortoise scat estimated to be a few weeks old was found 500 ft northeast of the den. Small sticks were placed at the burrow entrance and checked a few times during the survey week. The sticks were lying flat on some of the checks, indicating that something either entered or exited the burrow. One class 2 burrow, nine class 3 burrows, and two class 4 burrows were found on the site indicating historic use by unknown individuals over the past several years. The site contains suitable habitat for the desert tortoise and currently supports at least one individual.

Table 2, below, contains a list of all special-status wildlife sign documented in the project area, followed by representative photos of wildlife sign, and species accounts for Mohave ground squirrel, American badger, kit fox, and loggerhead shrike. Photographs of wildlife sign documented in the project area are provided in Figure 6.

TABLE 2. WILDLIFE SIGN DOCUMENTED IN THE PROJECT AREA

Type of Sign	*Description and Comments*	*Lat*	*Long*
CALA (= *Canis latrans* (coyote) den	Coyote (*Canis latrans*) den. Facing north. 12"x18". Three entrances.	35.149590°	-117.844948°
CALA den	Coyote (*Canis latrans*) den. Facing north. 16"x9". Not active.	35.148584°	-117.845092°
DETO (- desert tortosie) burrow	Old DETO burrow 11"x7". Facing north. Spider webs present. At least 2' deep, likely not in use. Class 3.	35.155699°	-117.845157°
DETO burrow	Collapsed DETO burrow. Facing northwest. 7"x4". Likely at least 3-4 years old. Class 3.	35.155449°	-117.853422°
DETO burrow	DETO burrow. Facing north. 7"x4". Spider webs, looks to be at least a year old. Class 3.	35.155065°	-117.855269°
DETO burrow	DETO burrow. Facing south. 7"x5". At least 2 years old. Signs of erosion, dense spider webs. Class 3.	35.154996°	-117.855506°
DETO burrow	DETO burrow. Facing west. 8"x11", collapsed, at least year old. Entrance has collapsed, possibly was dug in. Class 3.	35.154598°	-117.847969°
DETO burrow	DETO burrow. Facing northeast. 4"x5". Fresh looking burrow, structure remains intact a foot inward. No spider webs. Class 2.	35.154325°	-117.856047°
DETO burrow	DETO burrow. Facing north. 7"x6". At least a couple years old. Cobwebs present. Class 3.	35.154296°	-117.846573°
DETO burrow	Potential DETO burrow. Facing east. 6"x5". Looks to have been recently dug by VUMA. Roughly a year old. Class 4.	35.149937°	-117.853184°
DETO burrow	DETO burrow. Facing south. 6"x4". Collapse, at least 2-3 years old. Class 3.	35.153345°	-117.855882°
DETO burrow	Active DETO burrow. Facing west. 14"x7". Burrow is well maintained, at least four pieces of scat visible in burrow. Signs of dirt movement within burrow. Can't see back of burrow. Maintains shape further into burrow. Class 1.	35.153038°	-117.847722°
DETO burrow	DETO burrow. Facing north. Class 3. 7"x4". Cobwebs present. At least 2 years old. Signs of erosion around mouth and within burrow. Entrance holds some shape. Class 3.	35.151793°	-117.848656°
DETO burrow	DETO burrow. Facing north. 14"x7". Cobwebs, signs of erosion, vegetation within burrow. Class 3.	35.148703°	-117.847635°
DETO burrow	DETO burrow. Facing southwest. 6"x4". Heavily collapsed, maintaining semblance of shape. Class 4.	35.148655°	-117.850837°
DETO scat	DETO scat. Around a couple weeks old. Two scats in area.	35.153620°	-117.846347°
VUMA (= *Vulpes macrotis arsipus* = desert kit fox) den	VUMA den. Facing northwest. 8"x6". Steep incline, curving to the right. Old kit fox scat present.	35.155641°	-117.852773°
VUMA den	VUMA den. Facing northwest. 8"x7". Found stuffed with	35.155694°	-117.854704°

	empty one gallon water bottle and wrappers. Not active.		
VUMA den	VUMA den. Facing northwest. Small scat found around burrow. Cobwebs present. At least a year old.	35.154700°	-117.854836°
VUMA den	Facing northwest. Last used by kit fox but conditions of burrow suitable for future use by DETO.	35.154499°	-117.854793°
VUMA den	VUMA den. Facing south. 12"x8". Steep incline. Signs of erosion, likely dug out.	35.154430°	-117.851895°
VUMA den	VUMA den. Facing north. 4"x5". At least a year old.	35.154005°	-117.855368°
VUMA den	VUMA den. Facing northeast. 7"x7". Likely used within last year.	35.153627°	-117.849000°
VUMA den	VUMA den. Facing northeast. 9"x9". At least 2 years old. Cobwebs present. Signs of erosion.	35.151792°	-117.847654°
VUMA den	VUMA den. Facing northeast. Opening in bush into burrow is 11"x7". VUMA scat present.	35.151162°	-117.852010°
VUMA den	VUMA den. Facing east. 8"x4". Signs of heavy erosion. Cobwebs present. Steep slope into burrow.	35.150476°	-117.854825°
VUMA den	VUMA den. Facing east. 10"x10". Likely still in use, fresh scat in immediate area.	35.150080°	-117.852345°
VUMA den	Kit fox den. Facing south. 5"x8". Active last year and intermittently this year.	35.148462°	-117.845431°
VUMA den	VUMA den. Facing north. 9"x7". Likely used last year.	35.148420°	-117.845180°
VUMA natal den	VUMA natal den. Facing southeast. Average burrow size 12"x8". Scat and bones present.	35.154748°	-117.855701°
VUMA natal den	VUMA natal den. Facing southeast. In creosote. Three burrow entrances, average of 10"x6". Kit fox scat and woodrat scat in area.	35.154391°	-117.855896°
VUMA natal den	VUMA natal den. Facing east. Average burrow entrance 6"x4".	35.152885°	-117.855637°
VUMA natal den	VUMA natal den. Facing northwest. Average burrow opening is 7"x4".	35.152813°	-117.855998°
VUMA natal den	VUMA natal den. Facing southwest. Average burrow size 6"x4".	35.152520°	-117.846695°
VUMA natal den	VUMA natal den. Active. Facing northwest. Keyhole shaped opening, 4"x9". J-shaped exit. Adult and pup scat present. Tracks present in soft soil, no more than a day old.	35.151546°	-117.848556°
VUMA natal den	VUMA natal den. Facing north. Main entrance 10"x8". Multiple entrances that lead to creosote. Roughly a year old.	35.149547°	-117.845656°

Figure 6. Photographs of Wildlife Sign
Photo 1

Active Desert Tortoise (*Gopherus agassizii*) burrow (35.153036, -117.847722)

Figure 6. Photographs of Wildlife Sign
Photo 2

Desert Tortoise (*Gopherus agassizii*) scat, few weeks old (35.153620, -117.846347)

Figure 6. Photographs of Wildlife Sign
Photo 3

Desert kit fox (Vulpes macrotis) natal den, possibly active this year
(35.152520, -117.846695)

Figure 6. Photographs of Wildlife Sign
Photo 4

Camera 7 with Common Raven (Corvus corvax)
(35.152520, -117.846695)

Figure 6. Photographs of Wildlife Sign
Photo 5
Long-nosed Leopard Lizard (*Gambelia wislizenii*)
(35.152520, -117.846695)

Figure 6. Photographs of Wildlife Sign
Photo 6
Desert Horned Lizard (*Phrynosoma platyrhinos*)
(35.152520, -117.846695)

4.3.1.2 MOHAVE GROUND SQUIRREL

The Mohave ground squirrel is rare throughout its range and is restricted to the Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo counties. This species inhabits desert areas, including alluvial fans, basins, and plains with deep sandy or gravelly friable soils with an abundance of native herbaceous vegetation. Mohave ground squirrels can be found in Mojave creosote bush scrub, shadscale desert scrub, alkali scrub, and Joshua tree woodland. This species feeds on green vegetation and seeds but may also eat carrion (Leitner 2015).

This diurnal ground squirrel is active above ground in the spring and early summer. Emergence dates vary from March to June, depending on elevation. Squirrels begin aestivation in July or August. Stored body fat is the principal source of energy for aestivation, although food is also stored in the burrows. Home range size averages approximately 0.91 ac. and varies from 0.25 to 2 ac. (Leitner 2015).

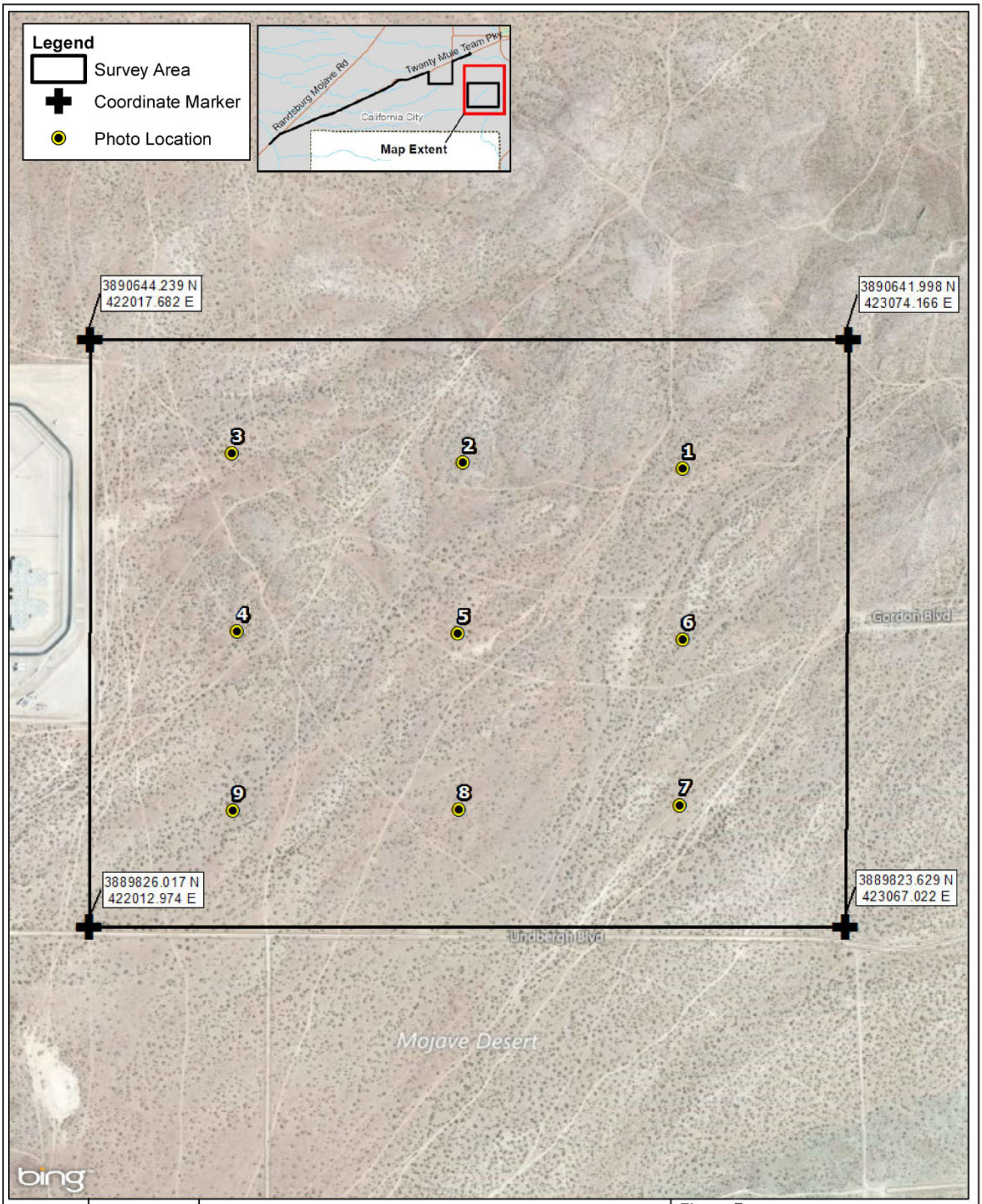
The Mohave ground squirrel is threatened by loss of habitat and degradation of habitat due to urban, suburban, and rural development; agriculture; military activities; energy development; livestock grazing; and off-highway vehicle use (Leitner 2015).

On April 13, 2016, Howard Clark (wildlife biologist, Garcia and Associates) assessed the habitat of the project area to determine suitability for occupation by Mohave ground squirrel. During the survey, no Mohave ground squirrels were observed, and only two white-tailed antelope squirrels (*Ammospermophilus leucurus*) were detected along the northwestern edge of the site.

Walk-over surveys for desert tortoise and burrowing owl occurred between May 23 and May 26, 2016 by project biologists. During these surveys, no Mohave ground squirrels were observed, and one white-tailed antelope squirrel was detected in the southwestern corner of the project area. Nine camera stations were established on the site on May 24, 2016 and recovered on 31 May, 2016 (Figure 7). Review of the camera data revealed no Mohave ground squirrel detections. Common ravens were photographed at camera stations 1, 7, and 8, and were the only wildlife species detected. The bait piles were largely intact after seven days on site, indicating few visits by wildlife.

According to Leitner (2015), six nearby records of the Mohave ground squirrel occur, mainly around the Desert Tortoise Natural Area, approximately 2 to 5 mi. north of the Project site. Two incidental observations were recorded approximately 6 mi. southeast of the site.

Overall, the project area supports suitable habitat for squirrel species, however noting few observations of a rather ubiquitous species, the white-tailed antelope squirrel, may indicate the project area is characterized as moderate quality, based on disturbance level, soil type, and vegetative community.



GANDA

Project Location

0 200 Meters

USGS 7.5' Quad: Galileo Hill (1973),
California City North (1973)
Legal Description: T32S, R38E, Sec. 10-17, 20

Basemap: Bing Map Hybrid (2010)

Figure 7.
Wildlife Camera Stations
CCA 215-acre Project

Kern County, CA
June 2016

4.3.1.3 AMERICAN BADGER

American badgers were once fairly widespread throughout open grassland habitats of California. They are now uncommon, permanent residents throughout most of the state, with the exception of the northern North Coast area. Known to occur in the Mojave Desert, they are most abundant in the drier open stages of most shrub, forest, and herbaceous habitats that support friable soils. Cultivated lands have been reported to provide little usable habitat for this species. They feed mainly on small mammals, especially ground squirrels, Botta's pocket gophers (*Thomomys bottae*), rats, mice, and chipmunks (*Tamias* spp.). This species captures some of its prey above ground including birds, eggs, reptiles, invertebrates, and carrion. Its diet will shift seasonally and yearly depending upon prey availability. Badgers are fossorial, digging large burrows in dry, friable soils and will use multiple dens/cover burrows within their home range. They typically use a different den every day, although they can use a den for a few days at a time (Sullivan 1996). Cover burrows are an average of 30 ft. in length and are approximately 3 ft. in depth. Natal dens are larger and more complex than cover dens. In undisturbed, high-quality habitat, badger dens can average 0.64 den per ac., but are usually at much lower density in highly disturbed areas.

No dens were found during the 2016 surveys indicating use by American badger. There were no live badgers observed. Prey species, such as kangaroo rats, are present on site. Badgers may occur within the region, and transient individuals may move through the area from time to time.

4.3.1.4 DESERT KIT FOX

Desert kit fox is an uncommon to rare permanent resident of arid regions of the southern portion of California. The species occurs in annual grasslands, or grassy open, arid stages of vegetation dominated by scattered herbaceous species. Kit fox occur in association with their prey base which is primarily cottontail rabbits, ground squirrels, kangaroo rats, and various species of insects, lizards, or birds (Zeiner et al. 1988). Kit foxes are primarily nocturnal, and friable soils are necessary for the construction of dens, which are used throughout the year for cover, thermoregulation, water conservation, and rearing pups. Kit foxes typically produce one litter of about four pups per year, with most pups born February through April (Ahlborn 2000). While the desert kit fox is not listed as a special-status species by the State of California or the USFWS, it is protected under Title 14, California Code of Regulations, Section 460. The California Fish and Game Code (§§ 4000 - 4012) defines kit fox as a furbearing mammal and restricts take of this species.

During the 2016 walk-over surveys, 13 single entrance kit fox dens and 7 natal den complexes were detected. One of the natal den complexes showed recent use from the 2015-2016

breeding season, with puppy scat and prey remains scattered at some of the den entrances. Some of the single entrance dens had scat nearby less than a year old. The dens are distributed throughout the site and show a range of conditions and use, indicating that the entire site is being used by kit foxes, currently and historically.

4.3.1.5 WESTERN BURROWING OWL

Burrowing owls, a California Species of Special Concern, inhabit arid lands throughout much of the western United States and southern interior of western Canada (Haug et al. 1993). In the Mojave Desert this species has declined because of human-induced causes such as loss and/or fragmentation of habitat, diminished prey base, and high populations of species that prey on burrowing owl eggs and young. In this portion of its range, some owls are migratory, while some are year-round residents.

Burrowing owls are unique among the North American owls in that they nest and roost in abandoned burrows, especially those created by California ground squirrels, kit fox, desert tortoise, and other wildlife. Burrowing owls have a strong affinity for previously occupied nesting and wintering habitats. They often return to burrows used in previous years, especially if they were successful at reproducing there in previous years (Gervais et al. 2008). The breeding season in southern California generally occurs from February to August with peak breeding activity from April through July (Haug et al. 1993).

In the Mojave Desert, burrowing owls generally occur at low densities in scattered populations, but they can be found in much higher densities near agricultural lands where rodent and insect prey tend to be more abundant (Gervais et al. 2008). Burrowing owls tend to be opportunistic feeders. Large arthropods, mainly beetles and grasshoppers, comprise a large portion of their diet, along with small mammals such as mice and voles (*Microtus*, *Peromyscus*, and *Mus* spp.).Larger prey consumed includes reptiles and amphibians, young cottontail rabbits, bats, and birds. Consumption of insects increases during the breeding season (Haug et al. 1993).

During the 2009 biological reconnaissance survey (CH2M 2016), a pair of burrowing owls was observed in the southeastern corner of the parking lot of the existing correctional facility. The burrow was located on the north side of the berm that runs along the southern perimeter of the parking lot. The active burrows recorded in 2009 were revisited during the 2016 survey. No burrowing owls or active burrowing owl burrows were observed during this survey. Numerous burrows dug by kit foxes and other species occur on site and can serve as suitable burrows for the owls. The site contains suitable habitat for foraging and other uses.

4.3.1.6 LOGGERHEAD SHRIKE

Loggerhead shrikes are uncommon residents throughout most of the southern portion of their range, including southern California. This species can be found within lowland, open habitat types, including creosote scrub and other desert habitats, sage scrub, non-native grasslands, chaparral, riparian, croplands, and areas characterized by open scattered trees and shrubs. In southern California they are generally much more common in interior desert regions than along the coast (Humpel 2008). In the Mojave Desert this species appears to be most numerous in flat or gently sloping deserts and desert/scrub edges, especially along the eastern slopes of mountainous areas (Humpel 2008). Loggerhead shrikes initiate their breeding season in February and may continue with raising a second brood as late as July; they often re-nest if their first nest fails or to raise a second brood (Yosef 1996).

Fences, posts, or other potential perches are typically present. In general, loggerhead shrikes prey upon large insects, small birds, amphibians, reptiles, and small rodents over open ground within areas of short vegetation, usually impaling prey on thorns, wire barbs, or sharp twigs to cache for later feeding (Yosef 1996).

A single loggerhead shrike was observed just outside of the project area, within 300 ft of the linear component of the project. Loggerhead shrikes are expected to occur in the vicinity; the vegetative communities present on site are suitable for their foraging and nesting needs.

4.3.2 Special-Status Plants

No state- or federal-listed plant species or other special-status plant species were observed on the project area or linears during the May 23-27, 2016 botanical surveys. Limitations of the botanical surveys due to survey timing are described below under “Survey Limitations”. Special-status plants with potential to occur in the project area, based on the presence of suitable habitat and known occurrences near the project area, are discussed below.

A complete list of special-status plant species known to occur in the project vicinity, with a summary of each species general and micro-habitat preferences, blooming period, and an assessment of their potential to occur on the project site is provided in Table 3, below. This includes plant species with a California Rare Plant Rank (CRPR; formerly CNPS) of 1B, 2B, and 4. A list of all plant species encountered during the floristic surveys is provided in Appendix B.

TABLE 3. SPECIAL-STATUS PLANTS POTENTIALLY OCCURRING IN THE PROJECT AREA

Scientific name	Common Name	Status[1] Fed/State/ CNPS	Habitat Preference/ Requirements	Survey Results	Potential to Occur in the Project Area[2]
Calochortus striatus	**alkali Mariposa lily**	--/--/1B.2	Chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps; 70-1595 m; mesic, alkaline areas. Perennial bulb, blooms May-October	Not found. No suitable habitat present.	**None**. Several nearby occurrences but all in moist alkaline habitats.
Canbya candida	**white pygmy-poppy**	--/--/--/4.2	Found in open sandy soils in the western Mojave and adjacent Sierra Nevada. Annual, blooms April-June.	Not found. May have bloomed earlier in season, if present, and tiny ephemeral easy to miss out of bloom.	**Possible.** Suitable habitat present and known occurrence near Mojave.
Chorizanthe spinosa	**Mojave spineflower**	--/--/--/4.2	Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas. Sometimes alkaline sites. Annual, blooms March-July.	Not found. Blooms later so likely to have been detected if present because it.	**Possible.** Suitable habitat present and many documented occurrences in vicinity.
Cryptantha clokeyi	**Clokey's cryptantha**	--/--/1B.2	Mojavean desert scrub, rocky slopes, peaks, and ridges. 725-1365 m. Annual, blooms April.	Not found. Unlikely to be detected in a May survey. Very little suitable habitat.	**Possible.** But suitable habitat limited to the rock outcrops in the northern portion of theac.. the project area.
Cymopterus deserticola	**desert cymopterus**	--/--/1B.2	Alluvial fans and basins, stabilized sand fields, and occasionally sandy slopes of desert dry lake basins, especially on the east side of desert playas where blowsand has accumulated. Substrate is loose, sandy soils. Found in Joshua tree woodland, saltbush scrub, and Mojavean desert scrub. Perennial, blooms early March to mid May. NOTE: flowering can be irregular and the above-ground	Not found in the project area, and no suitable habitat in the project area. Not found at any of 5 nearby reference sites but these typically bloom in early March, and fruits heavily browsed by	**Possible.** Known occurrences nearby and small area of suitable habitat (coppice dunes, fine sandy) adjacent to Twenty Mule Team Pkwy towards the western end. However, the area closest to road edge generally too

			portion of the plant dies back after the flowering season.	rabbits. Unlikely to be detected in a May survey per local botanists (LaBerteaux and Cloud-Hughes, pers. comm.)	disturbed and weedy. If present, likely the alignment could be adjusted to avoid. Many local occurrences between California City and Boron.
Deinandra arida	**Red Rock tarplant**	--/--/1B.2	Mojavean desert scrub; in clay soils of washes along ephemeral seeps and streams and on adjacent sand flats in moist, subalkaline, gravelly sand; in wetter years also found on volcanic tuff at base and on lower slopes of ridges and cliffs. Annual, blooms April-November	Not found. No suitable habitat. Late blooming; would have been detected during the May survey, if present.	**Unlikely.** Occurrences nearby in Red Rock SP but associated with moister habitats. But can occur in drier or more well-drained slopes and flats in wetter years.
Deinandra mohavensis	**Mojave tarplant**	-/-/1B	Chaparral, coastal scrub, riparian scrub; 640-1600 m; low sand bars in river beds, along stream channels or in ephemeral grass areas in riparian scrub and chaparral (mesic). Annual, blooms June to October.	Not found. No suitable habitat present.	**None.** No suitable habitat or occurrences in the vicinity.
Delphinium recurvatum	**recurved larkspur**	--/--/--/1B.2	Alkaline soils in chenopod scrub, cismontane woodland, valley and foothill grassland, poorly drained, fine, alkaline soils in grassland and *Atriplex* scrub. Perennial, blooms March-June.	Not found. Tall perennial easy to detect in fruit, identification based on seed characteristics.	**None.** No suitable habitat. Would have been detected during the May survey, if present.
Eremothera boothii ssp. *boothii*	**Booth's evening-primrose**	--/--/--/2B.3	Joshua tree woodland, pin yon and juniper woodland. Annual, blooms April-September.	Not found. Blooms later in season and could have been detected if present. Common subspecies *desertorum* detected on site.	**Possible.** Surveys conducted a t a time adequate to detect, if present.

Eriophyllum mohavense	**Barstow woolly sunflower**	--/--/1B.2	Bare areas with little soil. Substrate is sandy or rocky often containing a shallow subsurface caliche layer. Found in Chenopod scrub, Mojavean desert scrub, and Creosote bush scrub vegetation communities. Annual, blooms March to April or May.	Not found in the project area, nor at a nearby reference site. Typically blooms in early to late March. Very tiny ephemeral unlikely to be detected in late May per local botanists (LaBerteaux and Cloud-Hughes, pers. comm.)	**Possible.** If present, most likely to occur on barren or sparsely vegetated granitic "balds" in eastern portion of s215-ac.site where there is little soil or exposed caliche layer. Many local occurrences in the Kramer Junction area, about 15 mi. southeast.mi.
Erythranthe rhodopetra	**Red Rock Canyon monkeyflower**	--/--/1B.1	Sandy, canyon washes in Mojavean desert scrub. endemic to the Red Rock Canyon region and is associated with sandy canyon washes at the base of the red sedimentary cliffs. Annual, blooms March to April	Not found. No suitable habitat present (sedimentary or volcanic tuffs).	**Unlikely.** Many nearby occurrences but all on rocky cliffs and canyons and slopes of Red Rock Canyon SP. Tends to grow at higher elevations.
Eschscholzia minutiflora ssp. twisselmannii	**Red Rock poppy**	--/--/1B.2	Mojavean desert scrub; desert washes, flats, and slopes. Populations occur at elevations between 2300 and 3280 ft Blooms March to May	Not found. Common subspecies present and in bloom and fruit at time of survey. Examined with higher magnification and ID made on basis of seed coat texture rather than petal size.	**Possible.** But likely to have been detected, if present, as common subspecies was in bloom, glaucous, dissected leaves easy to see. Most occurrences in Red Rock Canyon but taxon is poorly understood.
Goodmania luteola	**golden goodmania**	--/--/--/4.2	Alkaline or clayey soils in Mojavean desert scrub, meadows and seeps, playas, valley and foothill grassland. Annual, blooms April-August.	Not found. Blooms later so likely to have been detected if present.	**Unlikely.** No occurrences within 20 mi. and no suitable

					habitat present.
Muilla coronata	**crowned muilla**	--/--/--/4.2	Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Perennial bulb, blooms March-May.	Not found. Blooms early so likely to be missed, if present, in a late May survey.	Possible. Suitable habitat present and known occurrence in Kramer Junction area about 15 mi. to the southeast.
Loeflingia squarrosa var. *artemisiarum*	**sagebrush loeflingia**	--/--/2B.2	Found in desert dunes, Great Basin scrub and sandy. Sonoran desert scrub. Annual, blooms April-May.	Not found. Likely to have bloomed earlier but no suitable habitat present on 215 ac. site.	**Possible**. **Suitable habitat in**n the sandy areas in the western portion of linears but unlikely on the ac.project area; no suitable habitat present.
Mentzelia eremophila	**Solitary blazing star**	-/-/4.2	Mojavean desert scrub; sandy areas, including washes. 700-1160 m; Annual, blooms March to May.	Not found. Some species of *Mentzelia* still in bloom during May survey, most still in fruit and identifiable based on seed characteristics	**Possible.** Suitable habitat present. Because plants small, in fruit and dried, could have been missed.
Mentzelia tridentata	**creamy blazing star**	-/-/1B.2	Mojavean desert scrub; 700-1160 m; rocky, gravelly, sandy areas. Annual, blooms March to May.	Not found. Some species of *Mentzelia* still in bloom during May survey, most still in fruit and identifiable based on seed characteristics. Over 10 collections made and identified as *Mentzelia affinis*,or *M. albicaulis*; both common species.	**Possible**. Suitable habitat present. Because plants small, in fruit and dried, could have been missed.

Nemacladus gracilis	**graceful nemacladus**	--/--/4.3	Sandy or gravelly areas in cismontane woodland, valley and foothill grassland. Annual, blooms March-May.	Not found. Likely to have bloomed earlier in the season. At least marginally suitable habitat present on the rocky portions of the northern third of the ac.project area.	**Unlikely.** No occurrences within 20 mi. or more
Phacelia nashiana	**Charlotte's phacelia**	--/--/1B.2	Sandy to rocky, granitic slopes. Pinyon/juniper woodland. Elevation 1920 -7040 ft.. Annual, blooms March to June.	Not found. No suitable habitat present. Sometimes found as late as June.	**Unlikely.** Many nearby occurrences but all in rocky canyons and slopes near Red Rock Canyon SP. Tends to grow at higher elevations.
Sclerocactus polyancistrus	**Mojave fish-hook cactus**	--/--/4.3	Great Basin scrub; Joshua tree woodland; Mojavean desert scrub, usually carbonate substrate. Perennial stem succulent, blooms April to July	Not found. Would have found it during the May surveys, if present.	**Possible.** Suitable habitat present on the rock outcrops in the northern portion of the ac.project area.

[1] **STATUS CODES:**

FEDERAL ESA: FT = Federally threatened; FE = Federally endangered;
STATE ESA (CESA): SE = State endangered; ST = State threatened;
CRPR CALIFORNIA RARE PLANT RANK (formerly CNPS California Native Plant Society Lists):
1B: Considered rare, threatened, or endangered in California and elsewhere.
2: Plants rare, threatened, or endangered in California, but more common elsewhere
Threat extensions: .1 - Seriously endangered in California, .2 – Fairly endangered in California, .3 – Not very endangered in California

[2] **POTENTIAL RANKING:** The potential for special-status species to occur in the Project area was categorized using the following criteria:
None: Project is well outside the known geographic or elevational range, or lacks suitable habitat necessary for the species. **Unlikely:** Project may contain suitable habitat for this species but is outside its known geographic or elevational range.
Possible: Project is within the geographic and elevational range and has suitable habitat for the species.
Present: The species was observed during limited field investigations.

Potentially suitable habitat was assessed using species-specific requirements:
Vegetation type (for example, shrublands)
Habitat components (for example, substrate type, vegetation density, slope/aspect, if known)
United States Department of Agriculture Soil Survey (if endemic to certain parent materials or soil texture or chemistry)

4.3.2.1 CRPR 1B PLANT SPECIES

Plants with a CRPR rank of 1B are rare throughout their range with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. (CNPS 2016). The special-status plant species with a rank of 1B or 2B with the highest potential for occurrence on the project area – and that likely could not be identified during a late May survey if present -- is the Barstow woolly sunflower (*Eriophyllum mojavense*). This is based on observations of general and micro-habitat conditions made during the survey and at a known occurrence seven mi. north of the project in the Desert Tortoise Natural Area (DTNA) (LaBerteaux 2011; LaBerteaux pers. comm.). A description of Barstow woolly sunflower, its life history, ecology, conservation status, and population trends is provided below.

4.3.2.2 CRPR 2B PLANT SPECIES

Two additional CRPR 1B or 2B species, or "CEQA species' -- desert cymopterus (*Cymopterus deserticola*) and sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*) – have potential to occur on the linears but not on the 215-ac. site. Suitable habitat was found only along a small segment of Twenty Mule Team Pkwy where the soils were suitably fine, loose and sandy—mixed alluvial and aeolian (windblown) deposits in the western portion of the alignment. However, the habitat closest to the edge of pavement where the utilities are likely to be placed, within 10 ft. of the pavement, is generally too weedy and densely vegetated for these species. The sagebrush loeflingia occurrences in CNDDB that occur within 20 mi. of the project have not been documented since 1977 and "need fieldwork" (CNDDB 2016). However, sagebrush loeflingia was discovered on the U.S. Borax 2,350-ac. conservation easement near North Edwards in spring 2015 (GANDA 2015).

The CNPS Rare Plant Program defines CRPR 2B species "…except for being common beyond the boundaries of California, plants with a California Rare Plant Rank of 2B would have been ranked 1B....{CRPR 2B species] meet the definitions of the California Endangered Species Act of the California Department of Fish and Game Code, and are eligible for state listing. Impacts to these species or their habitat must be analyzed during preparation of environmental documents relating to CEQA, or those considered to be functionally equivalent to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines §15125 (c) and/or §15380." (CNPS 2016)

4.3.2.3 CRPR 4 PLANT SPECIES

CRPR 4 (watch list) species with potential to occur based on suitable habitat and known occurrences nearby include: Mojave spineflower, pygmy poppy, crowned muilla, small-flowered androstephium, and solitary blazing star.

CRPR 4 species are defined by CNPS "…of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly….Some of the plants constituting California Rare Plant Rank 4 meet the definitions of the California Endangered Species Act of the California Department of Fish and Game Code, and few, if any, are eligible for state listing."(CNPS 2016) These include the type locality, occurrences at the periphery of the species' range, exhibiting unusual morphology or habitat affinities, or occur in areas where the taxon has sustained major losses or are especially uncommon.

4.3.2.4 Barstow woolly sunflower (*Eriophyllum mojavense*)

Barstow woolly sunflower, a non-listed CRPR 1B.2 species, is a tiny, annual in the aster family, typically less than an in. high, and blooms early March to early April (LaBerteaux, Cloud-Hughes pers. comm.). Because these plants are annuals, they are almost impossible to spot once they have gone to fruit in May (NatureServe 2016). As an annual, germination and establishment of this species depends on the amount and timing of winter and spring rains (BLM 2005).

Barstow woolly sunflower prefers sandy or rocky areas in chenopod scrub, Mojavean desert scrub, creosote bush scrub, and also occurs on playas. This species prefers bare areas with little soil that frequently contain a shallow subsurface caliche layer (BLM 2005). The species' elevation range extends from 1,640 to 3,150 ft. (CNPS 2016).

Barstow woolly sunflower is distinguished from its locally common congeners (*E. pringlei, E. wallacei*) by its discoid flowers, sharp-pointed phyllary tips, 3-4 phyllaries, and short peduncle (<1 cm) (Jepson Flora Project 2016). There is no information available regarding pollinators, seed dispersal, seed germination, or seedling establishment, although a related common species is known to be pollinated by bees and beetles (Jepson Flora Project 2016).

This species is endemic to the west-central portion of California's Mojave Desert, restricted to a 30-mile radius of Barstow in San Bernardino and Kern counties. In 2006, there were approximately 10,600 known individuals (NatureServe 2016). The short-term population trend for this species is a decline of 10-30%, and a long-term trend for a decline of 50-60%.

Approximately 19,069 ac.s of inhabited Barstow woolly sunflower habitat has been designated as the Barstow Woolly Sunflower ACEC in the Fremont Peak subregion. A total of 13-40 of the 63 known occurrences have a good viability and habitat integrity (Jepson Flora Project 2016).

The nearest occurrence is located in the Desert Tortoise Natural Area (DTNA), seven mi. north of the project area. The Lat/Long coordinates are 35.257009,-117.863878 (UTM 421416 E, 3901887 N). The occurrence is located in the extreme northeastern corner of Section 11, T31S,

R38E. It occurs in a sparsely vegetated gravelly area with shallow soils, similar to the granitic "balds" that occur in the project area.

CRPR species with a threat rank of .2 are "seriously threatened in California, with 20% to 80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2016).

4.3.2.1 BOTANICAL SURVEY LIMITATIONS

Survey timing was adequate for detecting late season species (such as *Deinandra* spp., *Euphorbia* spp., or species identified by fruit/seed characters (such as *Mentzelia* spp., *Delphinium* spp., *Astragalus* spp., *Eschscholzia minutiflora* subspecies), or rare cacti, if present. But it is unlikely that small, early spring ephemeral annuals such as Barstow woolly sunflower could be detected in late May. These species were observed in bloom in the Kramer junction area reference populations in early March of this year by the project botanist and other area botanists (D. LaBerteaux, M. Cloud-Hughes, pers. comm.). Desert cymopterus were observed blooming in nearby reference populations in early to mid-March, and are often browsed by rabbits well before May (LaBerteaux pers. comm.).

Prior to the start of surveys, five nearby reference populations of desert cymopterus in the California City area were visited, and one reference population of Barstow woolly sunflower at the nearby Desert Tortoise Research Natural Area, as the two species were considered to have high potential for occurrence and the least likely to still be detectable in late May. Neither Barstow woolly sunflower nor the desert cymopterus could be detected at these nearby reference populations, and were likely limited by both timing and low rainfall in the seven months leading up to the survey. Based on data collected in nearby Mojave, precipitation totals were only 40 percent of normal, despite several heavy storm events in September and October 2015.

4.3.3 CDNPA Species and Kern County Species

The purpose of the California Desert Native Plants Act (CDNPA) is to protect certain species of California desert native plants from unlawful harvesting on both public and privately owned lands. The CDNPA only applies within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego counties. Within these counties, the CDNPA prohibits the harvest, transport, sale, or possession of specific native desert plants unless a person has a valid permit or wood receipt, and the required tags and seals. The appropriate permits, tags and seals must be obtained from the sheriff or commissioner of the county where collecting will occur, and the county will charge a fee.

In addition to the property owners contact information, the application must include the amount and species of native plants to be harvested, and a legal property description.

An inventory of CDNPA-covered species was made during the surveys for special-status plants. CDNPA-covered plants found in the project area are provided in Table 4, below.

TABLE 4. CDNPA-COVERED PLANTS IN THE PROJECT AREA

Common name	Scientific name	Quantity
California barrel cactus	*Ferocactus cylindraceus*	9
Cottontop cactus	*Echinocactus polycephalus*	2
Silver cholla	*Cylindropuntia echinocarpa*	8

4.3.4 Noxious Weeds

An inventory of noxious weeds that occur in the project area was not part of the scope of this biological survey. However, noxious weeds recognized by the California Department of Food and Agriculture (CDFA) were noted during the surveys for special-status plants.

No noxious weeds were observed on the 215-ac. site except along the tortoise fencing at the eastern edge of the existing facility. Seedlings of the annual Russian thistle (*Salsola tragus)*, also known as "tumbleweed", were scattered along the entire length of the tortoise fencing. They did not appear to be spreading into the undisturbed habitat.

A large infestation (>100 plants) of Russian thistle and barbwire Russian thistle (*Salsola paulsenii*) seedlings was observed on the linears in the western portion of the 4-mile segment of Twenty Mule Team Pkwy. on the south side of the road. Another small occurrence (<10 plants) was noted at the intersection of Twenty Mule Team Pkwy and 145th St.

Plants in the genus *Salsola* typically infest sandy soils on disturbed sites, waste places, roadsides, cultivated and abandoned fields, and disturbed natural and semi-natural plant communities. Russian-thistle can impede traffic, create fire hazards, and is a host of the beet leaf-hopper, an agricultural insect pest.

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LaBerteaux, Denise, biologist, Eremico Biological Services. Conversation with Carolyn Chainey-Davis, GANDA, regarding a population of Barstow woolly sunflower ("ERMO") she located recently at the Desert Tortoise Natural Area (DTNA), seven mi. north of the project area. Also discussed the potential to detect ERMO or desert cymopterus ("CYMO") in a late May survey. "ERMO pretty fried by May. CYDE gets eaten by rabbits fairly quickly."

APPENDIX A

LIST OF WILDLIFE SPECIES OBSERVED IN THE PROJECT AREA

Appendix A. List of Animal Species Observed in the Project Area

**Surveys conducted May 23-26, 2016*

Family	Scientific name	Common Name
MAMMALS		
Leporidae	*Lepus californicus*	Black-tailed jackrabbit
Sciuridae	*Ammospermophilus leucurus*	White-tailed antelope squirrel
Cricetidae	*Neotoma lepida*	Desert woodrat
Canidae	*Canis latrans*	Coyote
	Vulpes macrotis	Kit fox
BIRDS		
Charadriidae	*Charadrius vociferus*	Killdeer
Columbidae	*Zenaida macroura*	Mourning dove
Caprimulgidae	*Chordeiles acutipennis*	Lesser nighthawk
Tyrannidae	*Contopus cooperi*	Olive-sided flycatcher
Laniidae	*Lanius ludovicianus*	Loggerhead shrike
Corvidae	*Corvus corax*	Common raven
	Corvus brachyrhychos	American crow
Alaudidae	*Eremophila alpestris*	Horned lark
Emberizidae	*Chondestes grammacus*	Lark sparrow
Fringillidae	*Haemorhous mexicanus*	House finch

REPTILES		
Crotaphytidae	*Gambelia wislizenii*	Long-nosed leopard lizard
Phrynosomatidae	*Phrynosoma platyrhinos*	Desert horned lizard
	Sceloporus uniformis	Yellow-backed spiny lizard
	Uta stansburiana	Common side-blotched lizard
Teiidae	*Aspidoscelis tigris*	Tiger Whiptail
Colubridae	*Lampropeltis californiae*	California kingsnake
Testudinidae	*Gopherus agassizii*	Desert tortoise

APPENDIX B

List of Plant Species Observed in the Project Area

Appendix B. List of Plant Species Observed in the Project Area

California City, Kern County, CA

Surveys conducted May 23-27, 2016 –

**Plants marked with an asterisk are non-native and naturalized species*

Family	*Scientific Name*	Common Name
	EUDICOTS	
Amaranthaceae		**AMARANTH FAMILY**
	*Amaranthus albus**	pigweed
Apiaceae		**CARROT FAMILY**
	Lomatium mohavense	Mojave wild parsley
Asteraceae		**ASTER FAMILY**
	Acamptopappus sphaerocephalus* var. *hirtellus	hairy goldenhead
	Ambrosia acanthicarpa	annual burrweed
	Ambrosia dumosa	burrobush, white bursage
	Ambrosia dumosa	white bursage
	Ambrosia salsola*var. *salsola	cheesebush
	Chaenactis carphoclinia*var. *carphoclinia	pebble pincushion
	Chaenactis stevioides	desert pincushion
	Ericameria cooperi* var. *cooperi	Cooper's goldenbush
	Ericameria nauseosa* var. *hololeuca	white rubber rabbitbrush
	Ericameria nauseosa* var. *leiosperma	smooth-fruit rabbitbrush
	Lasthenia gracilis	slender goldfields
	Logfia depressa	cotton rose
	Malacothrix coulteri	snake's head
	Malacothrix glabrata	desert dandelion
	Stephanomeria exigua* ssp. *exigua	mitra
	Stephanomeria parryi	Parry's rock pink
	Stephanomeria pauciflora	wire lettuce
	Tetradymia stenolepis	narrow-scaled horsebrush
	Xylorhiza tortifolia* var. *tortifolia	Mojave aster

Family	*Scientific Name*	Common Name
Boraginaceae		**BORAGE or WATERLEAF FAMILY**
	Amsinckia intermedia	common fiddleneck
	Amsinckia tessellata*var. t*essellata	bristly fiddleneck, devil's lettuce
	Cryptantha angustifolia	narrow-leaved cryptantha
	Cryptantha dumetorum	bush-loving cryptantha
	Cryptantha micrantha	red-root cryptrantha
	Pectocarya linearis ssp. ferocula	Slender comb seed
	Phacelia ramosissima	branching phacelia
	Phacelia tanacetifolia	tansy-leaved phacelia
Brassicaceae		**MUSTARD FAMILY**
	Caulanthus inflatus	desert candle
	Caulanthus lasiophyllus	California mustard
	Descurainia pinnata	yellow tansy mustard
	*Hirschfeldia incana**	hirschfeldia
	Lepidium dictyotum	net peppergrass
	Lepidium flavum	yellow peppergrass
	Lepidium nitidum	shining peppergrass
	*Sisymbrium altissimum**	tumble mustard
	*Sisymbrium orientale**	Indian hedge mustard
	Tropidocarpum gracile	slender tropidocarpum
Cactaceae		**CACTUS FAMILY**
	Cylindropuntia echinocarpa	silver cholla
	Echinocactus polycephalus	cottontop cactus
	Ferocactus cylindriceus	barrel cactus
Chenopodiaceae		**GOOSEFOOT FAMILY**
	Atriplex polycarpa	allscale
	Grayia spinosa	hop sage
	*Salsola paulseni**	Paulsen's Rusian thistle
Euphorbiaceae		**SPURGE FAMILY**

Family	*Scientific Name*	Common Name
	Croton setiger	turkey-mullein
	Euphorbia albomarginata	rattlesnake sandmat
	Euphorbia polycarpa	smallseed sandmat
Fabaceae		**LEGUME FAMILY**
	Astragalus laynae	Layne's milk-vetch
	Lupinus microcarpus	chick lupine
	Lupinus shockleyi	Shockley's lupine
Geraniaceae		**GERANIUM FAMILY**
	*Erodium botrys**	big heron bill
	*Erodium cicutarium**	red-stemmed filaree
Lamiaceae		**MINT FAMILY**
	Salvia carduacea	thistle sage
	Salvia columbariae	chia sage
Loasaceae		**LOASA FAMILY**
	Mentzelia affinis	yellow comet
	Mentzelia albicaulis	white-stemmed blazing star
Malvaceae		**MALLOW FAMILY**
	Sphaeralcea ambigua* var. *rugosa	rough-leaved apricot globemallow
Nyctaginaceae		**FOUR O'CLOCK FAMILY**
	Abrona turbinata	transmontane sand verbena
	Mirabilis laevis*var. *retrorsa	wishbone bush
Onagraceae		**EVENING-PRIMROSE FAMILY**
	Camissonia campestris	field sun cup
	***Camissonia* sp.**	evening-primrose
	Chylismia claviformis* ssp. *claviformis	brown eyes
	Eremothera boothii* ssp. *desertorum	Booth's evening-primrose
	Oenothera deltoides* ssp. *deltoides	bird cage evening-primrose
Papaveraceae		**POPPY FAMILY**
	Eschscholzia minutiflora* ssp. *covillei	Coville's poppy
Plantaginaceae		**PLANTAIN FAMILY**

Family	*Scientific Name*	Common Name
	Plantago ovata* var. *fastigiata	desert plantain
Polemoniaceae		**PHLOX FAMILY**
	Eriastrum eremicum* ssp. *eremicum	desert woolly star
	Eriastrum densifolium* ssp. *mojavense	perennial woolly star
	***Gilia* sp.**	gilia
Polygonaceae		**BUCKWHEAT FAMILY**
	Chorizanthe brevicornu* var. *brevicornu	brittle spineflower
	Chorizanthe rigida	rigid spineflower
	Eriogonum angulosum	angle-stemmed buckwheat
	Eriogonum fasciculatum* var. *polifolium	California buckwheat
	Eriogonum gracillimum	rose and white buckwheat
	Eriogonum inflatum	desert trumpet
	Eriogonum trichopes	little desert buckwheat
	Eriogonum viridescens	bright green buckwheat
	Oxytheca perfoliata	roundleaf puncturebract
Solanaceae		**NIGHTSHADE FAMILY**
	Datura wrightii	jimsonweed
	Lycium andersonii	Anderson's wolfberry
	Lycium cooperi	Cooper's wolfberry
Zygophyllaceae		**CALTROP FAMILY**
	Larrea tridentata	creosote bush
	MONOCOTS	
Poaceae		**GRASS FAMILY**
	*Bromus madritensis ssp. rubens**	red brome
	*Bromus tectorum**	cheat grass
	*Festuca myuros**	rattail fescue
	*Schismus arabicus**	Arabian schismus
	*Schismus barbatus**	Mediterranean grass
	Stipa hymenoides	Indian rice grass
	Stipa speciosa	desert needle grass

Family	*Scientific Name*	Common Name

Notes: Scientific nomenclature follows *The Jepson Manual: Vascular Plants of California, Second Edition*, Baldwin et al. (2012).

**Plants marked with an asterisk are non-native and naturalized species that persist without cultivation*

APPENDIX E

SPECIAL STATUS PLANT SURVEYS

August 9, 2017

Brad Wiggins
CoreCivic
10 Burton Hills Boulevard
Nashville, Tennessee 37215

VIA EMAIL
brad.wiggins@corecivic.com

Subject: Results of Special Status Plant Surveys for the Correctional Development Facility Project in Kern County, California

Dear Mr. Wiggins:

This Letter Report presents the findings of special status plant surveys conducted for the Correctional Development Facility Project (hereinafter referred to as "the Project") located in California City, Kern County, California. The purpose of the surveys was to determine the presence or absence of special status plant species on the 215-acre Project site.

PROJECT LOCATION AND DESCRIPTION

The Project is located in California City in Kern County, California (Exhibit 1). The main Project area consists of a 215-acre property adjacent to the existing California City Correctional Facility (CCCF). Off-site areas include an approximate ten-mile-long proposed utility alignment, which generally runs from an existing water tank to the north of the Project site, along Twenty Mule Team Parkway and along Mendiburu Road to Yerba Boulevard; it includes connections through the adjacent existing CCCF via Virginia Boulevard, Gordon Boulevard, and 145th Street. These off-site utility improvements are planned to be within the existing road rights-of-way; therefore, the special status plant survey included only the 215-acre property.

CoreCivic proposes to construct 2 separate but adjacent, 1-level correctional facilities with a total of 3,024 beds on the Project site. The Project would include a shared administration building and common parking area. The Project site would be improved to include an approximate 159-acre building pad to accommodate the facilities and structures described above; manufactured slopes with ancillary drainage improvements would be located along the perimeter of the building pad. A series of five retention basins would be located along the length of the western site boundary to accommodate surface water runoff from the rest of the site. No improvements are proposed for the City's road rights-of-way located along the northern, southern, or eastern edges of the 215-acre Project site. A new private two-lane road would provide access to the parking lot and the Project Site along the alignment of Gordon Boulevard; it would start from Virginia Boulevard and connect to the northwestern corner of the Project site.

ENVIRONMENTAL SETTING

The Project site is located in the Fremont Valley portion of the California Desert Province's Western Mojave subregion. It is located on the U.S. Geological Survey's (USGS') Galileo Hill 7.5-minute quadrangle (Exhibit 2). Topography on the Project site is generally moderately sloping and undulating. Elevations on the Project site range from approximately 2,700 feet above mean sea level (msl) in the northeast corner to 2,550 feet above msl in the southwest corner. Soils are mapped as Muroc-Randsburg sandy loam, 5 to 9 percent slopes; Neuralia sandy loam, 2 to 5 percent slopes; and Torriorthents-Rock outcrop complex, very deep (Exhibit 3).

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. The Project site is crossed by a network of small off-highway vehicle (OHV) roads. The existing CCCF is located along the western boundary of the Project site; undeveloped open space and dirt roads are located to the north, east, and south.

METHODS

Botanical surveys were floristic in nature and consistent with the protocols created by the California Department of Fish and Wildlife (CDFW) (CDFG 2009). Prior to the 2017 field surveys, a literature search was conducted to identify special status plant species reported from the vicinity of the Project site. Sources reviewed include the USGS Boron, Boron NW, California City North, California City South, Cantil, Galileo Hill, Johannesburg, Mojave NE, North Edwards, Saltdale SE, and Sanborn 7.5-minute quadrangles in the California Native Plant Society's (CNPS') Inventory of Rare and Endangered Plants (CNPS 2017) and the CDFW's California Natural Diversity Database (CNDDB) (CDFW 2017a).

Rainfall received in the winter and spring determines the germination of many annual and perennial herb species. The Mojave Desert is a wedge-shaped basin that experiences precipitation primarily in the winter, with occasional summer thunderstorms. According to the Western Regional Climate Center, the region (data taken from Mojave) received approximately 1.36 inches of precipitation between October 1, 2016 and April 30, 2017; the average precipitation over this time period is 5.34 inches (WRCC 2017). The region has received below average precipitation for 13 consecutive years.

Reference populations were monitored for annual and difficult-to-detect target species to ensure that the surveys were valid. This is especially important during periods of unusual rainfall patterns or below average rainfall. If conditions at a nearby reference population are suitable for germination and growth, then it can be inferred that conditions would also be suitable on the Project site. A population of desert cymopterus (*Cymopterus deserticola*) was monitored at North Edwards on March 28, 2017; the species was detectable at that time. Reference populations were not monitored for species with a California Rare Plant Rank (CRPR) of 3 or 4; perennials (e.g., Mojave fish-hook cactus [*Sclerocactus polyancistrus*]), which would be identifiable throughout the year; or for species with no extant, publicly accessible reference population in the Project region. Based on the reference survey results, the surveys were conducted during a timeframe when the target plant species were observable.

Early spring surveys were not possible in 2016 due to timing of Project initiation. A late spring survey was conducted by Garcia and Associates Botanist Carolyn Chainey-Davis between May 23 and 27, 2016. This survey covered the 215-acre site and the eastern portion of the utility alignment (GANDA 2016). Therefore, the 2017 special status plant surveys were focused on the detection of species that are identifiable in the early spring. The 2017 surveys covered the 215-acre site only; the utility alignment was not included because anticipated utility improvements are expected to be placed entirely within the roadway's existing disturbed footprint.

Surveys were conducted by Psomas Senior Biologist Allison Rudalevige and Botanist Ian Cain on March 29 and 30, 2017; Psomas Senior Biologist Lindsay Messett and Biologist Jonathan Aguayo assisted on March 30, 2017. The total number of person-hours spent was 32.75 hours in 2017. A systematic survey was conducted throughout the Project site by walking transects spaced at approximately 50-foot intervals. All plant species observed were recorded in field notes. Plant species were identified in the field or collected for later identification. Plants were identified using taxonomic keys, descriptions, and illustrations in Jepson Flora Project (2016), Baldwin et al. (2012), Hickman (1993), and Munz (1974) to the taxonomic level necessary to determine whether or not they are a special status species. Nomenclature of plant taxa conform to the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2017b) for special status species and the Jepson eFlora (Jepson Flora Project 2016) for all other taxa.

Any special status plant species observed were mapped and data were collected on the number and phenology of individuals (estimated for large populations), microsite characteristics such as slope, aspect, soil texture, surrounding habitat, and associated species. Representative photographs are included as Attachment A.

It should be noted that a mapping error was discovered following the survey visits; the Project boundary used for the 2016 surveys by Garcia and Associates (GANDA 2016) and the current survey was slightly shifted approximately 100 feet to the north and 120 feet to the west. Once the maps were corrected, it was discovered that an approximate 15-acre area was not surveyed for special status plant species in either 2016 or 2017 (Exhibit 4).

SURVEY RESULTS

Table 1 identifies the special status plants reported from the literature review with their status, their potential to occur on the Project site, and the survey results. Mojave spineflower (*Chorizanthe spinosa*) was observed on the Project site and is discussed further below. A list of all plants observed on the Project site in 2017 is included in Attachment B.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys	
	USFWS	CDFW	CRPR			Surveyed Area	Boundary Shift Area
Calochortus striatus alkali mariposa-lily	—	—	1B.2	Alkaline meadows, moist creosote-bush scrub, chenopod scrub, Mojavean desert scrub, and chaparral; 2,625–4,593 feet above msl. Blooms April–June.	Reported approximately 5 miles southwest of the Project site (CDFW 2017a). No suitable moist alkaline habitat present on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Not expected to occur.
Canbya candida white pygmy-poppy	—	—	4.2	Sandy gravelly, or granitic soils in Joshua tree woodland, pinyon and juniper woodland, and Mojavean desert scrub; 1,969–4,429 feet above msl. Blooms April–May.	Reported approximately 8.5 miles northeast of California City (CCH 2017). Suitable desert scrub habitat present on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.
***Chorizanthe spinosa* Mojave spineflower**	**—**	**—**	**4.2**	**Sandy or gravelly, sometimes alkaline, soil in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas; 1,969–4,265 feet above msl. Blooms April–July.**	**Reported along SR-58 approximately 10 miles south of the Project site (CCH 2017). Suitable desert scrub habitat present on the Project site.**	**Incidentally observed during 2017 burrowing owl survey (Psomas 2017).**	**May occur.**
Cryptantha clokeyi Clokey's cryptantha	—	—	1B.2	Rocky to gravelly slopes and ridge crests in desert woodland and Mojavean desert scrub; 2,789–5,413 feet above msl. Blooms April–May.	Reported approximately 13 miles northeast of the Project site (CDFW 2017a). Suitable rocky habitat in the northern portion of the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Limited potential to occur.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys	
	USFWS	CDFW	CRPR			Surveyed Area	Boundary Shift Area
Cymopterus deserticola desert cymopterus	—	—	1B.2	Sandy soil in Joshua tree woodland and Mojavean desert scrub; 2,297–4,921 feet above msl. Blooms April.	Reported approximately 4.5 miles south of the Project site (CDFW 2017a). Limited amounts of suitable soil on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Limited potential to occur.
Deinandra arida Red Rock tarplant	—	SR	1B.2	Clay and volcanic tuff in Mojavean desert scrub, washes, canyon slopes, and edges of springs and seeps; 1,969–3,281 feet above msl. Blooms April–November.	Reported approximately 10.6 miles northwest of the Project site (CDFW 2017a); known only from the Red Rock Canyon area. Marginally suitable habitat in washes on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Very limited potential to occur.
Deinandra mohavensis Mojave tarplant	—	SE	1B.3	Moist sites in openings of chaparral, desert scrub, woodland, coastal scrub, and riparian scrub; 1,509–5,249 feet above msl. Blooms May–June.	Reported approximately 12.5 miles northwest of the Project site (CDFW 2017a). No suitable moist habitat on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Not expected to occur.
Delphinium recurvatum recurved larkspur	—	—	1B.2	Poorly drained, fine, alkaline soils in grassland, chenopod scrub, and cismontane woodland; 98–1,969 feet above msl. Blooms March–June.	Reported approximately 13.5 miles south and southeast of the Project site (CDFW 2017a). No suitable alkaline soils on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Not expected to occur.
Eremothera boothii ssp. *boothii* Booth's evening-primrose	—	—	2B.3	Sandy flats, steep loose slopes of Joshua tree and pinyon/juniper woodland; 2,953–7,874 feet above msl. Blooms June–August.	Reported approximately 15 miles east of the Project site (CCH 2017). No suitable woodlands on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Not expected to occur.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys	
	USFWS	CDFW	CRPR			Surveyed Area	Boundary Shift Area
Eriophyllum mohavense Barstow woolly sunflower	—	—	1B.2	Creosote-bush scrub, chenopod scrub, and playas; 1,640–2,625 feet above msl. Blooms April–May.	Reported approximately 6 miles southwest of the Project site (CDFW 2017a). Suitable habitat throughout the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.
Erythranthe rhodopetra Red Rock Canyon monkeyflower	—	—	1B.1	Sandy canyon washes in Mojavean desert scrub; 2,001–3,002 feet above msl. Blooms March–April.	Reported approximately 12 miles northwest of the Project site (CDFW 2017a); known only from the El Paso Mountains (CNPS 2017). Suitable habitat on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Very limited potential to occur.
Eschscholzia minutiflora ssp. *twisselmannii* Red Rock poppy	—	—	1B.2	Volcanic tuff in Mojavean desert scrub; 2,231–4,035 feet above msl. Blooms March–May.	Reported approximately 10 miles northeast of the Project site (CDFW 2017a); known only from the Rand and El Paso Mountains (CNPS 2017). No suitable soils on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Not expected to occur.
Goodmania luteola golden goodmania	—	—	4.2	Clay or alkaline soil in Mojavean desert scrub, grassland, playas, meadows, and seeps; 230–7,218 feet above msl. Blooms April–August.	Reported approximately 10 miles south of the Project site (CCH 2017). No suitable soils on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Not expected to occur.
Loeflingia squarrosa var. *artemisiarum* sagebrush loeflingia	—	—	2B.2	Sandy soil in desert dunes, Great Basin scrub, and Sonoran desert scrub; 2,297–5,299 feet above msl. Blooms April–May.	Reported approximately 14 miles south of the Project site (CDFW 2017a). Limited amounts of suitable soil on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	Limited potential to occur.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys	
	USFWS	CDFW	CRPR			Surveyed Area	Boundary Shift Area
Mentzelia eremophila solitary blazing star	—	—	4.2	Canyons, rocky slopes and washes in creosote bush scrub and roadsides; 1,969–4,101 feet above msl. Blooms March–May.	Reported approximately 9 miles south of the Project site (CCH 2017). Suitable habitat present on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.
Mentzelia tridentata creamy blazing star	—	—	1B.3	Rocky, gravelly, or sandy soil in creosote-bush scrub; 2,297–4,265 feet above msl. Blooms April–May.	Reported approximately 14 miles north of the Project site (CDFW 2017a). Suitable habitat present on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.
Muilla coronata crowned muilla	—	—	4.2	Open desert and woodland in chenopod scrub, Mojavean desert scrub, Joshua tree woodland, and pinyon and juniper woodland; 3,281–5,249 feet above msl. Blooms March–April.	Reported approximately 13.5 miles south of the Project site (CCH 2017). Suitable habitat present on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.
Nemacladus gracilis graceful nemacladus	—	—	4.3	Rocky or gravelly slopes and sandy washes in cismontane woodland and grassland; 0–6,234 feet above msl. Blooms March–April.	Reported approximately 14.5 miles southeast of the Project site (CCH 2017). Suitable habitat on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.
Phacelia nashiana Charlotte's phacelia	—	—	1B.2	Granitic, rocky, and sandy soils in Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; 0–7,874 feet above msl. Blooms February–June.	Reported approximately 7.5 miles west of the Project site (CDFW 2017a). Suitable habitat on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys	
	USFWS	CDFW	CRPR			Surveyed Area	Boundary Shift Area
Sclerocactus polyancistrus Mojave fish-hook cactus	—	—	4.2	Limestone soils in hills, canyons, and alluvial slopes in creosote-bush scrub, Great Basin scrub, and Joshua tree woodland; 2,461–6,890 feet above msl. Blooms April–June.	Reported approximately 15 miles north of the Project site (CCH 2017). Suitable habitat on the Project site.	Not expected to occur; not observed during 2016 late spring or 2017 early spring surveys.	May occur.

USFWS: U.S. Fish and Wildlife Service; CDFW: California Department of Fish and Wildlife; CRPR: California Rare Plant Rank; msl: mean sea level; SR: State Route.

LEGEND:

Federal (USFWS)
FE Endangered

State (CDFW)
SR Rare
SE Endangered

CRPR
1B Plants Rare, Threatened, or Endangered in California and elsewhere
2B Plants Rare, Threatened, or Endangered in California but more common elsewhere
4 Plants of limited distribution – A Watch List

CRPR Threat Code Extensions
.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
.2 Fairly threatened in California (20–80% of occurrences threatened; moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known)

Species that were observed on the Project site are shown in **boldface type**.

Mojave Spineflower

Mojave spineflower has a CRPR of 4.2. This annual herb typically blooms between April and July. This species occurs in sandy, gravelly, or sometimes alkaline soil in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas (Jepson Flora Project 2016; CNPS 2017). It is known from the Caliente Range of the southern Inner South Coast Ranges and the western Mojave Desert (Jepson Flora Project 2016). The nearest reported location is along State Route (SR) 58 in North Edwards, approximately ten miles south of the Project site (CCH 2017).

This species was incidentally observed during focused burrowing owl surveys on May 10, 2017 (Psomas 2017). Three individuals were observed near the southern edge of the Project site in creosote bush–white bursage scrub vegetation (Exhibit 4). The plants were in sandy loam soil and were associated with creosote bush (*Larrea tridentata*), common goldfields (*Lasthenia gracilis*), and desert fiddleneck (*Amsinckia tessellata* var. *tessellata*). A voucher specimen was collected for identification and will be deposited in the herbarium at Rancho Santa Ana Botanic Garden.

This observation was during a wildlife survey and was not the focus of that survey effort. Biologists surveying for burrowing owl may not be looking at plants and/or they may not know Mojave spineflower and therefore would be unable to detect it. Because there was no late spring plant survey in 2017 and because this species may not have been detectable on the Project site in 2016, there may be additional Mojave spineflower locations on the Project site. However, it is assumed to be a relatively low number of additional individuals because it was not detected in more locations during the 2016 late spring plant surveys, nor was it incidentally detected in more locations by Biologists walking transects to search for burrowing owl.

CONCLUSIONS

As discussed above, a small population of Mojave spineflower was observed on the 215-acre site. Given that the species was incidentally observed during a survey visit not targeted at plant species, it is unknown how many individuals are present on the Project site and the total number present cannot be reliably quantified without additional late spring plant surveys in future years. However, given the status of the species (CRPR 4.2) and the presence of other populations in the Project region, it is anticipated that the impacts, even if a larger population were affected, would be adverse but less than significant.

There is a 15-acre portion of the Project site that has not been surveyed for special status plant species by either GANDA or Psomas. Therefore, an additional early and late spring survey are recommended in order to determine whether special status plant species occur in that portion of the Project site. It should be noted that the area not surveyed due to the mapping error represents only seven percent of the Project site; therefore, even without results for this area, Project impacts can generally be assessed. Additionally, if any special status plant locations are observed in this area during future surveys, the Project could attempt to avoid or minimize impacts on them since they are at the edge of the Project site.

Although reference populations and regional rainfall amounts were monitored to ensure the scientific adequacy of these focused surveys, there is always a minimal potential for false negative survey results as species could possibly be present on a site but may not be detectable at the time of the surveys.

If you have any comments or questions, please call Amber Heredia at (714) 751-7373.

Sincerely,
PSOMAS

Amber O. Heredia
Senior Project Manager

Allison D. Rudalevige
Senior Biologist

Enclosures: Exhibit 1 – Project Location
Exhibit 2 – USGS 7.5-Minute Digital Quadrangle
Exhibit 3 – Soil Types
Exhibit 4 – Special Status Species Location
Attachment A – Representative Photographs
Attachment B – Plant Compendium

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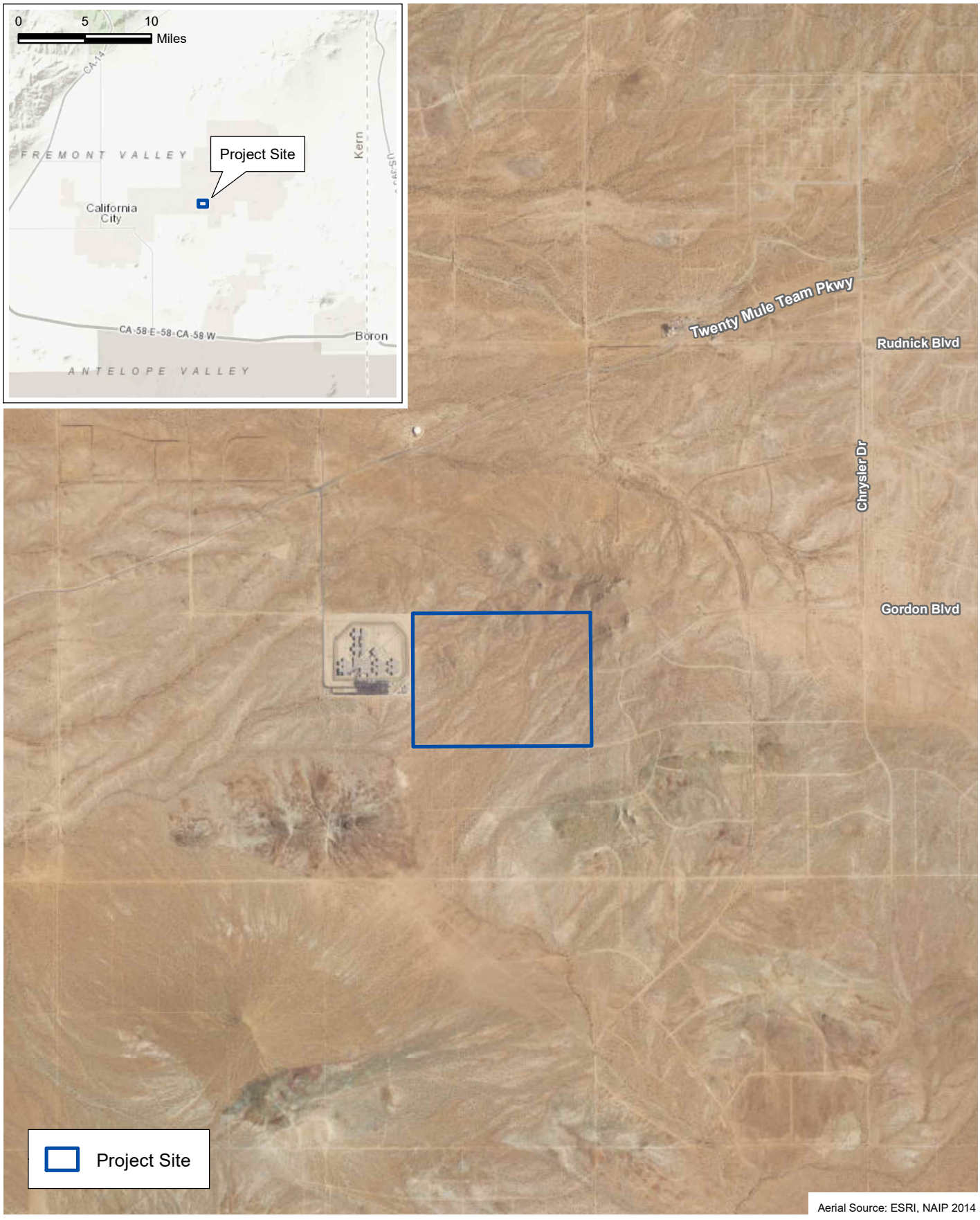

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Project Location

Exhibit 1

Correctional Development Facility at California City (CDFCC)

N W E S

0.5 0.25 0 0.5 Miles

PSOMAS

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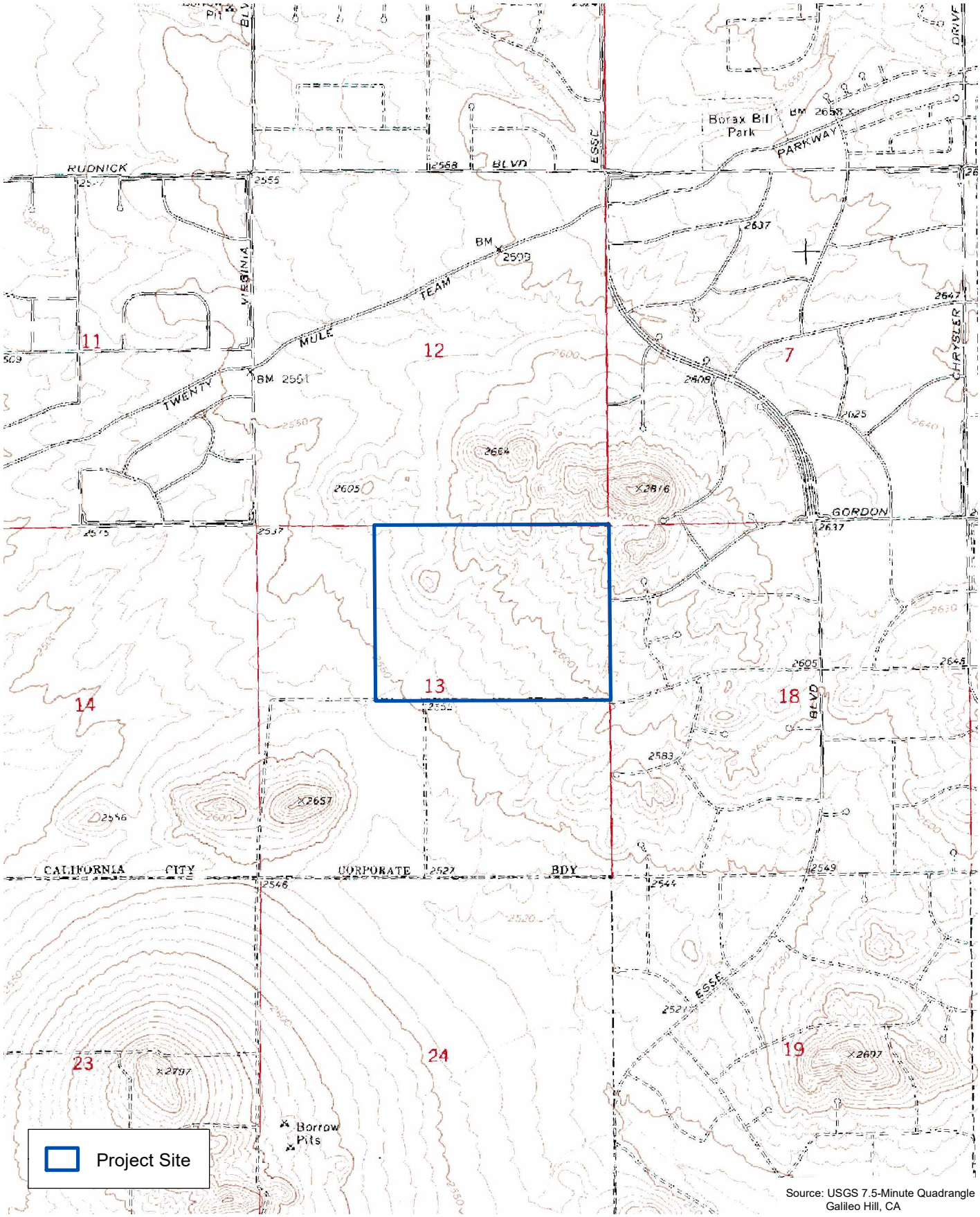

Source: USGS 7.5-Minute Quadrangle
Galileo Hill, CA

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USGS 7.5-Minute Digital Quadrangle

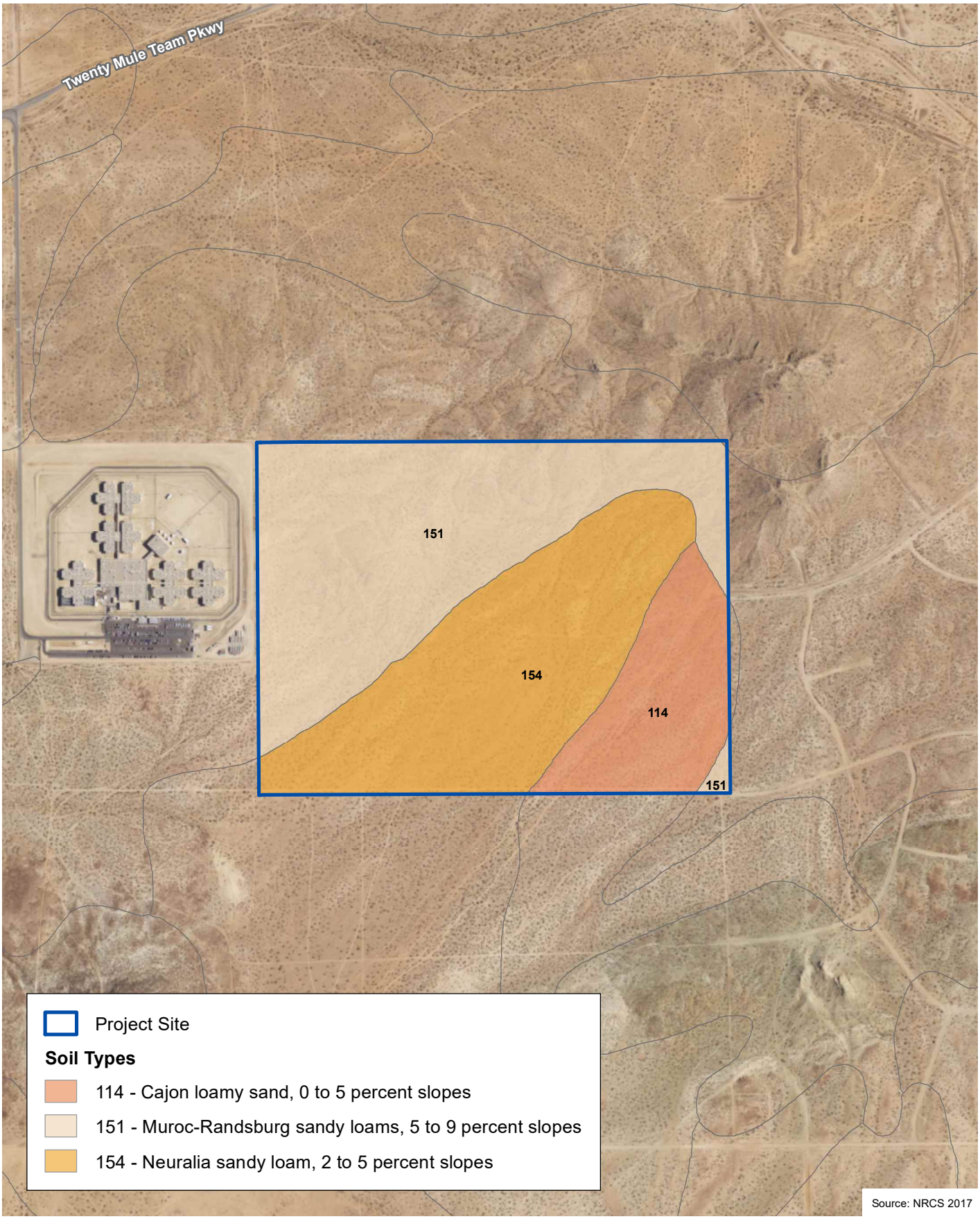
Exhibit 2

Correctional Development Facility at California City (CDFCC)

N
W E
S

2,000 1,000 0 2,000 Feet

PSOMAS



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Soil Types

Exhibit 3

Correctional Development Facility at California City (CDFCC)

N W E S

1,000 500 0 1,000 Feet

PSOMAS

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Source: USGS 7.5-Minute Quadrangle
Galileo Hill, CA

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Special Status Species Locaion

Exhibit 4

Correctional Development Facility at California City (CDFCC)

N
W E
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600 300 0 600
Feet

PSOMAS

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ATTACHMENT A

REPRESENTATIVE PHOTOGRAPHS

Photo 1: Mojave spineflower voucher specimen collected from the Project site.

Photo 2: Representative photograph of habitat on the Project site.

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Site Photographs

Attachment A

Correctional Development Facility at California City (CDFCC)

PSOMAS

ATTACHMENT B

PLANT COMPENDIUM

PLANTS OBSERVED ON THE PROJECT SITE IN 2017

Species	
Scientific Name	**Common Name**
EUDICOTS	
APIACEAE – CARROT FAMILY	
Lomatium mohavense	Mojave lomatium
ASTERACEAE – SUNFLOWER FAMILY	
Acamptopappus sphaerocephalus var. sphaerocephalus	rayless goldenhead
Ambrosia dumosa	white bur-sage
Ambrosia salsola var. *salsola*	common burrobrush
Chaenactis fremontii	Fremont pincushion
Ericameria nauseosa var. *hololeuca*	white rabbitbrush
Eriophyllum wallacei	Wallace's woolly sunflower
Lasthenia gracilis	common goldfields
Leptosyne calliopsidea	calliopsis-like tickseed
Malacothrix coulteri	snake's-head
Rafinesquia californica	California chicory
Stephanomeria pauciflora	wire-lettuce
Tetradymia axillaris	axillary cottonthorn
Xylorhiza tortifolia var. *tortifolia*	Mojave-aster
BORAGINACEAE – BORAGE FAMILY	
Amsinckia tessellata var. *tessellata*	desert fiddleneck
Cryptantha nevadensis var. *nevadensis*	Nevada cryptantha
Cryptantha pterocarya var. *pterocarya*	winged-nut cryptantha
Pectocarya linearis ssp. *ferocula*	narrow-toothed pectocarya
Pectocarya platycarpa	wide-toothed pectocarya
Pectocarya setosa	round-nut pectocarya
Phacelia fremontii	Fremont's phacelia
Phacelia tanacetifolia	lacy phacelia
BRASSICACEAE – MUSTARD FAMILY	
Caulanthus inflatus	desert candle
Caulanthus lasiophyllus	California mustard
Lepidium flavum	yellow peppergrass
Lepidium nitidum	shining peppergrass
*Sisymbrium irio**	London rocket
Tropidocarpum gracile	slender tropidocarpum
CACTACEAE – CACTUS FAMILY	
Cylindropuntia echinocarpa	silver cholla
Ferocactus cylindraceus	California barrel cactus
CHENOPODIACEAE – GOOSEFOOT FAMILY	
Grayia spinosa	thorny hop-sage
EUPHORBIACEAE – SPURGE FAMILY	
Euphorbia albomarginata	rattlesnake sandmat
FABACEAE – LEGUME FAMILY	
Acmispon strigosus	strigose deervetch
Astragalus didymocarpus var. *dispermus*	paired two-seeded milkvetch
Astragalus layneae	Layne milkvetch

PLANTS OBSERVED ON THE PROJECT SITE IN 2017

Species	
Scientific Name	**Common Name**
Lupinus microcarpus var. *horizontalis*	plane chick lupine
Lupinus shockleyi	desert lupine
GERANIACEAE – GERANIUM FAMILY	
*Erodium cicutarium**	redstem filaree
LOASACEAE – BLAZING STAR FAMILY	
Mentzelia affinis	similar blazing star
NYCTAGINACEAE – FOUR O'CLOCK FAMILY	
Mirabilis laevis var. *retrorsa*	reflexed smooth four o'clock
ONAGRACEAE – EVENING PRIMROSE FAMILY	
Camissonia campestris ssp. *campestris*	field sun cup
Chylismia claviformis ssp. *claviformis*	club-shaped chylismia
Tetrapteron palmeri	Palmer's tetrapteron
PAPAVERACEAE – POPPY FAMILY	
Eschscholzia minutiflora	minute-flowered eschscholzia
PLANTAGINACEAE – PLANTAIN FAMILY	
Plantago ovata var. *fastigiata*	tall ovate plantain
POLEMONIACEAE – PHLOX FAMILY	
Gilia brecciarum ssp. *brecciarum*	break gilia
Linanthus bigelovii	Bigelow's linanthus
Linanthus dichotomus	evening snow
Linanthus parryae	Parry's linanthus
Loeseliastrum matthewsii	desert calico
POLYGONACEAE – BUCKWHEAT FAMILY	
Chorizanthe brevicornu var. *brevicornu*	brittle spineflower
Chorizanthe rigida	devil's spineflower
Chorizanthe spinosa	Mojave spineflower
Eriogonum angulosum	angle-stem wild buckwheat
Eriogonum fasciculatum var. *polifolium*	Mojave Desert California buckwheat
Eriogonum inflatum	desert trumpet
SOLANACEAE – NIGHTSHADE FAMILY	
Lycium andersonii	Anderson's box-thorn
ZYGOPHYLLACEAE – CALTROP FAMILY	
Larrea tridentata	creosote bush
MONOCOTS	
POACEAE – GRASS FAMILY	
Bromus madritensis ssp. *rubens**	red brome
*Poa annua**	annual blue grass
*Schismus barbatus**	barbed Mediterranean grass
Stipa speciosa	desert needle grass
THEMIDACEAE – BRODIAEA FAMILY	
Dichelostemma capitatum ssp. *capitatum*	blue dicks
* non-native species	

July 20, 2020

Mr. Brad Wiggins
CoreCivic
10 Burton Hills Boulevard
Nashville, Tennessee 37215

VIA EMAIL
brad.wiggins@corecivic.com

Subject: Results of 2020 Special Status Plant Survey for the Correctional Facility at California City in Kern County, California

Dear Mr. Wiggins:

This Letter Report presents the findings of special status plant surveys conducted in 2020 for the Correctional Facility at California City (hereinafter referred to as "the Project") located in Kern County, California. The purpose of the surveys was to determine the presence or absence of special status plant species on the 215-acre Project site. Portions of the site were previously surveyed in 2016 (GANDA 2016), 2017 (Psomas 2017), 2018, and 2019 (Psomas 2020). The 2020 special status plant survey represents the first year the entire Project site has been surveyed throughout the blooming periods for all special status plants in the same year.

PROJECT LOCATION AND DESCRIPTION

The Project is located in California City in Kern County, California (Exhibit 1). The main Project area consists of a 215-acre property adjacent to the existing California City Correctional Facility (CCCF). Off-site areas include an approximate ten-mile-long proposed utility alignment, which generally runs from an existing water tank to the north of the Project site, along Twenty Mule Team Parkway and along Mendiburu Road to Yerba Boulevard; it includes connections through the adjacent existing CCCF via Virginia Boulevard, Gordon Boulevard, and 145th Street. These off-site utility improvements are planned to be within the existing road rights-of-way; therefore, the special status plant survey included only the 215-acre property.

CoreCivic proposes to construct two separate but adjacent, one-level correctional facilities with a total of 3,024 beds on the Project site. The Project would include a shared administration building and common parking area. The Project site would be improved to include an approximate 159-acre building pad to accommodate the facilities and structures described above; manufactured slopes with ancillary drainage improvements would be located along the perimeter of the building pad. A series of five retention basins would be located along the length of the western site boundary to accommodate surface water runoff from the rest of the site. No improvements are proposed for the City's road rights-of-way located along the northern, southern, or eastern edges of the 215-acre Project site. A new private two-lane road would provide access to the parking lot and the Project site along the alignment of Gordon Boulevard; it would start from Virginia Boulevard and connect to the northwestern corner of the Project site.

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Santa Ana, CA 92707

Tel 714.751.7373
Fax 714.545.8883
www.Psomas.com

ENVIRONMENTAL SETTING

The Project site is located in the Fremont Valley portion of the California Desert Province's Western Mojave subregion. It is located on the U.S. Geological Survey's (USGS') Galileo Hill 7.5-minute quadrangle (Exhibit 2). Topography on the Project site is generally moderately sloping and undulating. Elevations on the Project site range from approximately 2,700 feet above mean sea level (msl) in the northeast corner to 2,550 feet above msl in the southwest corner. Soils are mapped as Muroc-Randsburg sandy loam, 5 to 9 percent slopes; Neuralia sandy loam, 2 to 5 percent slopes; and Torriorthents-Rock outcrop complex, very deep (Exhibit 3).

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. Sheep grazing has occurred throughout the Project site. The Project site is crossed by a network of small off-highway vehicle (OHV) roads. The existing CCCF is located along the western boundary of the Project site; undeveloped open space and dirt roads are located to the north, east, and south.

METHODS

Botanical surveys were floristic in nature and consistent with the protocols created by the California Department of Fish and Wildlife (CDFW 2018). Prior to the 2020 field surveys, the 2017 literature search was updated to identify special status plant species reported from the vicinity of the Project site. Sources reviewed include the USGS Boron, Boron NW, California City North, California City South, Cantil, Galileo Hill, Johannesburg, Mojave NE, North Edwards, Saltdale SE, and Sanborn 7.5-minute quadrangles in the California Native Plant Society's (CNPS') Inventory of Rare and Endangered Plants (CNPS 2020) and the CDFW's California Natural Diversity Database (CNDDB) (CDFW 2020a).

Rainfall received in the winter and spring determines the germination of many annual and perennial herb species. The Mojave Desert is a wedge-shaped basin that experiences precipitation primarily in the winter, with occasional summer thunderstorms. According to the National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service Forecast Office (data reported from nearby Lancaster, California), the region received approximately 10.64 inches of precipitation between October 1, 2019 and April 30, 2020; the average precipitation over this time period is 6.90 inches (NOAA 2020). Prior to this, the region had received below-average precipitation for 13 consecutive years.

Reference populations of species with potential to occur on the Project site were monitored for annual and difficult-to-detect target species to ensure that the surveys were valid. This is especially important during periods of unusual rainfall patterns or below average rainfall. If conditions at a nearby reference population are suitable for germination and growth, then it can be inferred that conditions would also be suitable on the Project site. Populations of desert cymopterus (*Cymopterus deserticola*) and Barstow woolly sunflower (*Eriophyllum mohavense*) were monitored at a reference site near Hinkley on March 22, 2020; both species were blooming at that time. Reference populations were not monitored for species with a California Rare Plant Rank (CRPR) of 3 or 4; perennial species (e.g., Mojave fish-hook cactus [*Sclerocactus polyancistrus*]) that would be identifiable throughout the year; or for species with no extant, publicly-accessible reference population in the Project region. Based on the reference survey results, the surveys were conducted during a timeframe when the target plant species were observable.

Surveys were conducted by Psomas Senior Biologist Allison Rudalevige and Biologist Sarah Thomas on March 31, April 2, May 22, and May 26, 2020. The total number of person-hours spent was 51.5 hours. A systematic survey was conducted throughout the Project site by walking transects spaced at approximately 50-foot intervals. All plant species observed were recorded in field notes. Plant species were identified in the field or collected for later identification. Plants were identified using taxonomic keys, descriptions, and illustrations in Jepson Flora Project (2019), Baldwin et al. (2012), Hickman

(1993), and Munz (1974) to the taxonomic level necessary to determine whether or not they are a special status species. Nomenclature of plant taxa conform to the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2020b) for special status species and the Jepson eFlora (Jepson Flora Project 2019) for all other taxa.

Any special status plant species observed would be mapped and data would be collected on the number and phenology of individuals (estimated for large populations), microsite characteristics such as slope, aspect, soil texture, surrounding habitat, and associated species.

SURVEY RESULTS

Table 1 identifies the special status plants reported from the literature review with their status, their potential to occur on the Project site, and the survey results. No special status plant species were observed during the 2020 surveys. Mojave spineflower (*Chorizanthe spinosa*) was observed on the Project site in 2017 and is discussed further below. A list of all plants observed on the Project site in 2020 is included in Attachment A.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys
	USFWS	CDFW	CRPR			
Calochortus striatus alkali mariposa-lily	—	—	1B.2	Alkaline meadows, moist creosote-bush scrub, chenopod scrub, Mojavean desert scrub, and chaparral; 2,625–4,593 feet above msl. Blooms April–June.	Reported approximately 5 miles southwest of the Project site (CDFW 2020a). No suitable moist alkaline habitat present on the Project site.	Not expected to occur based on lack of suitable habitat (moist alkaline soils). Not observed during 2020 surveys.
Canbya candida white pygmy-poppy	—	—	4.2	Sandy gravelly, or granitic soils in Joshua tree woodland, pinyon and juniper woodland, and Mojavean desert scrub; 1,969–4,429 feet above msl. Blooms April–May.	Reported approximately 4.5 miles north of the Project site (CCH 2020). Suitable desert scrub habitat present on the Project site.	Not expected to occur; not observed during 2020 surveys.
***Chorizanthe spinosa* Mojave spineflower**	**—**	**—**	**4.2**	**Sandy or gravelly, sometimes alkaline, soil in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas; 1,969–4,265 feet above msl. Blooms April–July.**	**Reported along SR-58 approximately 10 miles south of the Project site (CCH 2020). Suitable desert scrub habitat present on the Project site.**	**Incidentally observed during 2017 burrowing owl survey (Psomas 2017). Not observed during 2020 surveys.**
Cryptantha clokeyi Clokey's cryptantha	—	—	1B.2	Rocky to gravelly slopes and ridge crests in desert woodland and Mojavean desert scrub; 2,789–5,413 feet above msl. Blooms April–May.	Reported approximately 13 miles northeast of the Project site (CDFW 2020a). Suitable rocky habitat in the northern portion of the Project site.	Not expected to occur; not observed during 2020 surveys.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys
	USFWS	CDFW	CRPR			
Cymopterus deserticola desert cymopterus	—	—	1B.2	Sandy soil in Joshua tree woodland and Mojavean desert scrub; 2,297–4,921 feet above msl. Blooms April.	Reported approximately 4.5 miles south of the Project site (CDFW 2020a). Limited amounts of suitable soil on the Project site.	Not expected to occur; not observed during 2020 surveys.
Deinandra arida Red Rock tarplant	—	SR	1B.2	Clay and volcanic tuff in Mojavean desert scrub, washes, canyon slopes, and edges of springs and seeps; 1,969–3,281 feet above msl. Blooms April–November.	Reported approximately 10.6 miles northwest of the Project site (CDFW 2020a); known only from the Red Rock Canyon area. Marginally suitable habitat in washes on the Project site.	Not expected to occur; not observed during 2020 surveys.
Deinandra mohavensis Mojave tarplant	—	SE	1B.3	Moist sites in openings of chaparral, desert scrub, woodland, coastal scrub, and riparian scrub; 1,509–5,249 feet above msl. Blooms May–June.	Reported approximately 12.5 miles northwest of the Project site (CDFW 2020a). No suitable moist habitat on the Project site.	Not expected to occur based on lack of suitable habitat (moist habitat). Not observed during 2020 surveys.
Delphinium recurvatum recurved larkspur	—	—	1B.2	Poorly drained, fine, alkaline soils in grassland, chenopod scrub, and cismontane woodland; 98–1,969 feet above msl. Blooms March–June.	Reported approximately 13.5 miles south and southeast of the Project site (CDFW 2020a). No suitable alkaline soils on the Project site.	Not expected to occur based on lack of suitable habitat (alkaline soils). Not observed during 2020 surveys.
Dudleya abramsii ssp. *calcicola* limestone dudleya	—	—	4.3	Carbonate soils in chaparral and pinyon and juniper woodland; 1,640–8,530 feet above msl. Blooms April–August.	Reported approximately 14 miles northwest of the Project Site (CCH 2020). No suitable habitat on the Project site.	Not expected to occur based on lack of suitable habitat. Not observed during 2020 surveys.
Eremothera boothii ssp. *boothii* Booth's evening-primrose	—	—	2B.3	Sandy flats, steep loose slopes of Joshua tree and pinyon/juniper woodland; 2,953–7,874 feet above msl. Blooms June–August.	Reported approximately 15 miles east of the Project site (CCH 2020). No suitable woodlands on the Project site.	Not expected to occur based on lack of suitable habitat (woodlands). Not observed during 2020 surveys.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys
	USFWS	CDFW	CRPR			
Eriophyllum mohavense Barstow woolly sunflower	—	—	1B.2	Creosote-bush scrub, chenopod scrub, and playas; 1,640–2,625 feet above msl. Blooms April–May.	Reported approximately 6 miles southwest of the Project site (CDFW 2020a). Suitable habitat throughout the Project site.	Not expected to occur; not observed during 2020 surveys.
Erythranthe rhodopetra Red Rock Canyon monkeyflower	—	—	1B.1	Sandy canyon washes in Mojavean desert scrub; 2,001–3,002 feet above msl. Blooms March–April.	Reported approximately 12 miles northwest of the Project site (CDFW 2020a); known only from the El Paso Mountains (CNPS 2020). Suitable habitat on the Project site.	Not expected to occur; not observed during 2020 surveys.
Eschscholzia minutiflora ssp. *twisselmannii* Red Rock poppy*	—	—	1B.2	Volcanic tuff in Mojavean desert scrub; 2,231–4,035 feet above msl. Blooms March–May.	Reported approximately 10 miles northeast of the Project site (CDFW 2020a); known only from the Rand and El Paso Mountains (CNPS 2020). No suitable soils on the Project site.	Not expected to occur based on lack of suitable habitat (volcanic soils). Not observed during 2020 surveys.
Euphorbia vallis-mortae Death Valley sandmat	—	—	4.2	Sandy or gravelly soil in Mojavean desert scrub; 755–4,790 feet above msl. Blooms May–October.	Reported approximately 1 mile north of the Project Site (CCH 2020). Suitable habitat on the Project site.	Not expected to occur; not observed during 2020 surveys.
Goodmania luteola golden goodmania	—	—	4.2	Clay or alkaline soil in Mojavean desert scrub, grassland, playas, meadows, and seeps; 230–7,218 feet above msl. Blooms April–August.	Reported approximately 10 miles south of the Project site (CCH 2020). No suitable soils on the Project site.	Not expected to occur based on lack of suitable habitat (clay or alkaline soils). Not observed during 2020 surveys.
Loeflingia squarrosa var. *artemisiarum* sagebrush Loeflingia*	—	—	2B.2	Sandy soil in desert dunes, Great Basin scrub, and Sonoran desert scrub; 2,297–5,299 feet above msl. Blooms April–May.	Reported approximately 14 miles south of the Project site (CDFW 2020a). Limited amounts of suitable soil on the Project site.	Not expected to occur; not observed during 2020 surveys.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys
	USFWS	CDFW	CRPR			
Mentzelia eremophila solitary blazing star	—	—	4.2	Canyons, rocky slopes and washes in creosote bush scrub and roadsides; 1,969–4,101 feet above msl. Blooms March–May.	Reported approximately 9 miles south of the Project site (CCH 2020). Suitable habitat present on the Project site.	Not expected to occur; not observed during 2020 surveys.
Mentzelia tridentata creamy blazing star	—	—	1B.3	Rocky, gravelly, or sandy soil in creosote-bush scrub; 2,297–4,265 feet above msl. Blooms April–May.	Reported approximately 14 miles north of the Project site (CDFW 2020a). Suitable habitat present on the Project site.	Not expected to occur; not observed during 2020 surveys.
Muilla coronata crowned muilla	—	—	4.2	Open desert and woodland in chenopod scrub, Mojavean desert scrub, Joshua tree woodland, and pinyon and juniper woodland; 3,281–5,249 feet above msl. Blooms March–April.	Reported approximately 13.5 miles south of the Project site (CCH 2020). Suitable habitat present on the Project site.	Not expected to occur; not observed during 2020 surveys.
Nemacladus gracilis graceful nemacladus	—	—	4.3	Rocky or gravelly slopes and sandy washes in cismontane woodland and grassland; 0–6,234 feet above msl. Blooms March–April.	Reported approximately 14.5 miles southeast of the Project site (CCH 2020). Suitable habitat on the Project site.	Not expected to occur; not observed during 2020 surveys.
Phacelia nashiana Charlotte's phacelia	—	—	1B.2	Granitic, rocky, and sandy soils in Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; 0–7,874 feet above msl. Blooms February–June.	Reported approximately 7.5 miles west of the Project site (CDFW 2020a). Suitable habitat on the Project site.	Not expected to occur; not observed during 2020 surveys.

TABLE 1
SPECIAL STATUS PLANT SPECIES REPORTED
FROM THE PROJECT SITE VICINITY

Species	Status			Species Background	Nearest Reported Location/Habitat Suitability on the Project Site	Potential to Occur/Results of Focused Surveys
	USFWS	CDFW	CRPR			
Sclerocactus polyancistrus Mojave fish-hook cactus	—	—	4.2	Limestone soils in hills, canyons, and alluvial slopes in creosote-bush scrub, Great Basin scrub, and Joshua tree woodland; 2,461–6,890 feet above msl. Blooms April–June.	Reported approximately 15 miles north of the Project site (CCH 2020). Suitable habitat on the Project site.	Not expected to occur; not observed during 2020 surveys.

USFWS: U.S. Fish and Wildlife Service; CDFW: California Department of Fish and Wildlife; CRPR: California Rare Plant Rank; msl: mean sea level; SR: State Route.

LEGEND:

Federal (USFWS)
FE Endangered

State (CDFW)
SR Rare
SE Endangered

CRPR
1B Plants Rare, Threatened, or Endangered in California and elsewhere
2B Plants Rare, Threatened, or Endangered in California but more common elsewhere
4 Plants of limited distribution – A Watch List

CRPR Threat Code Extensions
.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
.2 Fairly threatened in California (20–80% of occurrences threatened; moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known)

Species that were observed on the Project site are shown in **boldface type**.

* Subspecies/variety not currently recognized by the Jepson Flora Project (2019).

Mojave Spineflower

Mojave spineflower has a CRPR of 4.2. This annual herb typically blooms between April and July. This species occurs in sandy, gravelly, or sometimes alkaline soil in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas (Jepson Flora Project 2019; CNPS 2020). It is known from the Caliente Range of the southern Inner South Coast Ranges and the western Mojave Desert (Jepson Flora Project 2019). The nearest reported location is along State Route (SR) 58 in North Edwards, approximately 10 miles south of the Project site (CCH 2020).

This species was incidentally observed during focused burrowing owl surveys on May 10, 2017 (Psomas 2017). Three individuals were observed near the southern edge of the Project site in creosote bush–white bursage scrub vegetation. The plants were in sandy loam soil and were associated with creosote bush (*Larrea tridentata*), common goldfields (*Lasthenia gracilis*), and desert fiddleneck (*Amsinckia tessellata* var. *tessellata*).

This observation was made during a wildlife survey and was incidental to that survey effort. Biologists surveying for burrowing owl were not focusing on plants and/or may not know Mojave spineflower and therefore would be unable to detect it. At the time of the observation in 2017, it was hypothesized that additional Mojave spineflower locations may be present on the Project site because there was no late spring plant survey in 2017 to document the extent of the population during the peak of its blooming. However, given that this species was not observed during 2016 late spring surveys nor during 2020 surveys, it is assumed that the Project site supports a relatively small number of individuals.

CONCLUSIONS

As discussed above, a small population of Mojave spineflower was observed on the 215-acre Project site during 2017 burrowing owl surveys. Given the low number of individuals incidentally observed during 2017 and the lack of individuals observed in 2016 and 2020, it is assumed that the Project site supports a relatively low population size of this species. Given the status of the species (CRPR 4.2) and the presence of other populations in the Project region, the loss of this small population would be considered adverse but less than significant.

Although reference populations and regional rainfall amounts were monitored to ensure the scientific adequacy of these focused surveys, there is always a minimal potential for false negative survey results as species could possibly be present on a site but may not be detectable at the time of the surveys.

If you have any comments or questions, please contact Amber Heredia at Amber.Heredia@psomas.com or 714.751.8049.

Sincerely,
PSOMAS

Amber O. Heredia
Senior Project Manager

Allison D. Rudalevige
Senior Biologist

Enclosures: Exhibit 1 – Project Location
Exhibit 2 – USGS 7.5-Minute Digital Quadrangle
Exhibit 3 – Soil Types
Attachment A – Representative Photos
Attachment B – Plant Compendium

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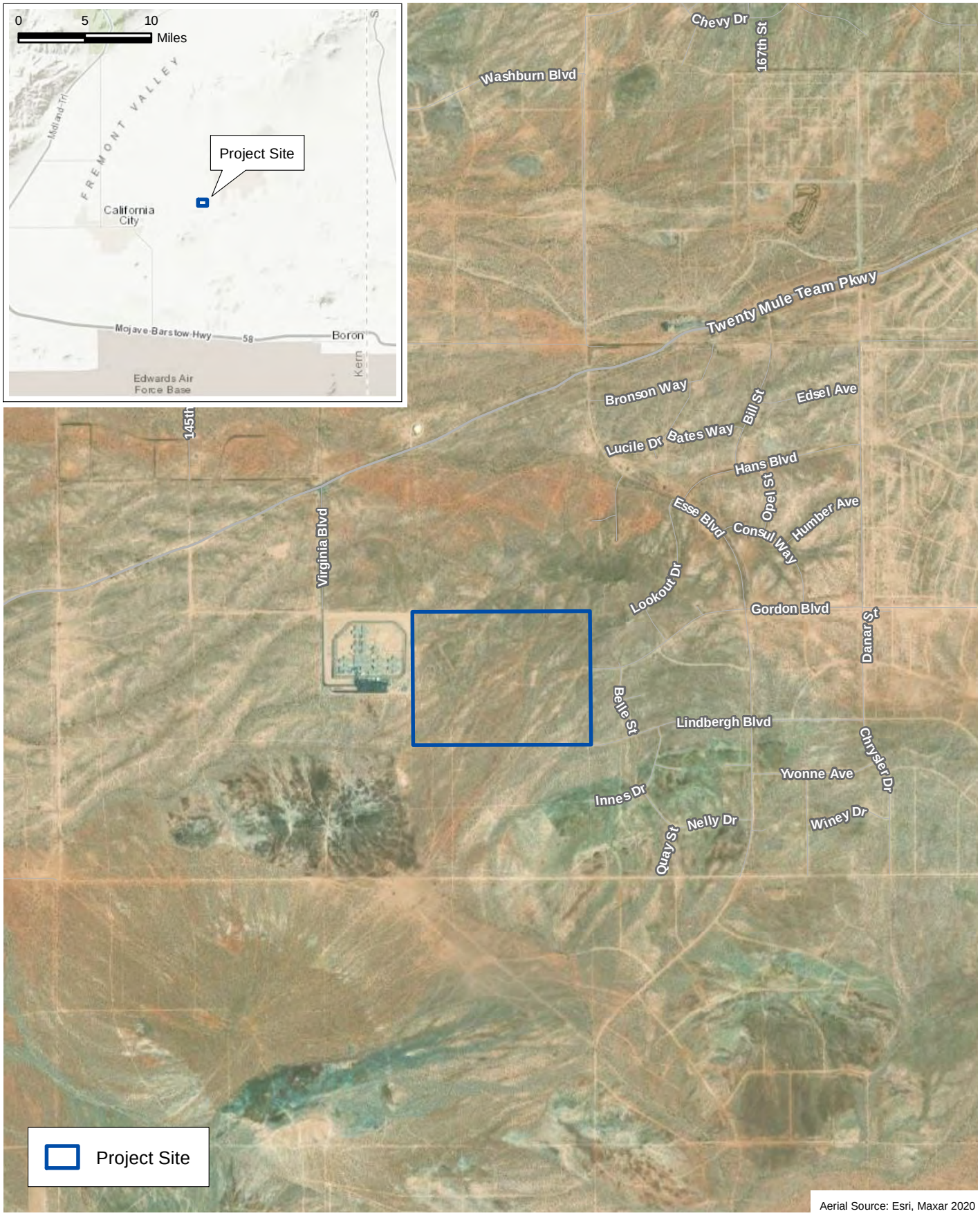

Aerial Source: Esri, Maxar 2020

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Project Location

Exhibit 1

Correctional Facility at California City (CFCC)

N
W
E
S

0.5 0.25 0 0.5 Miles

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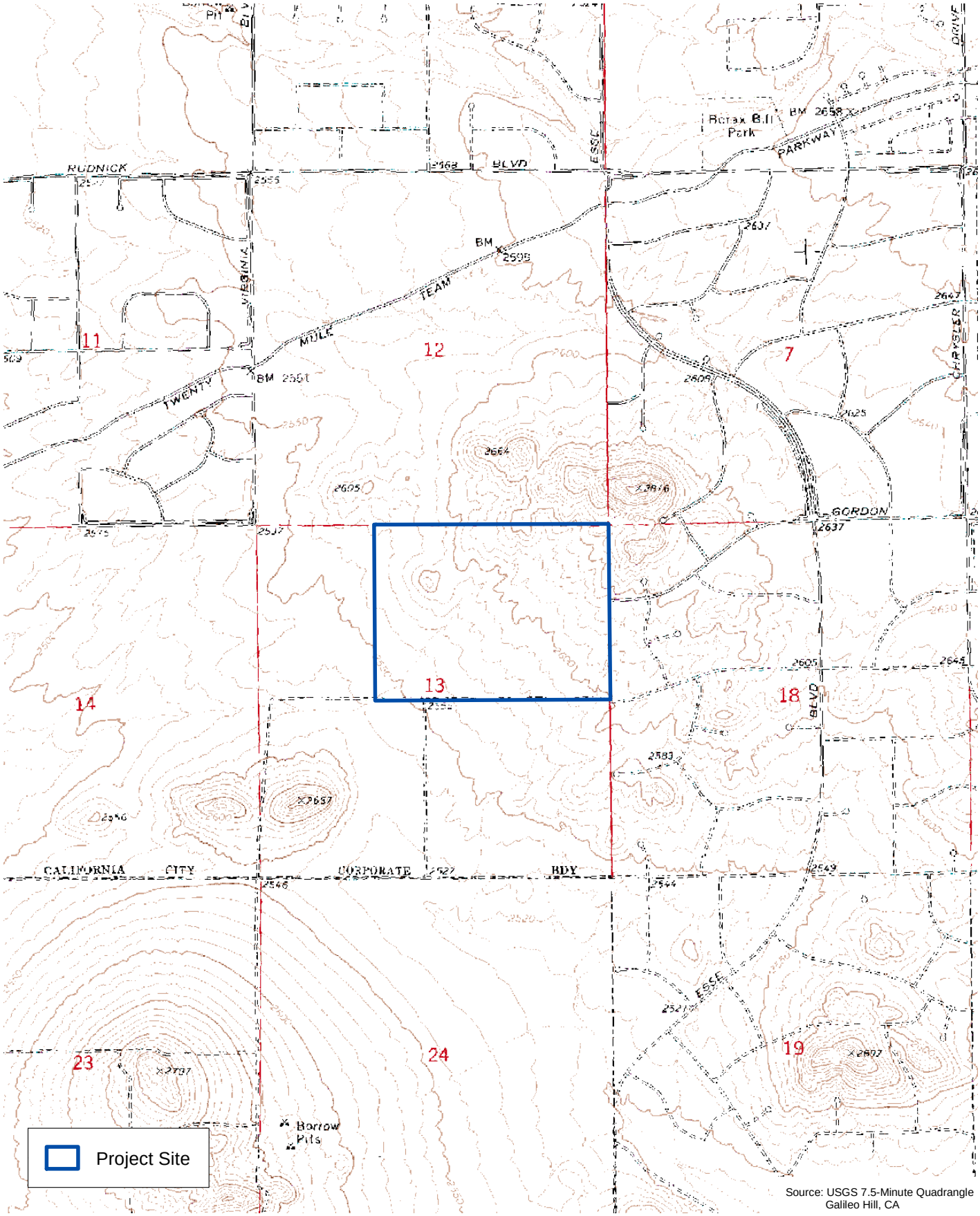

Source: USGS 7.5-Minute Quadrangle
Galileo Hill, CA

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USGS 7.5-Minute Digital Quadrangle

Exhibit 2

Correctional Facility at California City (CFCC)

N W E S

2,000 1,000 0 2,000 Feet

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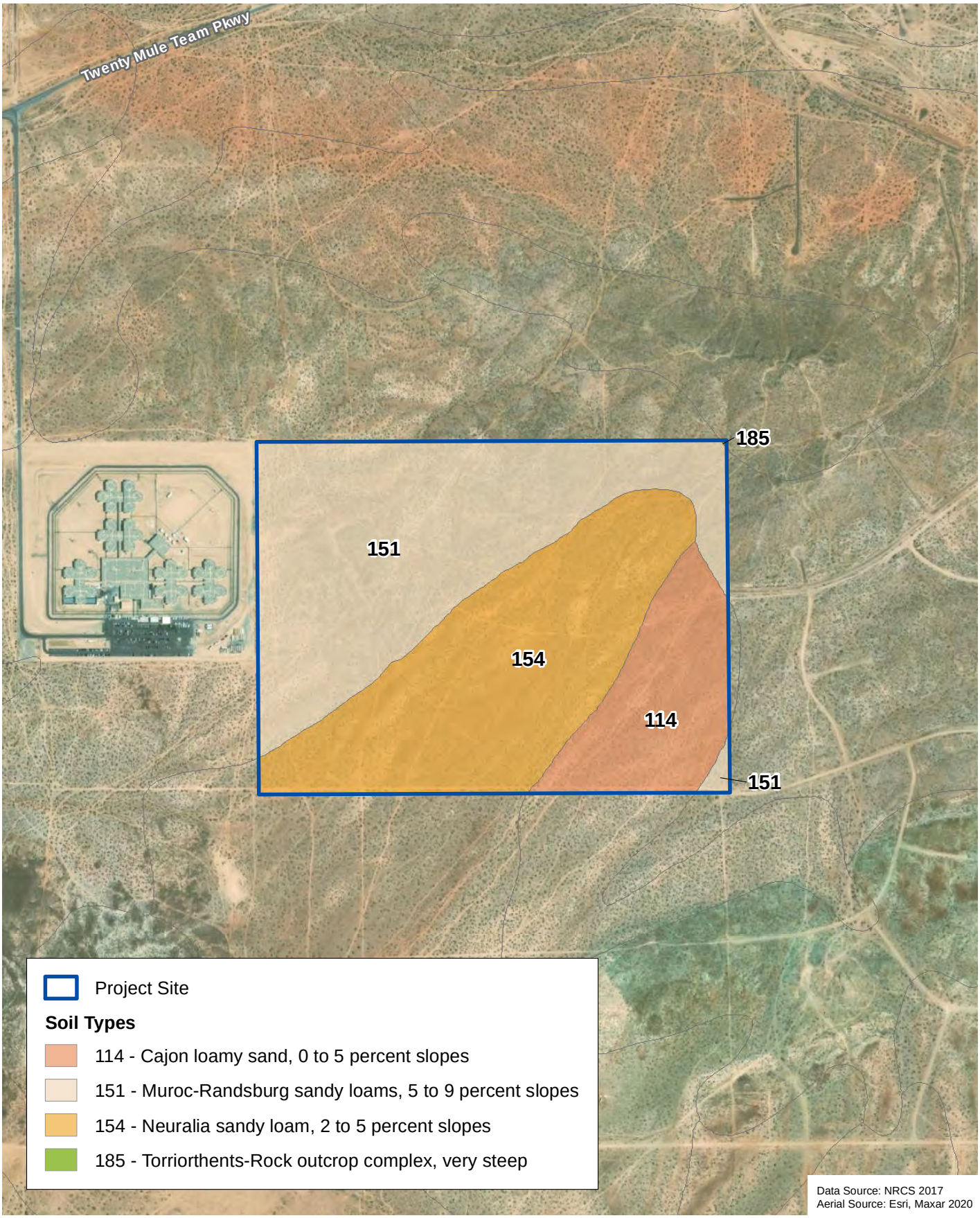

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Soil Types

Exhibit 3

Correctional Facility at California City (CFCC)

N W E S

1,000 500 0 1,000 Feet

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ATTACHMENT A

REPRESENTATIVE PHOTOS

Representative photo of the Project site on March 31, 2020.

Representative photo of the Project site on May 26, 2020.

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Representative Photos

Attachment A-1

Correctional Facility at California City (CFCC)

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Representative photo of the rocky, northern portion of the Project site on May 26, 2020.

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Representative Photos

Attachment A-2

Correctional Facility at California City (CFCC)

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ATTACHMENT B

PLANT COMPENDIUM

PLANT SPECIES OBSERVED DURING 2020 SURVEYS

Species	
Scientific Name	**Common Name**
EUDICOTS	
APIACEAE – CARROT FAMILY	
Lomatium mohavense	Mojave lomatium
ASTERACEAE – SUNFLOWER FAMILY	
Acamptopappus sphaerocephalus	rayless goldenhead
Ambrosia dumosa	white bur-sage
Ambrosia salsola var. *salsola*	common burrobrush
Chaenactis carphoclinia var. *carphoclinia*	pebble pincushion
Ericameria cooperi var. *cooperi*	Cooper's goldenbush
Ericameria nauseosa	rubber rabbitbrush
Lasthenia gracilis	common goldfields
Leptosyne calliopsidea	calliopsis-like tickseed
Logfia depressa	hierba limpia
Malacothrix coulteri	snake's-head
Malacothrix glabrata	desert dandelion
Stephanomeria exigua ssp. exigua	little stephanomeria
Syntrichopappus fremontii	Fremont’s syntrichopappus
Tetradymia stenolepis	narrow-scaled cottonthorn
Xylorhiza tortifolia var. *tortifolia*	Mojave-aster
BORAGINACEAE – BORAGE FAMILY	
Amsinckia tessellata var. *tessellata*	desert fiddleneck
Cryptantha angustifolia	narrow-leaved cryptantha
Pectocarya linearis ssp. *ferocula*	narrow-toothed pectocarya
Pectocarya setosa	round-nut pectocarya
Phacelia tanacetifolia	lacy phacelia
Plagiobothrys cf. *canescens*	valley popcornflower
BRASSICACEAE – MUSTARD FAMILY	
Caulanthus lasiophyllus	California mustard
*Hirschfeldia incana**	grayish shortpod mustard
Lepidium flavum	yellow peppergrass
Lepidium nitidum	shining peppergrass
*Sisymbrium irio**	London rocket
*Sisymbrium orientale**	eastern sisymbrium
Tropidocarpum gracile	slender tropidocarpum
CACTACEAE – CACTUS FAMILY	
Cylindropuntia echinocarpa	silver cholla
Echinocactus polycephalus var. polycephalus	many-headed clustered barrel cactus
Ferocactus cylindraceus	California barrel cactus
CHENOPODIACEAE – GOOSEFOOT FAMILY	
*Salsola paulsenii**	barbwire Russian thistle
EUPHORBIACEAE – SPURGE FAMILY	
Croton setiger	turkey-mullein
Euphorbia albomarginata	rattlesnake sandmat

PLANT SPECIES OBSERVED DURING 2020 SURVEYS

Species	
Scientific Name	**Common Name**
FABACEAE – LEGUME FAMILY	
Acmispon strigosus	strigose deervetch
Astragalus acutirostris	sharp-beaked milkvetch
Astragalus didymocarpus var. *dispermus*	paired two-seeded milkvetch
Astragalus layneae	Layne milkvetch
Lupinus microcarpus	chick lupine
Lupinus microcarpus var. horizontalis	plane chick lupine
GERANIACEAE – GERANIUM FAMILY	
*Erodium cicutarium**	redstem filaree
LOASACEAE – BLAZING STAR FAMILY	
Mentzelia affinis	similar blazing star
MALVACEAE – MALLOW FAMILY	
Eremalche exilis	white mallow
NYCTAGINACEAE – FOUR O'CLOCK FAMILY	
Mirabilis laevis var. *retrorsa*	reflexed smooth four o'clock
ONAGRACEAE – EVENING PRIMROSE FAMILY	
Camissonia campestris ssp. *campestris*	field sun cup
Eremothera boothii ssp. *desertorum*	desert Booth's evening-primrose
Tetrapteron palmeri	Palmer's tetrapteron
PAPAVERACEAE – POPPY FAMILY	
Eschscholzia minutiflora ssp. *covillei*[a]	minute-flowered eschscholzia
PLANTAGINACEAE – PLANTAIN FAMILY	
Plantago ovata var. *fastigiata*	tall ovate plantain
POLEMONIACEAE – PHLOX FAMILY	
Eriastrum eremicum ssp. *eremicum*	desert eriastrum
Gilia brecciarum ssp. *brecciarum*	break gilia
Gilia minor	little gilia
Linanthus bigelovii	Bigelow's linanthus
Linanthus dichotomus	evening snow
Linanthus parryae	Parry's linanthus
Loeseliastrum matthewsii	desert calico
Loeseliastrum schottii	Schott’s loeseliastrum
POLYGONACEAE – BUCKWHEAT FAMILY	
Chorizanthe brevicornu var. brevicornu	brittle spineflower
Chorizanthe rigida	devil's spineflower
Eriogonum fasciculatum var. *polifolium*	Mojave Desert California buckwheat
Eriogonum gracillimum	rose-and-white wild buckwheat
Eriogonum inflatum	desert trumpet
Eriogonum trichopes	little desert trumpet
Eriogonum viridescens	two-toothed wild buckwheat
Oxytheca perfoliata	round-leaf puncturebract
SOLANACEAE – NIGHTSHADE FAMILY	
Lycium andersonii	Anderson's box-thorn

PLANT SPECIES OBSERVED DURING 2020 SURVEYS

Species	
Scientific Name	**Common Name**
ZYGOPHYLLACEAE – CALTROP FAMILY	
Larrea tridentata	creosote bush
MONOCOTS	
POACEAE – GRASS FAMILY	
*Bromus rubens**	red brome
*Bromus tectorum**	cheat grass
*Schismus arabicus**	Arabian Mediterranean grass
*Schismus barbatus**	barbed Mediterranean grass
Stipa speciosa	desert needle grass
THEMIDACEAE – BRODIAEA FAMILY	
Dichelostemma capitatum ssp. *capitatum*	blue dicks

* non-native species

cf. conforms to; species cannot be confirmed

[a] Subspecies not currently recognized by the Jepson Flora Project.

APPENDIX F

BURROWING OWL SURVEY

August 9, 2017

Brad Wiggins
CoreCivic
10 Burton Hills Boulevard
Nashville, Tennessee 37215

VIA EMAIL
Brad.Wiggins@CoreCivic.com

Subject: Results of a Burrowing Owl Survey for the Correctional Development Facility Project in Kern County, California

Dear Mr. Wiggins:

This Letter Report presents the results of focused breeding season surveys for the burrowing owl (*Athene cunicularia*) for CoreCivic's proposed Correctional Development Facility (hereinafter referred to as "the Project") in California City in Kern County, California. The purpose of the survey was to determine the presence or absence of the burrowing owl during its breeding period (i.e., March 1 to August 31) on or immediately adjacent to the 215-acre Project site. The surveys were completed in accordance with guidelines provided in the California Department of Fish and Wildlife's (CDFW) *Staff Report on Burrowing Owl Mitigation* (CDFW 2012).

PROJECT LOCATION AND DESCRIPTION

The Project is located in California City in Kern County, California (Exhibit 1). The main Project area consists of a 215-acre property adjacent to the existing California City Correctional Facility (CCCF). Off-site areas include an approximate ten-mile-long proposed utility alignment, which generally runs from an existing water tank to the north of the Project site, along Twenty Mule Team Parkway and along Mendiburu Road to Yerba Boulevard; it includes connections through the adjacent existing CCCF via Virginia Boulevard, Gordon Boulevard, and 145th Street. These off-site utility improvements are planned to be within the existing road rights-of-way; therefore, the survey included only the 215-acre property.

CoreCivic proposes to construct 2 separate but adjacent, 1-level correctional facilities with a total of 3,024 beds on the Project site. The Project would include a shared administration building and common parking area. The Project site would be improved to include an approximate 159-acre building pad to accommodate the facilities and structures described above; manufactured slopes with ancillary drainage improvements would be located around the perimeter of the building pad. A series of five retention basins would be located along the length of the western site boundary to accommodate surface water runoff from the rest of the site. No improvements are proposed for the City's road rights-of-way located along the northern, southern, or eastern edges of the 215-acre Project site. A new private two-lane road would provide access to the parking lot and the Project Site along the alignment of Gordon Boulevard; it would start from Virginia Boulevard and connect to the northwestern corner of the Project site.

The Project site is located in the Fremont Valley portion of the California Desert Province's Western Mojave subregion. It is located on the U.S. Geological Survey's Galileo Hill 7.5-minute quadrangle (Exhibit 2). Topography on the Project site is generally moderately sloping and undulating. Elevations on the Project site range from approximately 2,700 feet above mean sea level (msl) in the northeast corner to 2,550 feet above msl in the southwest corner. Soils are mapped as Muroc-Randsburg sandy loam, 5 to 9 percent slopes; Neuralia sandy loam, 2 to 5 percent slopes; and Torriorthents-Rock outcrop complex, very deep.

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. The Project site is crossed by a network of small off-highway vehicle (OHV) roads. The existing CCCF is located along the western boundary of the Project site; undeveloped open land and dirt roads are located to the north, east, and south.

Creosote bush–white bursage scrub habitat on the Project site has an open cover co-dominated by creosote bush (*Larrea tridentata*) and white bur-sage (*Ambrosia dumosa*). Individual shrubs are widely spaced, though the density of creosote bush is highest in the eastern half of the Project site. Other species noted in this vegetation type include white rabbitbrush (*Ericameria nauseosa* var. *hololeuca*), narrow-scaled cottonthorn (*Tetradymia stenolepis*), California buckwheat (*Eriogonum fasciculatum*), and silver cholla (*Cylindropuntia echinocarpa*). Common burrobrush (*Ambrosia salsola*), rayless goldenhead (*Acamptopappus sphaerocephalus*), and Cooper's box-thorn (*Lycium cooperi*) occur along the drainages. There is also significant evidence of substantial grazing by domestic sheep (*Ovis aries*). Representative photographs of the vegetation and topography are included in Attachment A.

BACKGROUND

The burrowing owl is a grassland specialist distributed throughout western North America, where it occupies open areas with short vegetation and bare ground within shrub, desert, and grassland environments. Burrowing owls use a wide variety of arid and semi-arid environments, with well-drained, level to gently sloping areas characterized by sparse vegetation and bare ground (Haug et al. 1993; Dechant et al. 2003). Burrowing owls in Florida excavate their own burrows, but burrowing owls in the western United States depend upon the presence of burrowing mammals whose burrows are used for roosting and nesting (Haug et al. 1993). The presence or absence of colonial mammal burrows (e.g., California ground squirrels [*Otospermophilus beecheyi*]) is often a major factor that limits the presence or absence of burrowing owls. Where mammal burrows are scarce, burrowing owls have been found occupying man-made cavities, such as buried and non-functioning drain pipes, stand-pipes, and dry culverts. Burrowing mammals may use burrows beneath rocks; debris; or large, heavy objects such as abandoned cars, concrete blocks, or concrete pads. Large, hard objects at burrow entrances stabilize the entrance from collapse and may inhibit excavation by predators.

Burrowing owls often use "satellite", or non-nesting burrows, moving chicks into them from the nesting burrow, presumably to reduce the risk of predation (Desmond and Savidge 1998) and possibly to avoid nest parasites (Dechant et al. 2003). One pair may use up to ten satellite burrows (James and Seabloom 1968). Individual burrowing owls have a moderate to high site fidelity to previously used burrow complexes and often use the same burrows for nesting year after year (CDFW 2012).

The burrowing owl was once abundant and widely distributed in California, and has declined precipitously. Although a petition was submitted to list the California population of the burrowing owl as an Endangered or Threatened species in 2003 (CBD et al. 2003), the CDFW declined to list the burrowing owl as either Threatened or Endangered in consideration of its overall population throughout the State.

However, the CDFW considers the burrowing owl to be a California Species of Special Concern (CDFW 2017).

SURVEY METHODS

Psomas Senior Biologist Amber Heredia conducted a habitat assessment for burrowing owl during a field visit on November 18, 2016. All habitat on the Project site and along the utility alignments was considered suitable for burrowing owl. This is consistent with the findings of the habitat assessment conducted in May 2016 by Garcia and Associates (GANDA 2016).

The survey area for the current survey effort included the 215-acre Project site only; the utility alignment was not included because anticipated utility improvements are expected to be placed entirely within the existing disturbed footprint of the roadway, thus they would not directly impact burrowing owl habitat.

The focused burrowing owl survey effort discussed in this report was conducted pursuant to the breeding season survey methods in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The CDFW guidelines specify specific time periods in which the four focused crepuscular (i.e., occurring near dawn and dusk) surveys should be conducted during the breeding season: at least one survey between February 15 and April 15 and a minimum of three surveys, at least three weeks apart, between April 15 and July 15, with at least one survey after June 15 (CDFG 2012). The first survey was conducted from March 28–30, 2017 by Psomas Senior Biologists Lindsay Messett, Jonathan Aguayo, and Allison Rudalevige and Psomas Biologist Ian Cain. The second survey was conducted on May 9 and 10, 2017, by Ms. Rudalevige and Psomas Senior Biologists Steve Norton and Steve Morris. The third survey visit was conducted on June 8, 2017, by Ms. Rudalevige, Mr. Norton, Mr. Morris, and Consulting Biologist Debbie Beckett. The fourth survey was conducted on July 11 and 12, 2017, by Ms. Rudalevige, Mr. Norton, and Psomas Senior Biologists Jonathan Feenstra and Irena Mendez. Detailed survey timing, staffing, and weather information are included in Table 1. Biologists walked all suitable habitat (i.e., undeveloped areas) within the Project site in transects spaced 50 feet apart to achieve 100 percent visual coverage. Binoculars were used to survey the areas of suitable habitat adjacent to the Project site. The surveys were generally conducted between morning civil twilight and 10:00 AM, or between two hours before sunset and evening civil twilight. Weather conditions during the surveys ranged from 44 to 99 degrees Fahrenheit with wind speeds no more than 15 miles per hour (mph); surveys were postponed when field conditions were unsuitable (e.g., when winds were greater than 15 mph). Any natural or man-made cavities large enough to allow a burrowing owl to enter were inspected for evidence of occupation and mapped. Evidence of occupation may include prey remains, cast pellets, white wash, feathers, and observations of owls adjacent to burrows. Binoculars were used to inspect holes; crevices; and potential perches such as rocks, fence posts, and other elevated structures for the presence of owls. Any active burrows and/or burrowing owl sightings were mapped on an aerial photograph and recorded with Global Positioning System (GPS) units. All wildlife observed were recorded in field notes and are listed in the species compendium (Attachment B).

TABLE 1
BURROWING OWL SURVEY DETAILS

Survey Number	Date	Surveyor(s)	Survey Time	Weather Conditions		
				Temperature (°F) (Start/End)	Wind (mph) (Start/End)	Cloud Cover (%) (Start/ End)
Crepuscular Survey 1	March 28	Aguayo, Messett	5:00 PM–7:40 PM	73/66	0–2/0–6	0/0
	March 29	Aguayo, Messett	6:30 AM–10:20 AM	44/56	0–4/0–3	0/0
	March 29	Aguayo, Messett	5:15 PM–7:50 PM	77/65	0–4/0–6	0/0
	March 30	Aguayo, Messett, Rudalevige, Cain	6:25 AM–10:30 AM	57/63	0–2/0–12	0/0
Crepuscular Survey 2	May 9	Rudalevige, Norton, Morris	5:45 PM–8:17 PM	75/66	4–11/3–10	45/1
	May 10	Rudalevige, Norton, Morris	5:37 AM–9:45 AM	50/78	4–6/2–6	5/5
	May 10	Rudalevige, Norton, Morris	5:45 PM–7:15 PM	74/67	5–10/3–8	0/0
Crepuscular Survey 3	June 8	Rudalevige, Norton, Morris, Beckett	5:20 AM–10:03 AM	62/88	3/0.5	20/40
	June 8	Rudalevige, Norton, Morris, Beckett	6:04 PM–7:02 PM	84/82	6–12/6–11	10/8
Crepuscular Survey 4	July 11	Rudalevige, Norton, Feenstra, Mendez	6:07 PM–8:20 PM	99/85	4–8/9–15	1/2
	July 12	Rudalevige, Norton, Feenstra, Mendez	5:45 AM–8:30 AM	75/84	1/0–2	0/0

°F: degrees Fahrenheit; mph: miles per hour.

It should be noted that a mapping error was discovered in late May 2017; the Project boundary used for the 2016 surveys by Garcia and Associates (GANDA 2016) and the first two visits of the current survey were slightly shifted approximately 100 feet to the north and 120 feet to the west. Once the maps were corrected, it was discovered that an approximate 15-acre area was not surveyed for burrowing owl during the first and second survey visits; however, the area was covered thoroughly during the third and fourth survey visits (Exhibit 3). Had burrowing owl occupied this area, it is expected that they would have been detected during these later survey visits. Additionally, because burrowing owl move (making them more detectable), and part of the protocol is to scan the horizon for owls, it is assumed that if they occurred in this area, they could have been detected during the first and second visits even though it was slightly outside of the area covered by transects. Thus, the boundary shift is not expected to have affected the results of the burrowing owl survey.

SURVEY RESULTS

Numerous burrows dug by California ground squirrels, desert kit foxes (*Vulpes macrotis arsipus*), and other species occur on the Project site and can serve as potentially suitable burrowing owl burrows (Exhibit 3).

Burrowing owl was observed in the central portion of Project site on the final survey on July 12, 2017 (Exhibit 3). Because the owl had not been observed on any of the previous visits and due to the timing of the observation in the season, it is believed that this owl either occupied a burrow off site and was foraging on the Project site or was a young bird that was dispersing.

One burrow complex in the southeastern portion of the Project site had burrowing owl sign at its entrance (Exhibit 3, Attachment A). The sign consisted of approximately eight owl pellets that were greater than six months old; no new owl sign was observed at this burrow complex during the course of the surveys. Therefore, it is believed that this burrow complex was likely occupied during the winter season.

A few desert tortoise (*Gopherus agassizii*) burrows were incidentally observed during the survey. The burrows were classified as Class 2 (good condition, definitely tortoise, no evidence of recent use). No desert tortoise individuals or sign of recent use were observed during the current surveys; however, they were observed during the 2016 biological surveys conducted by GANDA (2016). A CDFW California Natural Diversity Database (CNDDB) form was completed to document the burrows observed during the current survey (Attachment C).

Other special status wildlife species were also observed during the focused surveys, including loggerhead shrike (*Lanius ludovicianus*), LeConte's thrasher (*Toxostoma lecontei*), and Swainson's hawk (*Buteo swainsoni*). The loggerhead shrike and LeConte's thrasher were observed on the Project site. The Swainson's hawk was observed flying over northeast of the Project site on two consecutive survey days (Exhibit 3). CNDDB forms for these observations are included in Attachment C.

A special status plant species, Mojave spineflower (*Chorizanthe spinosa*), was incidentally observed during the survey on May 10, 2017. Three individuals were observed near the southern edge of the Project site (Exhibit 3). Details of this observation are discussed in the Project's special status plant survey report (Psomas 2017).

A complete list of all wildlife species observed during the surveys is provided in Attachment B.

CONCLUSIONS

Suitable habitat for burrowing owl occurs throughout the Project site. Although no burrowing owls nested on the Project site in 2017, one burrowing owl was observed foraging on the Project site and sign of winter occupation was observed. Therefore, burrowing owl is expected to occur on the Project site in the future during both the breeding season and wintering season. Appropriate avoidance and minimization measures will be included in the Project Biological Technical Report.

A pre-construction burrowing owl survey would be required within 14 days prior to any ground disturbance (CDFG 2012). Pre-construction surveys for burrowing owl can be conducted year-round. If an active burrow is observed during pre-construction surveys during the non-breeding season (i.e., September 1–February 28), a qualified Biologist can close the burrow following CDFW-approved burrow closing procedures (CDFG 2012). If an active burrow is observed during pre-construction surveys during the breeding season (i.e., March 1–August 31), a protective buffer will be established around the active

burrow until nesting activity has ended to ensure compliance with Section 3503.5 of the *California Fish and Game Code*.

Psomas appreciates the opportunity to assist on this project. If you have any comments or questions, please call Amber Heredia at (714) 751-7373.

Sincerely,
PSOMAS

Amber O. Heredia
Senior Project Manager, Natural Resources

Enclosures: Exhibits 1–3
Attachment A – Site Photographs
Attachment B – Wildlife Compendium
Attachment C – CNDDB Forms

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———. 2012 (March 7). *Staff Report on Burrowing Owl Mitigation*. Sacramento, CA: CDFW.

Center for Biological Diversity, Defenders of Wildlife, California State Park Rangers Association, Santa Clara Valley Audubon Society, San Bernardino Valley Audubon Society, and Tri-county Conservation League (CBD et al.). 2003. *Petition to the State of California Fish and Game Commission and Supporting Information for Listing the California Population of the Western Burrowing Owl (Athene cunicularia hypugaea) as an Endangered or Threatened Species under the California Endangered Species Act.* Oakland, CA: CBD et al. http://www.biologicaldiversity.org/swcbd/species/b-owl/petition.pdf.

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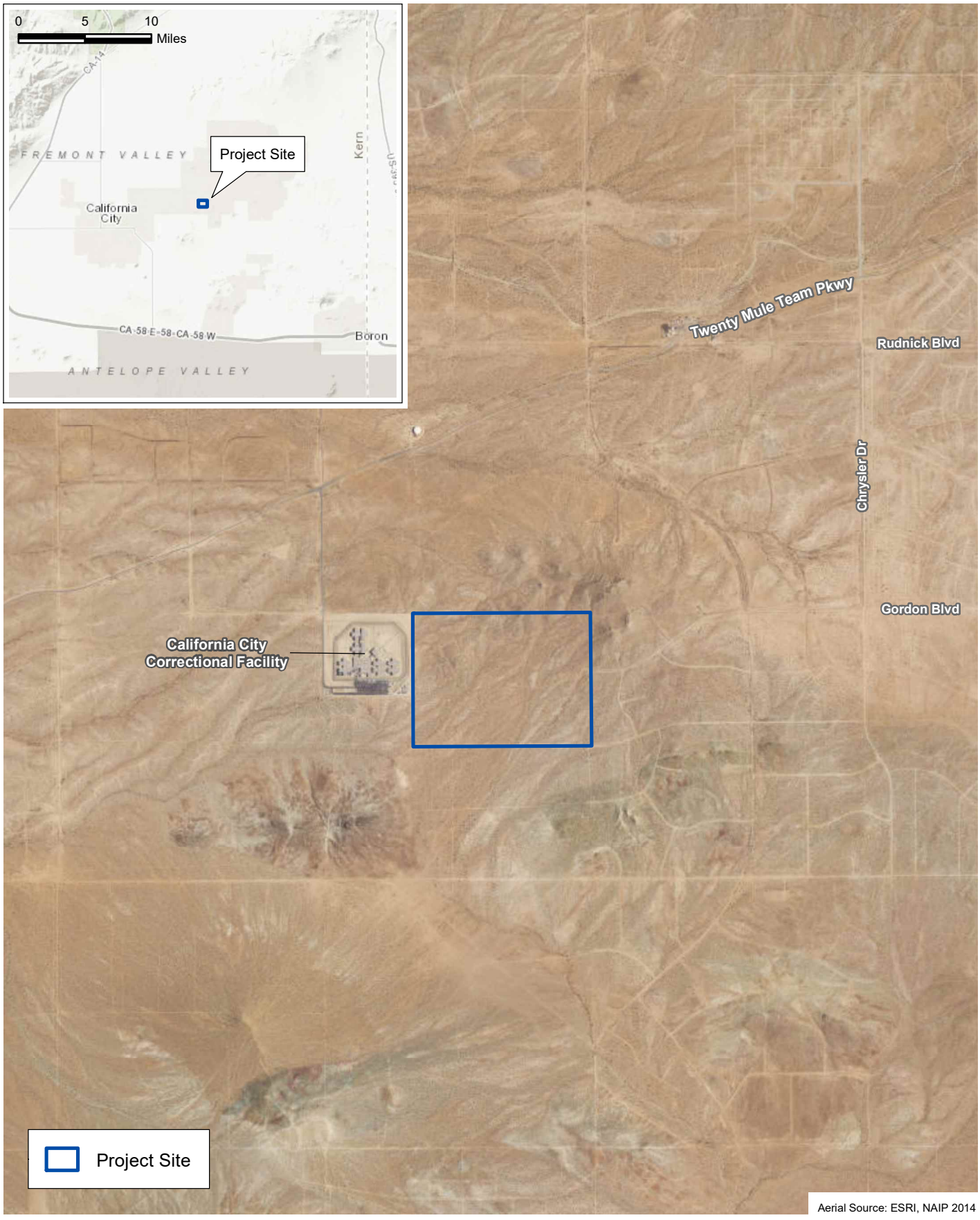

Aerial Source: ESRI, NAIP 2014

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Project Location

Exhibit 1

Correctional Development Facility Project

N W E S

0.5 0.25 0 0.5 Miles

PSOMAS

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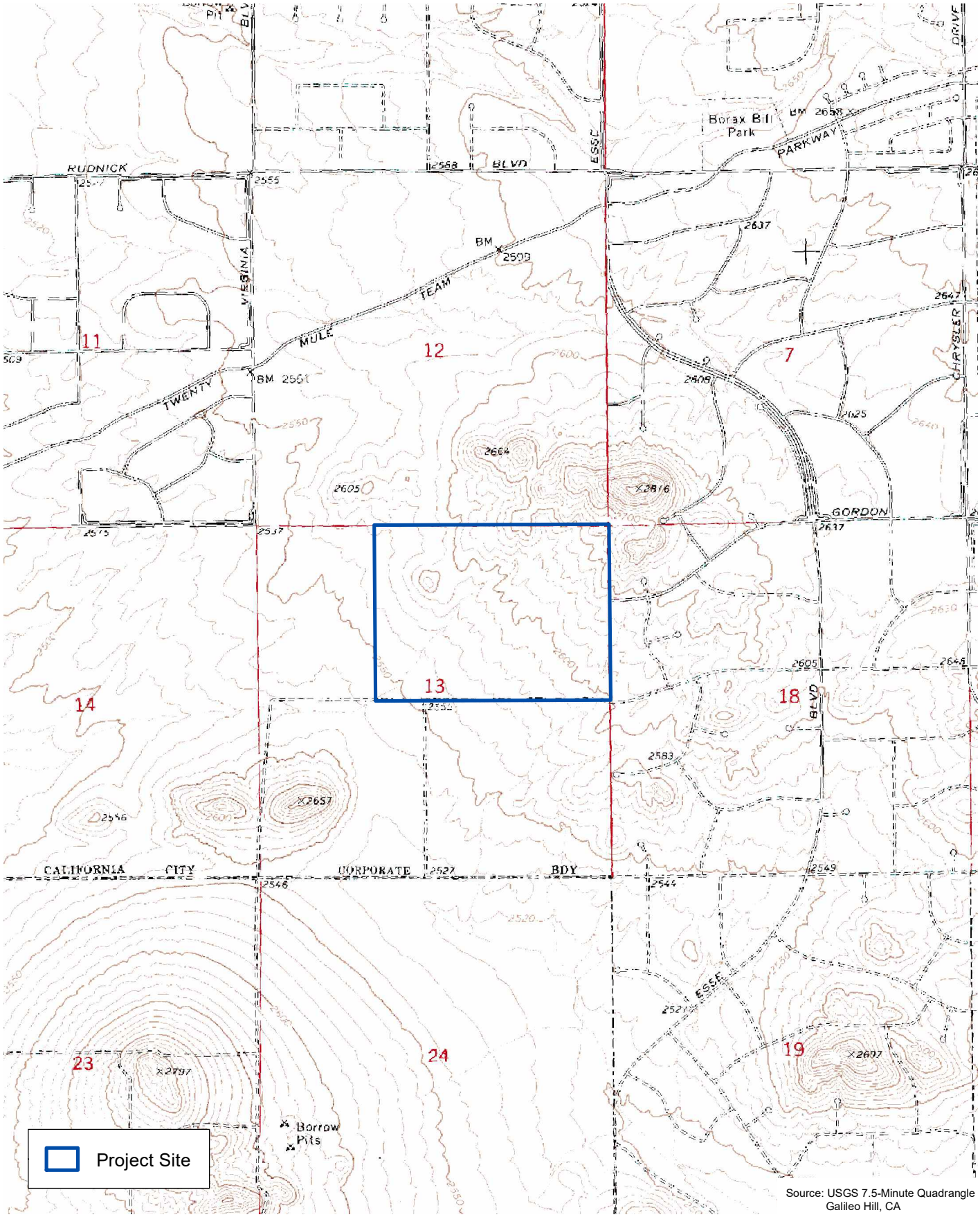

Source: USGS 7.5-Minute Quadrangle
Galileo Hill, CA

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USGS 7.5-Minute Digital Quadrangle

Exhibit 2

Correctional Development Facility Project

N W E S

2,000 1,000 0 2,000 Feet

PSOMAS

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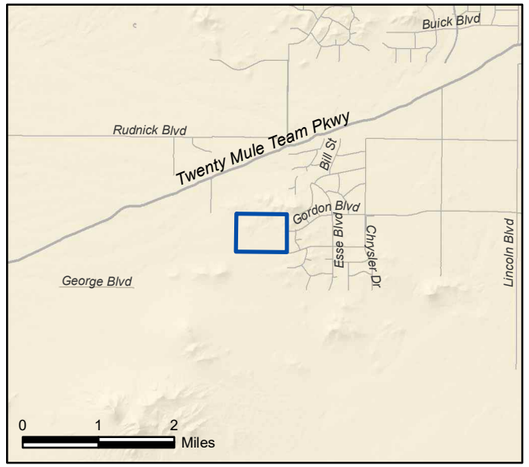

Project Site

Boundary Shift Area*

Survey Results

- Approximate burrowing owl location
- Burrowing Owl Sign
- Potentially Suitable Burrow
- Inactive Desert Tortoise Burrow
- Mojave spineflower
- Swainson's hawk

*Area not surveyed during the first and second survey due to a mapping error; thoroughly surveyed during the third and fourth survey.

N
W
E
S

400 200 0 400
Feet

Aerial Source: ESRI, NAIP 2014

Survey Results

Exhibit 3

Correctional Development Facility Project

PSOMAS

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ATTACHMENT A

SITE PHOTOGRAPHS

Photo 1: View of the western portion of the Project site facing west. The existing California City Correctional Facility is visible in the background.

Photo 2: View of central portion of the Project site facing south. The topography and vegetation shown is typical throughout the Project site.

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Site Photographs

Attachment A-1

Correctional Development Facility Project

PSOMAS

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ATTACHMENT B

WILDLIFE COMPENDIUM

WILDLIFE OBSERVED DURING SURVEYS

Species	
Scientific Name	**Common Name**
TURTLES	
TESTUDINIDAE - TORTOISES	
Gopherus agassizii	Mohave desert tortoise
LIZARDS	
IGUANIDAE - IGUANID LIZARD FAMILY	
Gambelia wislizenii	long-nosed leopard lizard
PHRYNOSOMATIDAE - SPINY LIZARD FAMILY	
Phrynosoma platyrhinos	desert horned lizard
Uta stansburiana	common side-blotched lizard
TEIIDAE - WHIPTAIL LIZARD FAMILY	
Aspidoscelis tigris tigris	Great Basin whiptail
SNAKES	
COLUBRIDAE - COLUBRID SNAKE FAMILY	
Rhinocheilus lecontei	long-nosed snake
VIPERIDAE - VIPER AND PITVIPER FAMILY	
Crotalus scutulatus scutulatus	Northern Mohave rattlesnake
BIRDS	
COLUMBIDAE - PIGEON AND DOVE FAMILY	
Zenaida macroura	mourning dove
CAPRIMULGIDAE - NIGHTJAR FAMILY	
Chordeiles acutipennis	lesser nighthawk
APODIDAE - SWIFT FAMILY	
Aeronautes saxatalis	white-throated swift
CATHARTIDAE - NEW WORLD VULTURE FAMILY	
Cathartes aura	turkey vulture
PANDIONIDAE - OSPREY FAMILY	
Pandion haliaetus	osprey
ACCIPITRIDAE - HAWK FAMILY	
Buteo swainsoni	Swainson's hawk
Buteo jamaicensis	red-tailed hawk
STRIGIDAE - TYPICAL OWL FAMILY	
Athene cunicularia	burrowing owl
FALCONIDAE - FALCON FAMILY	
Falco columbarius	merlin
TYRANNIDAE - TYRANT FLYCATCHER FAMILY	
Sayornis saya	Say's phoebe
LANIIDAE - SHRIKE FAMILY	
Lanius ludovicianus	loggerhead shrike
CORVIDAE - JAY AND CROW FAMILY	
Corvus corax	common raven
ALAUDIDAE - LARK FAMILY	
Eremophila alpestris	horned lark
REMIZIDAE - PENDULINE TIT AND VERDIN FAMILY	
Auriparus flaviceps	verdin

WILDLIFE OBSERVED DURING SURVEYS

Species	
Scientific Name	**Common Name**
TROGLODYTIDAE - WREN FAMILY	
Salpinctes obsoletus	rock wren
REGULIDAE - KINGLET FAMILY	
Regulus calendula	ruby-crowned kinglet
MIMIDAE - MOCKINGBIRD AND THRASHER FAMILY	
Toxostoma lecontei	Le Conte's thrasher
STURNIDAE - STARLING FAMILY	
*Sturnus vulgaris**	European starling*
PASSERIDAE - OLD WORLD SPARROW FAMILY	
*Passer domesticus**	house sparrow*
FRINGILLIDAE - FINCH FAMILY	
Haemorhous mexicanus	house finch
EMBERIZIDAE - SPARROW FAMILY	
Spizella passerina	chipping sparrow
Spizella breweri	Brewer's sparrow
Amphispiza bilineata	black-throated sparrow
Artemisiospiza belli	Bell's sparrow
Zonotrichia leucophrys	white-crowned sparrow
MAMMALS	
SCIURIDAE - SQUIRREL FAMILY	
Ammospermophilus leucurus	white-tailed antelope squirrel
Otospermophilus beecheyi	California ground squirrel
LEPORIDAE - HARE AND RABBIT FAMILY	
Lepus californicus	black-tailed jackrabbit
Sylvilagus audubonii	desert cottontail
CANIDAE - CANID FAMILY	
Vulpes macrotis arsipus	desert kit fox
BOVIDAE - BOVID FAMILY	
*Ovis aries**	European mouflon sheep
* non-native species	

ATTACHMENT C

CNDDB FORMS

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 07/12/2017

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Athene cinicularia*

Common Name: burrowing owl

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ( ) Yes (●) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☒ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Steve Norton
Address: 3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707
E-mail Address: Steve.Norton@psomas.com
Phone: 714-751-7373

Plant Information

Phenology:

_____ % vegetative _____ % flowering _____ % fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr: _____

Quad Name: Galileo Hill Elevation: 2,600 feet

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): GPS

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: Garmin, unk model

DATUM: **NAD27** ( ) **NAD83** ( ) **WGS84** ( ) Horizontal Accuracy: 10 meters meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 (●) ***OR*** Geographic (Latitude & Longitude) ( )

Coordinates: Owl observation: 422753, 3890372; owl pellets (>6 months old): 422979, 3889956

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. Topography on the Project site is generally moderately sloping and undulating.One owl was flushed from the vegetation on July 12, 2017; it had not been observed during previous visits.
Approx 8 owl pellets greater than 6 months old were observed at a burrow during the first focused survey visit. No newer sign and no burrowing owl were observed using the burrow complex during the focused surveys.

Please fill out separate form for other rare taxa seen at this site. loggerhead shrike, LeConte's thrasher, Swainson's hawk, desert tortoise

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: Open space in all directions except the California City Correctional Facility to the west

Visible disturbances: numerous OHV roads crossing the site and evidence of sheep grazing throughout area

Threats: Development

Comments: Survey was conducted on a rectangular property of 215-acre immediately adjacent to the California City Correctional Facility.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: Surveyor's familiarity with the species

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☒
Habitat	☐	☐	☒
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? (●) yes ( ) no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 05/09/2017

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Buteo swainsoni*

Common Name: Swainson's hawk

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? (●) Yes ( ) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # [X] No [ ] Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Steve Norton
Address: 3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707
E-mail Address: Steve.Norton@Psomas.com
Phone: 714-751-7373

Plant Information

Phenology:

_____ % vegetative _____ % flowering _____ % fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

[ ] wintering [ ] breeding [ ] nesting [ ] rookery [ ] burrow site [ ] lek [ ] other

Location Description *(please attach map AND/OR fill out your choice of coordinates, below)*

County: Kern Landowner / Mgr: _____

Quad Name: Galileo Hill Elevation: 2,800 feet

T____ R____ Sec____, ____¼ of ____ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): Google earth

T____ R____ Sec____, ____¼ of ____ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: _____

DATUM: **NAD27** ( ) **NAD83** ( ) **WGS84** ( ) Horizontal Accuracy: _____ meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 (●) ***OR*** Geographic (Latitude & Longitude) ( )

Coordinates: 423322, 3890791

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. Topography on the Project site is generally moderately sloping and undulating.

Circling over adjacent peak in the evenings on two consecutive evening surveys.

Please fill out separate form for other rare taxa seen at this site. burrowing owl, loggerhead shrike, LeConte's thrasher, desert tortoise

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: Open space in all directions except the California City Correctional Facility to the west

Visible disturbances: numerous OHV roads crossing the site and evidence of sheep grazing throughout area

Threats: Development

Comments: Survey was conducted on a rectangular property of 215-acre immediately adjacent to the California City Correctional Facility.

Determination: *(check one or more, and fill in blanks)*

- [ ] Keyed (cite reference): _____
- [ ] Compared with specimen housed at: _____
- [ ] Compared with photo / drawing in: _____
- [ ] By another person (name): _____
- [X] Other: Surveyor's knowledge

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	[ ]	[ ]	[ ]
Habitat	[ ]	[ ]	[X]
Diagnostic feature	[ ]	[ ]	[ ]

May we obtain duplicates at our expense? (●) yes ( ) no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 07/11/2017

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Toxostoma lecontei*

Common Name: LeConte's thrasher

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ( ) Yes (●) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☒ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Steve Norton
Address: 3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707
E-mail Address: steve.norton@psomas.com
Phone: 714-751-7373

Plant Information

Phenology:

_____ % vegetative _____ % flowering _____ % fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr: _____

Quad Name: Galileo Hill Elevation: 2,600 feet

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): Google Earth

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: _____

DATUM: **NAD27** ( ) **NAD83** ( ) **WGS84** ( ) Horizontal Accuracy: 1,200 feet meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 (●) ***OR*** Geographic (Latitude & Longitude) ( )

Coordinates: Heard individual at this location: 422788, 3890365

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. Topography on the Project site is generally moderately sloping and undulating.

Species observed calling.

Please fill out separate form for other rare taxa seen at this site. loggerhead shrike, burrowing owl, Swainson's hawk, desert tortoise

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: Open space in all directions except the California City Correctional Facility to the west

Visible disturbances: numerous OHV roads crossing the site and evidence of sheep grazing throughout area

Threats: Development

Comments: Survey was conducted on a rectangular property of 215-acre immediately adjacent to the California City Correctional Facility.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: Surveyor's knowledge

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☒
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? (●) yes ( ) no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 07/11/2017

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Lanius ludovicianus*

Common Name: loggerhead shrike

Species Found? (●) Yes ( ) No _____ If not found, why?

Total No. Individuals: 1 Subsequent Visit? ( ) Yes (●) No

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ No ☒ Unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Steve Norton
Address: 3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707
E-mail Address: steve.norton@psomas.com
Phone: 714-751-7373

Plant Information

Phenology:

_____ % vegetative _____ % flowering _____ % fruiting

Animal Information

1 # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)

County: Kern Landowner / Mgr: _____

Quad Name: Galileo Hill Elevation: 2,600 feet

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) Source of Coordinates (GPS, topo. map & type): GPS

T___ R___ Sec___, ___¼ of ___ ¼, Meridian: H ( ) M ( ) S ( ) GPS Make & Model: Garmin, unk model

DATUM: **NAD27** ( ) **NAD83** ( ) **WGS84** ( ) Horizontal Accuracy: 10 meters meters/feet

Coordinate System: UTM Zone 10 ( ) UTM Zone 11 (●) ***OR*** Geographic (Latitude & Longitude) ( )

Coordinates: Heard individual south of this location: 422331, 3890295

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. Topography on the Project site is generally moderately sloping and undulating.Species observed foraging onsite.

Please fill out separate form for other rare taxa seen at this site. LeConte's thrasher, burrowing owl, Swainson's hawk, desert tortoise

Site Information

Overall site/occurrence quality/viability (site + population): ( ) Excellent (●) Good ( ) Fair ( ) Poor

Immediate AND surrounding land use: Open space in all directions except the California City Correctional Facility to the west

Visible disturbances: numerous OHV roads crossing the site and evidence of sheep grazing throughout area

Threats: Development

Comments: Survey was conducted on a rectangular property of 215-acre immediately adjacent to the California City Correctional Facility.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: Surveyor's knowledge

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☒
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? (●) yes ( ) no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDB@wildlife.ca.gov

Date of Field Work (mm/dd/yyyy): 05/09/2017

For Office Use Only
Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Clear Form

California Native Species Field Survey Form

Print Form

Scientific Name: *Gopherus agassizii*

Common Name: desert tortoise

Species Found? ○ Yes ◉ No — Sign only; presence assumed (If not found, why?)

Total No. Individuals: 0 Subsequent Visit? ○ Yes ◉ No

Is this an existing NDDB occurrence? _____ (Yes, Occ. #) ☐ No ☒ Unk.

Collection? If yes: _____ (Number) _____ (Museum / Herbarium)

Reporter: Steve Norton
Address: 3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707
E-mail Address: Steve.Norton@Psomas.com
Phone: 714-751-7373

Plant Information

Phenology:

_____ % vegetative _____ % flowering _____ % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ lek ☐ other

Location Description *(please attach map AND/OR fill out your choice of coordinates, below)*

County: Kern Landowner / Mgr: _____

Quad Name: Galileo Hill Elevation: 2,600 feet

T____ R____ Sec____, ____¼ of ____ ¼, Meridian: H ○ M ○ S ○ Source of Coordinates (GPS, topo. map & type): GPS

T____ R____ Sec____, ____¼ of ____ ¼, Meridian: H ○ M ○ S ○ GPS Make & Model: Garmin, unk model

DATUM: **NAD27** ○ **NAD83** ○ **WGS84** ○ Horizontal Accuracy: 3 meters meters/feet

Coordinate System: UTM Zone 10 ○ UTM Zone 11 ◉ ***OR*** Geographic (Latitude & Longitude) ○

Coordinates: Class 2 burrows: 422788, 3890332; 422870, 3890275; 422892, 3890483; 423013, 3889856; 422869, 3890276

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Vegetation on the Project site consists of creosote bush–white bur-sage scrub. Topography on the Project site is generally moderately sloping and undulating. Burrows: class 2 (good condition, definietly tortoise, no evidence of recent use) burrows located across the survey area.

Please fill out separate form for other rare taxa seen at this site. Loggerhead shrike, LeConte's thrasher, burrowing owl, Swainson's hawk

Site Information

Overall site/occurrence quality/viability (site + population): ○ Excellent ◉ Good ○ Fair ○ Poor

Immediate AND surrounding land use: Open space in all directions except the California City Correctional Facility to the west

Visible disturbances: numerous OHV roads crossing the site and evidence of sheep grazing throughout area

Threats: Development

Comments: Survey was conducted on a rectangular property of 215-acre immediately adjacent to the California City Correctional Facility.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☒ Other: Surveyor's knowledge

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☒
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? ◉ yes ○ no

APPENDIX G

JURISDICTIONAL DELINEATION

JURISDICTIONAL DELINEATION REPORT FOR THE CORRECTIONAL DEVELOPMENT FACILITY AT CALIFORNIA CITY IN KERN COUNTY, CALIFORNIA

PREPARED FOR

CoreCivic
10 Burton Hills Boulevard
Nashville, Tennessee 37215
Contact: Brad Wiggins, Senior Director, Site Acquisition and Development

PREPARED BY

Psomas
3 Hutton Centre Drive, Suite 200
Santa Ana, California 92707
Contact: Brad Blood, PhD, Senior Environmental Scientist/Project Manager

March 2018

TABLE OF CONTENTS

TABLES

ATTACHMENTS

EXECUTIVE SUMMARY

The purpose of this report is to provide data concerning the type and extent of potential jurisdictional water resources for CoreCivic's proposed Correctional Development Facility at California City (hereinafter referred to as the "Project"). The Project is located on a 215-acre property and along an approximate 10-mile-long proposed utility alignment in Kern County, California.

Jurisdictional water resources considered for this report include "waters of the U.S." under the regulatory authority of the U.S. Army Corps of Engineers (USACE); "waters of the State" under the regulatory authority of the Regional Water Quality Control Board (RWQCB); and the bed, bank, and channel of all lakes, rivers, and/or streams (and associated riparian vegetation) under the regulatory authority of the California Department of Fish and Wildlife (CDFW).

The jurisdictional delineation field work was performed by Psomas in January 2017. It was determined that no wetland or non-wetland "waters of the U.S." are present in the survey area. The limits of non-wetland "waters of the State" were identified by the presence of an ordinary high water mark (OHWM). Potential wetland "waters of the State" were assessed using a two-parameter approach (presence of wetland-associated plants and presence or evidence of hydrology). For streams with well-defined bed and banks, the limits of CDFW jurisdictional waters were identified as the top of bank or the outer drip line of riparian vegetation. For episodic streams with indistinct bed and banks, the Mapping Episodic Stream Activity (MESA) guidelines were used to determine the extent of CDFW jurisdictional waters.

Based on the results of the field work, it was determined that the total jurisdictional water resources in the survey area are as follows:

- **RWQCB Jurisdiction:** 3.586 acres (2.989 acres on the Project site; 0.597 acre along the utility alignment).
- **CDFW Jurisdiction:** 3.613 acres (2.989 acres on the Project site; 0.624 acre along the utility alignment).

Based on the results of the data analysis, it was determined that the total impacts on jurisdictional water resources in the survey area are as follows:

- **RWQCB Jurisdiction:** 3.001 acres (2.989 acres on the Project site; 0.012 acre along the utility alignment).
- **CDFW Jurisdiction:** 3.001 acres (2.989 acres on the Project site; 0.012 acre along the utility alignment).

1.0 INTRODUCTION

This Jurisdictional Delineation Report (report) was prepared to provide data concerning the type and extent of resources potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW) for CoreCivic's Correctional Development Facility at California City (CDFCC) (hereinafter referred to as the "Project").

1.1 PROJECT LOCATION AND ENVIRONMENTAL SETTING

The Project is located in California City in Kern County, California (see Exhibit 1 in Attachment A). The main Project area consists of a 215-acre property ("Project site") adjacent to the existing California City Correctional Facility (CCCF). CoreCivic owns a total of 320 acres at this location. Off-site survey areas include an approximate 10.8-mile-long proposed utility alignment ("utility alignment"), which generally runs from an existing water tank to the north of the Project site, along Twenty Mule Team Parkway and along Mendiburu Road to Yerba Boulevard; it includes connections through the adjacent existing CCCF via Virginia Boulevard, Gordon Boulevard, and 145th Street.

The Project is located in the Fremont Valley portion of the California Desert Province's Western Mojave subregion. The majority of land in this portion of the Mojave Desert is privately owned or part of Edwards Air Force Base. The Mojave Desert is a wedge-shaped basin that experiences precipitation primarily in the winter, with occasional summer thunderstorms. The average annual precipitation in the vicinity of the Project is 6.67 inches with approximately half of this falling in the winter. Temperatures in this region average 80.6 degrees Fahrenheit (°F) in the summer and 46.1°F in the winter (Arguez et al. 2010).[1]

The predominant vegetation community in the Project area is creosote bush–white bur-sage scrub. The Project site is crossed by a network of small off-highway vehicle (OHV) roads. The existing CCCF is located along the western boundary of the Project site; undeveloped open space and dirt roads are located to the north, east, and south. The eastern half of the utility alignment is surrounded by undeveloped open space while a mix of vacant lots and residential development occur along the western half.

1.2 PROJECT DESCRIPTION

CoreCivic proposes to construct two separate but adjacent correctional centers with a total of 3,024 beds on approximately 215 acres of a 320-acre property located south of the alignment of Gordon Boulevard, east of Virginia Boulevard, and north of Lindberg Boulevard. The Project would include two separate facilities, with up to 1,512 beds each, a shared administration building, and a common parking area.

1.2.1 On-Site Facility Structures

The Project involves the construction of a one-level, 1,512-bed correctional center on the northern portion of the site and an identical 1,512-bed correctional center on the southern portion of the site. Building heights would not exceed 45 feet. Each facility contains seven secure housing structures that are located in a semi-circular arrangement around a central open area with indoor and outdoor recreational facilities and open areas. West of the housing and recreational area would be a central building for various inmate services and programs, such as intake, food service, medical, education, maintenance, laundry, chaplain, library, visitation, and other support

[1] Seasons are climatological; winter is considered to be December, January, and February and summer is considered to be June, July, and August.

areas. A common surface parking area would be located between the buildings on the east and a series of five retention basins on the west, with an administration building and warehouse building near the access road to the Project site.

Each correctional center would include the following:

- Seven secure housing buildings, constructed of precast concrete panels, would house up to 216 inmates each. Housing units would be equipped with staff and inmate support facilities, including meeting areas, restrooms and a commissary. Two of these buildings would also have attached segregation units.
- The outdoor area at the center of the housing buildings would be segregated/fenced into four recreation areas that would each include games courts, gymnasiums (with full and half basketball courts, restrooms, and storage/maintenance rooms), fixed exercise stations, and a running track/walkway around the perimeter. Two additional large, outdoor recreation areas (e.g., soccer fields and/or game areas) would be provided west of this outdoor area.
- A central program building would provide space for intake and support areas, educational programs, libraries, chapels, medical services, food service and dining areas, laundry areas, commissaries, visitation areas, maintenance, storage and communication rooms, a lobby, two family visitation areas, and other ancillary uses. The perimeter of the central building would be surrounded by a walkway that contains several gates to restrict access.
- A double perimeter fence would surround each facility, with razor wire along the top and bottom of each fence. A third inner electro-fence may be installed per customer requirements. Twelve observation posts/towers would surround each facility just outside of the perimeter fences, along with an outer perimeter road. The perimeter of each facility would also be equipped with a motion detection system and nighttime security lights on various height masts/posts up to 100-feet tall. The primary objective of exterior lighting will be to illuminate entrances and to provide adequate site lighting for security.

The western section of the site includes facilities shared by both proposed correctional centers, including:

- An administration building for management offices, armory, maintenance, and sorting and storage areas would be located at the northwestern corner of the site. This building would have a 100,000-square-foot (sf) warehouse for equipment and supply storage and a 25,000 sf administration area.
- A common parking lot with 1,024 surface parking spaces would be located immediately south of the administration building, extending the entire length of the property to the southern site boundary.
- A new private two-lane road would provide access to the parking lot and the Project site along the alignment of Gordon Boulevard and starting from Virginia Boulevard to the northwestern corner of the site.
- A series of five retention basins would be located along the length of the western site boundary to accommodate surface water runoff from the rest of the site.
- A maintenance access road, up to 15-feet wide, would surround the developed pad to provide access for the manufactured slopes, retention basins, and drainage structures.

The 215-acre Project site would be improved to include an approximate 159-acre building pad to accommodate the facilities and structures described above; manufactured slopes with ancillary drainage improvements would be located along the perimeter of the building pad. No

improvements are proposed for the City's road rights-of-way located along the north, south or east edges of the 215-acre Project site.

1.2.2 On-Site Grading and Utility Infrastructure

The Project site is currently undeveloped with no water, wastewater, storm drainage, or utility infrastructure. As such, development of the Project site will require mass grading to create a building pad; installation of new on-site storm-water-control facilities; and the extension of existing water, wastewater, natural gas, and electrical infrastructure into the Project site.

Grading would be conducted in accordance with the Kern County Grading Code. The anticipated earthwork on the Project site would be balanced on site, requiring the movement of approximately 1,900,000 cubic yards (cy) of cut and fill material, not including any over excavation that may be required for re-engineering and recompaction of fill material. No import or export of soils is anticipated.

Under existing conditions, storm water generally percolates into the ground with runoff sheet-flowing across the site in a general westerly and southwesterly direction. The Project would direct storm water at a 1-percent slope toward the southwestern portion of the graded pad area. Drainage conveyance infrastructure would encircle the perimeter of the improved Project site, delivering storm water to one of the five proposed on-site retention basins that have a combined capacity of 71,200 cy of volume. Storm water would be captured in these retention basins for infiltration and/or evaporation. No off-site storm drainage improvements are needed to serve the Project.

Potable water would be conveyed to the Project site via a new 12-inch-diameter water line at the access road in the northwest corner of the site along the Gordon Boulevard extension and would serve the Project facilities through a network of on-site water distribution lines.

The Project can be served by two alternative sewer alignments which would ultimately transmit sewage from the Project site to the existing pipeline in Twenty Mule Team Parkway. Sewage flows from the on-site correctional facilities would be contained within a network of sewage pipes that converge in the southwest area of the Project site, where the collected sewage will be run through an on-site grinder. From this point, one alternative sewer alignment (Option 1) would convey sewage via a new on-site 12-inch-diameter sewer line that would extend between two of the retention basins, and continue west via gravity flow westerly along the south edge of the adjacent existing CCCF parking lot towards the Twenty Mule Team Parkway main line. The other alternative sewer alignment (Option 2) requires an on-site sewer lift station to pump sewage from the southwest area of the Project site (lowest point on the site for gravity flows), to the northwest corner of the site to the Project access road in a pressurized force main line, where it would extend westward off site along the Gordon Road alignment.

1.2.3 Off-Site Infrastructure Improvements

Water Infrastructure

California City's existing water system includes approximately 1 mile of 12-inch-diameter water line along Virginia Boulevard and Twenty Mule Team Parkway which serves the existing CCCF from a booster pump station (Phase 1 BPS) that is connected to a 2.5-million-gallon water tank (Phase 1 Tank) located approximately 0.7 mile north of the Project site off Twenty Mule Team Parkway. The Phase 1 BPS consists of two 50 horsepower pumps, each with a design flow of 500 gallons per minute (gpm), which pump potable water to the existing CCCF as well as the Phase 2 tank. Two additional booster pump stations provide potable water from the Phase 2 tank to the Silver Saddle Ranch community approximately 7.2 miles northeast of the Project site.

The required maximum day capacity for the Phase 1 BPS must be increased to approximately 1,040 gallons per minute (gpm) in order to serve the Project, in addition to the existing demands and the approved/yet to be built 2,200 bed prison project. Therefore, an additional 550-gpm pump is required at the Phase 1 BPS. The Phase 1 BPS is located within an existing structure with a concrete pad that is capable of accommodating the new pump; no grading or earthwork is anticipated for this pump installation.

The existing 12-inch water pipeline from the Phase 1 BPS has sufficient capacity to meet the demand of the Project. However, to connect the water supply from this line to the Project site, a 12-inch pipeline would be extended eastward from the line in Virginia Boulevard along the proposed access road and the eastern extension of the Gordon Boulevard alignment, which traverses the northern boundary of the adjacent CCCF.

Sewer Infrastructure

Pipeline Conveyance

California City's sewer system serves the existing CCCF, which discharges from the site into a 12-inch sewer pipeline within the parking lot located in the southern end of the property. The sewage is initially run through an on-site grinder and then transmitted through approximately 8,500 feet of 12-inch pipeline into an 18-inch sewer pipeline in Twenty Mule Team Parkway at 145th Street. The 12-inch pipeline conveying flows from CCCF extends west to Virginia Boulevard, then north along Virginia Boulevard to Gordon Boulevard, west along Gordon Boulevard to 145th Street, and north on 145th Street to the connection at Twenty Mule Team Parkway. The sewer pipelines within the CCCF parking lot, Virginia Boulevard, Gordon Boulevard, and 145th Street do not have sufficient capacity and are not adequately sized to accommodate the sewer flows from the Project, in addition to the sewer flows from the neighboring approved 2,200-bed prison project.

The 18-inch sewer pipeline in Twenty Mule Team Parkway extends southwesterly approximately 2 miles, then increases in diameter to 24 inches. The 24-inch pipeline continues southwesterly along Twenty Mule Team Parkway another 1.4 miles to near the Randsburg Mojave Road intersection. At this point the pipeline turns westerly and increases in diameter to 27 inches, where it continues to the City's 1.0-million-gallon-per-day (MGD) Wastewater Treatment Plant (WWTP) on Nelson Drive (at the northeastern section of the City's central core). This pipeline is adequately sized to accommodate the sewer flows from the Project, as well as the sewer flows from the approved 2,200-bed prison project; no upgrades to this pipeline are required.

The Project can be served by two alternative off-site sewer alignments that would transmit sewage from the Project site to the pipeline in Twenty Mule Team Parkway. Based on the existing capacity limitations described above, both off-site alternatives would require installing 12-inch diameter pipe parallel to the existing sewer pipe in Gordon Boulevard.

One alternative alignment (Option 1) would connect the new 12-inch pipeline from the Project boundary, through the southern portion of the CCCF property and along the south edge of the CCCF parking lot. New trenching along the sewer pipelines within Virginia Boulevard, Gordon Boulevard, and 145th Street would be required for the new parallel 12-inch diameter pipeline, which would be constructed along the same alignment as the existing sewer pipeline to transmit the Project sewage to the pipeline in Twenty Mule Team Parkway.. The benefit of this alternative is the avoidance of the installation and long-term operation of a sewer lift station on the Project site.

The second alternative alignment (Option 2) would connect the new 12-inch pipeline from the northern Project boundary, through the northern boundary of the existing CCCF site, extending westward within the proposed Gordon Boulevard access road alignment. This would require new

off-site trenching along the Gordon Boulevard right-of-way to the Project access road. The benefit of this alternative is the avoidance of additional off-site trenching within the CCCF property and up Virginia Boulevard to the Gordon Boulevard alignment. As an alternative to installing parallel pipelines to meet flow capacity requirements, an approximate 28,000-gallon holding tank could be constructed on site, along with the sewer lift station and force main for Option 2, in order to pump and discharge sewage from the site during off-peak hours and potentially eliminate the need for constructing parallel sewer lines on Gordon Boulevard and 145th Street.

City Wastewater Treatment Plant

The City's WWTP has an approved capacity of 1.0 MGD. According to City staff, the treatment facility is currently operating at approximately 0.65 MGD and has reached its effective maximum operating capacity, without factoring the future wastewater flow of approximately 0.20 MGD from the approved but not yet constructed 2,200-bed prison facility and flows from other planned/permitted projects in the City. Therefore, in order to accommodate the Project's estimated sewage flows of 0.28 MGD, additional treatment and disposal/storage capacity will be required at the City's WWTP, including increased seasonal storage and/or percolation pond capacity to accommodate the Project's expected sewage flow. When considering the Project's future wastewater flow of 0.28 MGD in combination with the approved 2,200-bed prison future flow of 0.20 MGD, an increase of 0.5 MGD of additional treatment and disposal/storage capacity will be required at the City's WWTP.

All improvements would be within the current operating boundaries of the developed WWTP site and would not encroach into adjacent property. Importantly, the Project would contribute approximately 0.28 MGD of new demand to the City's WWTP operation; however, improvements are required to provide an additional 0.5 MGD of capacity at the facility, as noted above. As such, although this Biological Technical Report is assessing the totality of upgrades at the City's WWTP, not all of the facility improvements are attributable to the Project's sewage generation. The Project would be responsible for its pro rata share of impacts related to WWTP improvements based on the anticipated sewage flow for 0.28 MGD of new treatment capacity.

Electricity

Southern California Edison (SCE) provides electrical power services to the Project area and has a 33-kilovolt vault and underground line along Virginia Boulevard that serve the CCCF Electrical power service to the Project would be provided through a connection to the existing vault located on the east side of Virginia Boulevard, approximately 320 feet north of Gordon Boulevard. A new underground power line would be installed along Virginia Boulevard, south to Gordon Boulevard and east along the new access road to the Project site. Underground power lines would then extend to individual buildings on the site. Back-up generators would be located on the Project site to ensure continuous power to the Project in the event of an SCE power failure. No off-site SCE facility upgrades are anticipated.

Natural Gas

Southern California Gas (SoCalGas) provides natural gas service to the Project area but currently no gas lines exist near the site. Natural gas service to the Project would require the extension of a 6-inch-diameter, high-pressure gas line from the existing valve station on Yerba Boulevard (at the northwestern section of the City's central core). The new gas line would be constructed beneath the roadway within the City road right-of-way from Yerba Boulevard east along Mendiburu Road for approximately 3.5 miles to Randsburg Mojave Road, where a regulator station would be constructed within the road right-of-way. From the new regulator station, a 6-inch-diameter, medium pressure line would be installed from Randsburg Mojave Road along Twenty Mule Team Parkway, turning south on 145th Street, and then east along Gordon Boulevard

and onward along the proposed access road to the Project site. Gas lines would then extend to individual buildings on the site.

Communication Systems

Frontier Communications (formerly Verizon) provides telephone service in the Project area. Telephone lines would be extended underground from the existing line on Virginia Boulevard, along the proposed access road, and then extend to individual buildings on the site

1.3 REGULATORY AUTHORITY

This section summarizes the federal and State agencies' regulatory jurisdiction over activities that have a potential to impact jurisdictional resources. A detailed explanation of each agency's regulatory authority is provided in Attachment B.

1.3.1 U.S. Army Corps of Engineers

The USACE Regulatory Branch regulates activities that discharge dredged or fill materials into "waters of the U.S." under Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Its authority applies to all "waters of the U.S." where the material (1) replaces any portion of a "water of the U.S." with dry land or (2) changes the bottom elevation of any portion of any "waters of the U.S.". Activities that result in fill or dredge of "waters of the U.S." require a permit from the USACE.

1.3.2 Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB), in conjunction with the nine RWQCBs, is the primary agency responsible for protecting water quality in California through the regulation of discharges to surface waters under the CWA and the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The SWRCB's and RWQCBs' jurisdictions extend to all "waters of the U.S.", but also to "waters of the State" that are outside federal jurisdiction, including wetlands.

1.3.3 California Department of Fish and Wildlife

The CDFW regulates activities that may affect rivers, streams, and lakes pursuant to the *California Fish and Game Code* (§§1600–1616). According to Section 1602 of the *California Fish and Game Code,* the CDFW has jurisdictional authority over any work that will (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

2.0 METHODS

The survey area discussed in this report includes the Project site and a 50-foot buffer on either side of the utility alignment's centerline. The jurisdictional extent of USACE and RWQCB waters are based on the OHWM; the extent of CDFW waters is based on the presence of bed, bank, or riparian vegetation, where present, or indicators of fluvial activity and inactivity. Methods for delineating the jurisdictional resources included (1) in-house review of literature, (2) modeling of potential jurisdictional features, and (3) field verification of potential features.

2.1 INITIAL CONSULTATION

Psomas (Jim Hunter, Kristin Starbird, Brad Blood, PhD, and Amber Heredia) conducted a pre-application meeting with CDFW (Charles Walbridge and Benessa Espino) on November 8, 2016. The meeting was convened at California City's City Hall and finished with a walking tour of the Project site. While in the field, Psomas and the CDFW discussed the CDFW's jurisdiction in arid landscapes. The CDFW stated that its jurisdiction follows the highest horizontal extent of flows and includes more than just the definable bed and bank, but also includes the adjacent floodplain. Psomas stated that its biologists are familiar with the Mapping Episodic Stream Activity (MESA) guidelines for delineation of CDFW jurisdiction in the desert, and would apply the MESA principles to the jurisdictional delineation of the Project site.

2.2 JURISDICTIONAL EXTENT

Non-wetland "waters of the U.S." are delineated based on the limits of the OHWM, which can be determined by a number of factors, including the presence of a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; and the presence of litter and debris. The OHWM limits (i.e., active floodplain) occurring in the survey area were further verified using methods contained in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*, *A Delineation Manual* (Lichvar and McColley 2008) and the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Curtis and Lichvar 2010).

A two-parameter approach based on vegetation and hydrology wetland criteria defined by the USACE (2008), in conjunction with a review of aerial and site photographs, topographic maps, and field data, was employed to make an initial assessment of the presence of wetlands. Areas containing hydrophytic vegetation and one or more indicators of wetland hydrology were considered to be potential wetlands. In the case of a potential wetland, a soil test pit would have been dug in order to identify the presence/absence of hydric soil and to determine whether or not wetlands are present.

It should be noted that the RWQCB shares USACE jurisdiction unless isolated conditions are present. Water resources lacking connectivity to a Traditional Navigable Water[2] (TNW), whether by definition or through a significant nexus analysis, are considered isolated. If isolated waters are present, the RWQCB takes jurisdiction using the USACE's definition of the OHWM and/or the three-parameter wetlands method pursuant to the 1987 Wetlands Manual. Isolated conditions were assessed prior to the field delineation using aerial imagery from Google Earth and the National Hydrography Dataset (USGS 2016a). Note that the USACE does not require continuous surface connectivity in order to establish jurisdiction; waters are considered a tributary even if there is a natural or constructed break along the connection to a TNW. Therefore, drainage

[2] Traditional Navigable Waters are all waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.

channels disrupted by roads in the survey area may still be considered under the jurisdiction of the USACE and/or the RWQCB. Swales and erosional features are not considered jurisdictional (USACE 2007).

The CDFW's jurisdiction generally extends to the top of the bank and adjacent floodplain of the stream, channel, or basin or to the outer limit of riparian vegetation located within or immediately adjacent to the river, stream, creek, pond, lake, or other impoundment. In arid and semi-arid environments, streams may be episodic with indistinct bed, banks, and floodplains. The MESA field guide is a science-based protocol for identifying and mapping these dryland episodic streams (Vyverberg and Brady 2013). Therefore, the MESA guidelines were used to delineate and/or confirm the CDFW jurisdiction of most jurisdictional features in the survey area. This method uses a combination of Geographic Information Systems (GIS)-based hydrologic assessment, aerial photo interpretation, and field indicators of fluvial activity and inactivity to map watercourses.[3] The MESA protocol consists of three steps:

1. Recognizing the stream forms and processes and gathering information on a site's physical characteristics.
2. Documenting the extent of on-the-ground indicators of fluvial activity and inactivity.
3. Mapping the watercourse, including any subordinate features such as low-flow and secondary channels or floodplains.

2.2.1 Wetland Analysis

The potential presence of wetlands was assessed based on a two-parameter approach using the USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008).

Vegetation

Hydrophytic vegetation (or hydrophytes) is defined as any macrophytic plant that "grows in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content; plants typically found in wet habitats" (Environmental Laboratory 1987). Specifically, these plant species have specialized morphological, physiological, or other adaptations for surviving in permanently saturated to periodically saturated soils where oxygen levels are very low or the soils are anaerobic.

The USACE—as part of an interagency effort with the U.S. Environmental Protection Agency (USEPA), the U.S. Fish and Wildlife Service (USFWS), and the U.S. Department of Agriculture's Natural Resources Conservation Service (USDA NRCS)—has approved a National Wetland Plant List (NWPL) that provides the current indicator status for plant species. The NWPL is used to determine whether the hydrophytic vegetation parameter is met when conducting wetland determinations.

The following three procedures are used for determining whether the hydrophytic vegetation criterion is met: Indicator 1, "Dominance Test", using the "50/20 Rule"; Indicator 2, "Prevalence Index"; or Indicator 3, "Morphological Adaptation", as identified in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008). The hydrophytic vegetation criterion is met if any indicator is satisfied. If none of the indicators are

[3] Watercourse is defined as "the course over which water currently flows, or has flowed as defined by the topography that confines the water to this course when the water rises to its highest level" (Vyverberg and Brady 2013).

satisfied, then hydrophytic vegetation is absent unless (1) indicators of hydric soil and wetland hydrology are present and (2) the site meets the requirements for a problematic wetland situation.

Hydrology

Wetland hydrology indicators provide evidence that a site has a continuing wetland hydrologic regime. Wetlands hydrology is represented by either (1) all of the hydrological elements or characteristics of areas permanently or periodically inundated or (2) areas containing soils that are saturated for a sufficient duration of time during the growing season to create hydric soils suitable for the establishment of plant species that are typically adapted to anaerobic soil conditions. The presence of wetland hydrology is evaluated at each intersect by recording the extent of observed surface flows; the depth of inundation; the depth to saturated soils; and the depth to free water in soil test pits. In instances where stream flow is divided into multiple channels with intervening sandbars, the entire area between the channels is considered to be within the "Active Floodplain" and within the OHWM. Therefore, an area containing these features would meet the indicator requirements for wetland hydrology.

2.3 LITERATURE REVIEW

Prior to conducting the delineation and during the course of preparing this report, the following data were reviewed to identify areas that may fall under USACE, RWQCB, and/or CDFW jurisdiction: the U.S. Geological Survey's (USGS') 7.5-minute topographic quadrangle maps; color aerial photography provided by the National Agriculture Imagery Program (NAIP) (flown in 2014) and Google Earth (various dates); the National Hydric Soils List (USDA NRCS 2017); soil data provided by the USDA NRCS; and the National Wetlands Inventory's (NWI) Wetlands Mapper.

USGS Topographic Quadrangle. USGS quadrangle maps show geological formations and their characteristics and describe the physical settings of an area through topographic contour lines and other major surface features. These features include lakes, streams, rivers, buildings, roadways, landmarks, and other features that may fall under the jurisdiction of one or more regulatory agencies. In addition, the USGS maps provide topographic information that is useful in determining elevations, latitude and longitude, and Universal Transverse Mercator Grid coordinates for a project site.

Color Aerial Photography. Color aerial photographs were reviewed prior to conducting the field delineation to identify the extent of any drainages and riparian vegetation occurring in the survey area.

U.S. Department of Agriculture, Natural Resources Conservation Service. The presence of hydric soils is one of the chief indicators of jurisdictional wetlands. Psomas reviewed U.S. Department of Agriculture (USDA) soil data for the survey area.

U.S. Fish and Wildlife Service, National Wetlands Inventory: The Wetlands Mapper shows wetland and riparian resources available from the Wetlands Spatial Data Layer of the National Spatial Data Infrastructure (USFWS 2014). This resource provides the classification of known wetlands following the *Classification of Wetlands and Deepwater Habitats of the United States* (FGDC 2013). This classification system is arranged in a hierarchy of (1) Systems that share the influence of similar hydrologic, geomorphologic, chemical, or biological factors (i.e., Marine, Estuarine, Riverine, Lacustrine, and Palustrine); (2) Subsystems (i.e., Subtidal and Intertidal; Tidal, Lower Perennial, Upper Perennial, and Intermittent; or Littoral and Limnetic); (3) Classes, which are based on substrate material and flooding regime or on vegetative life forms; (4) Subclasses; and (5) Dominance Types, which are named for the dominant plant or wildlife

forms. In addition, there are modifying terms applied to Classes or Subclasses. Riparian habitats are defined by *A System for Mapping Riparian Areas in the United States* (USFWS 2009).

The mapped water resources are used to provide additional guidance on planning the field surveys. Given that wetland features mapped by the NWI may or not exist at a site because of changing conditions and development, this resource provides only preliminary data and historic data based on aerial photographic interpretation and, therefore, must be ground-truthed.

2.4 MODELING POTENTIAL RESOURCES

Prior to the field survey, a GIS-based model of flow accumulation lines was used to identify the location of potential stream channels. Topographic data was available as two-foot contour lines provided by the Corrections Corporation of America. These contour lines were incorporated into ArcGIS for use in modeling flow accumulation. Flow accumulation was approximated by utilizing a digital terrain model (DTM) to determine which direction water would flow on each point within the Project site. This data was then used to model where water would accumulate. Areas with higher flow accumulations represent areas of concentrated water flow.

2.5 FIELD VERIFICATION

A field survey was conducted by Psomas Senior Biologists Allison Rudalevige and Lindsay Messett in order to ground-truth the modeling results and map the jurisdictional boundaries. Surveys were performed on January 24, 25, and 26, and June 8, 2017.

Due to the large number of potential jurisdictional features on the Project site, it was not feasible to take longitudinal measurements along the path of every individual watercourse. Therefore, prior to the field survey, eight site transects were established that spanned the Project site. Site transects were spaced 500 feet apart and oriented approximately perpendicular to the path of stream flow. The path of the streamflow was based on the flow accumulation model. Ms. Rudalevige and Ms. Messett navigated along the site transects using Apple iPads with Avensa PDF Maps GPS software loaded with aerial imagery, the site transects, and flow accumulation lines generated by the computer model. Location accuracy was enhanced with an iSXBlue II Global Navigation Satellite System (GNSS) receiver and antenna capable of collecting data at submeter accuracy. Where a flow accumulation line crossed the site transect, the line was classified according to its geomorphic form (e.g., watercourse, swale, upland). Modeled flow lines were considered uplands or swales if they were dominated by non-fluvial (i.e., terrestrial) processes, with swales having concave topography. Flow lines dominated by fluvial processes were considered watercourses. If field conditions at the intercept lacked indicators of fluvial activity (i.e., the area was a swale or upland), the flow line was considered non-jurisdictional and was eliminated from further analysis. If field conditions at the intercept exhibited indicators of fluvial activity, then the flow line was considered jurisdictional and the width of the watercourse was measured. In addition, watercourses observed in the field that were not associated with an established flow accumulation line were recorded and measured.

Episodic Stream Indicator Data Sheets were completed for four non-random, representative MESA transects roughly perpendicular to four drainages on the Project site to document fluvial activity and boundaries. Cross-sections were sketched to show the various geomorphic forms and vegetation characteristics along each MESA transect. Substrate particle size was noted as well as the presence of terrestrial; fluvial; transportation, deposition, and flow transition; and erosion indicators.

Following the field survey, flow accumulation lines were attributed using GIS as upland, swale, or watercourse (with associated width). Aerial imagery was used to make coarse adjustments where the flow accumulation lines deviated dramatically from drainage patterns observable on the aerial.

Otherwise, the flow accumulation lines were used as a proxy for stream flow. Additional watercourses noted in the field were also added.

Along the utility alignment, jurisdictional features were mapped on aerial photographs at a scale of 1 inch equals 300 feet (1″ = 300′). Jurisdictional water resources were either delineated as a drainage centerline with corresponding width measurements or, for wide and/or braided drainages clearly visible on aerial imagery, as a polygon.

3.0 RESULTS

Jurisdictional resources observed in the survey area are described in detail below. Attachment C provides datasheets that summarize the overall condition of the individual drainages/waterbodies and indicators of OHWM and episodic stream fluvial processes. Representative photographs of individual drainages and indicators of fluvial activity and inactivity are provided in Attachment D.

3.1 LITERATURE REVIEW

USGS Topographic Quadrangle. The Project site is shown on the USGS' Galileo Hill 7.5-minute quadrangle, while the utility alignment extends from that quadrangle to the California City North and Mojave NE quadrangles (see Exhibit 3 in Attachment A).

Topography on the Project site is generally moderately sloping and undulating. Elevations on the Project site range from approximately 2,700 feet above mean sea level (msl) in the northeast corner to 2,550 feet above msl in the southwest corner. Elevation along the utility corridor range from approximately 2,575 feet above msl at the eastern end to 2,340 feet above msl at the intersection of Randsburg Mojave Road and Mendiburu Road.

The most prominent waterbodies occurring in the vicinity of the survey area are Koehn Lake, approximately 9 miles to the north, and Rogers Lake, approximately 11 miles to the south. One named drainage, Cache Creek, and seven blueline tributaries cross the utility alignment. One blueline stream is mapped on the Project site. The identified blueline streams were used to provide guidance on planning the field surveys.

The survey area is located in the 3,368-square-mile Antelope-Fremont Valleys Watershed (Cataloging Unit 18090206) (USGS 2017, 2016b). This area is part of the Northern Mojave closed desert basin in South Central California.

Color Aerial Photography. Throughout the survey area, numerous potential drainage features were evident from the aerial imagery. Most of them appear to flow through upland vegetation (e.g., desert scrub). The larger drainage features (i.e., those crossing the utility alignment) appear to have defined bed and banks and associated vegetation. Surface water was not observed on the aerial images.

U.S. Department of Agriculture, Natural Resources Conservation Service. The survey area occurs in the following soil survey area: Kern County, California, Southeastern Part. Within this survey area, the USDA NRCS has delineated the boundaries of "soil map units", which often contain components of multiple soil types that may be classified as hydric or non-hydric. The following soil types are mapped in the survey area: Alko-Neuralia sandy loams (0 to 9 percent slopes), Cajon loamy sand (0 to 5 percent slopes), Garlock loamy sand (2 to 9 percent slopes), Muroc-Randsburg sandy loams (5 to 9 percent slopes), Neuralia sandy loam (2 to 5 percent slopes), Torriorthents-rock outcrop complex (very steep) (see Exhibit 4 in Attachment A). Descriptions of these soil series are provided in Attachment E. The National Hydric Soils List identifies a soil map unit as "hydric" if it contains either a major or minor component that is at least in part hydric. In the survey area, no map units are listed as hydric on the National List (USDA NRCS 2017).

U.S. Fish and Wildlife Service, National Wetlands Inventory: Two mapped wetlands, as defined by the NWI, occur on the Project site and are shown in Exhibit 5 of Attachment A. They are classified in the Riverine System, Intermittent Subsystem, and Streambed Class that is intermittently flooded water regime (R4SBJ). Multiple tributaries also mapped under this classification cross the utility alignment. In addition, an excavated channel (R4SBJx) crosses the alignment. Descriptions of these wetlands are provided in Attachment E.

3.2 MODELING POTENTIAL RESOURCES

Approximately 79,760 linear feet of potential watercourses were identified in the flow accumulation model of the Project site (Table 1; Exhibit 6 of Attachment A). Field verification eliminated 11,940 linear feet as non-jurisdictional swales and 39,327 linear feet as uplands lacking indicators of fluvial activity. Due to deviations in the drainage alignment observed in the field, 3,411 linear feet of watercourses were added. Therefore, approximately 31,904 linear feet of jurisdictional water resources occur on the Project site. In addition, 14 drainage features totaling 1,205 linear feet were observed along the utility alignment (Drainages 1 through 14).

TABLE 1
SUMMARY OF JURISDICTIONAL RESOURCES IN THE SURVEY AREA

Jurisdiction	Project Site			Utility Alignment	
	Modeled	Jurisdictional	Impacted	Jurisdictional	Impacted
Total USACE "waters of the U.S."					
Acres	–	0.000	0.000	0.000	0.000
Linear Feet	–	0	0	0	0
Total RWQCB "waters of the State"*					
Acres	–	2.989	2.989	0.597	0.012
Linear Feet	79,760	31,904	31,904	1,205	22
Total CDFW Jurisdictional Resources					
Acres	–	2.989	2.989	0.624	0.012
Linear Feet	79,760	31,904	31,904	1,205	22

USACE: U.S. Army Corps of Engineers; RWQCB: Regional Water Quality Control Board; CDFW: California Department of Fish and Wildlife; "–": not applicable.

* RWQCB jurisdictional boundaries are defined as those determined for the USACE under "waters of the U.S."; however, the RWQCB also takes jurisdiction over isolated waters.

3.3 U.S. ARMY CORPS OF ENGINEERS JURISDICTIONAL DETERMINATION

3.3.1 "Waters of the U.S." Determination (Non-Wetland)

Connectivity to a Traditional Navigable Water

The drainage features mapped in the survey area are episodic streams that contain surface water only immediately following storm events. Some of these drainage features likely dissipate into uplands either on or off site. However, others are tributaries of larger streams. The drainages in the northwestern portion of the Project site and along the utility alignment are tributaries of Cache Creek, which ultimately drains into the area around Koehn Lake north of the survey area. The drainages in the southeastern portion of the Project site coalesce and drain to the south, near Rogers Lake. Both Koehn Lake and Rogers Lake are dry lakebeds. Because these drainages and dry lakebeds are not navigable "in-fact", are not interstate waters, and/or do not have a role in foreign or interstate commerce, they are not considered "waters of the U.S.". Therefore, drainages in the survey area do not have connectivity to a TNW and so are not considered under the USACE's jurisdiction.

3.4 REGIONAL WATER QUALITY CONTROL BOARD DETERMINATION

The survey area falls within the jurisdiction of the Lahontan RWQCB. The drainage features in the survey area exhibit an OHWM for at least a portion of their length, but dissipate into uplands through sheet flow or drain into a dry lake bed. Therefore, these features do not maintain a

continuous surface connection with a TNW and are considered isolated "waters of the State" under the jurisdiction of the RWQCB.

Evidence of an OHWM was observed for all mapped water resources, though some features exhibited more pronounced indicators. The primary indicator of OHWM observed throughout the Project site was a change in sediment texture, though drift deposits, breaks in bank slope, and surface relief were observed in some areas. The drainages along the utility alignment were generally more pronounced than those on the Project site and exhibited bed and bank, drift deposits, ripples, and in some areas surface water due to the recent rainfall.

During the field delineation, each water resource in the survey area was assessed for evidence of wetland hydrology and hydrophytic vegetation. While various indicators of wetland hydrology (e.g., drainage patterns, drift deposits, surface water) were observed in drainage features throughout the survey area, vegetation consisted of upland plant species. Therefore, soil test pits were not dug and no wetland "waters of the State" were considered to be present in the survey area.

Approximately 3.586 acres of isolated "waters of the State" under the jurisdiction of the RWQCB (2.989 acres on the Project site and 0.597 acre along the utility alignment) occur in the survey area (Table 1; Exhibit 7 of Attachment A).

3.5 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DETERMINATION

Generally, the drainage features along the utility alignment exhibited evidence of bed and bank without an adjacent floodplain. Therefore, these features were mapped using the top of the stream bank as the extent of CDFW jurisdiction. Rubber rabbitbrush (*Ericameria nauseosa*) grew along many of these drainages.

Most of the drainage features on the Project site did not have defined bed and banks. Instead, these features were mapped according to indicators of fluvial activity or inactivity discussed in the MESA protocol. Data were collected at four representative areas on the Project site, but conditions were comparable across the site. Fluvially inactive "uplands" and "swales" in the survey area exhibited multiple terrestrial indicators such as bioturbation, relict coppice dunes, deflated surface, surface rounding of landform, and/or woody debris in place; areas with rocky substrate also exhibited rock fractured in place. The substrate consisted primarily of pebbles and granules. Areas mapped as "watercourse" varied in the indicators of transportation, deposition, flow transition, and erosion observed. Fluvial indicators such as bifurcated flow, out-of-channel flow, wrack, organic drift, sediment sorting, and/or mud cracks were observed in various watercourses. Erosion indicators such as cut banks, exposed roots, headcuts, rills, scour, and/or water-cut benches were observed in various drainages. The substrate in "watercourses" tended to be smaller granules and sand. Vegetative cover was very open across the Project site with bare areas between shrubs. As such, there was no apparent relationship between vegetation cover and fluvially active areas.

Approximately 3.613 acres of waters under the jurisdiction of the CDFW (2.989 acres on the Project site and 0.624 acre along the utility alignment) occur in the survey area (Table 1; Exhibit 7 of Attachment A).

4.0 IMPACT ANALYSIS

The limits of Project impacts for the purposes of this analysis are considered to be the entire Project site. Anticipated utility improvements will occur in within existing road rights-of-way (i.e., within the paved road or bladed road shoulder). While most drainages are culverted or sheet-flow across the road, four have beds and banks that extend into the bladed road shoulder. The utility line impact assessment is based on an assumed trench width of 5.0 feet (i.e., 2.5 feet on either side of the utility alignment centerline).

Based on the current Project limits of disturbance, a total of 3.001 acres of "waters of the State" under the regulatory authority of the RWQCB and 3.001 acres of waters under the regulatory authority of the CDFW would be impacted by the Project (2.989 acres on the Project site and 0.012 acre along the utility alignment at Drainages 1, 2, 9, and 12). This impact would cover approximately 31,926 linear feet (31,904 linear feet on the Project site and 22 linear feet along the utility alignment).

5.0 REGULATORY APPROVAL PROCESS

5.1 REGULATORY PERMIT REQUIREMENTS

This section summarizes the various permits, agreements, and certifications that are expected to be required prior to initiation of Project activities that involve impacts to jurisdictional waters.

- RWQCB Report of Waste Discharge (RWD)
- CDFW Section 1602 Notification of Lake or Streambed Alteration

It should be noted that both regulatory permit applications can be processed concurrently.

5.1.1 Regional Water Quality Control Board

The RWQCB normally has regulatory jurisdiction over "waters of the U.S." equal to the jurisdiction of the USACE under the federal CWA; in these cases, the RWQCB issues a Water Quality Certification under Section 401 of the federal CWA. Without USACE jurisdiction, and if the drainage in question is isolated, the RWQCB has jurisdiction under the State's Porter-Cologne Water Quality Control Act. In the case of discharges into isolated waters, RWQCB authorization would be in the form of a RWD.

The RWQCB requires that the Applicant address urban storm water runoff during and after construction in the form of Best Management Practices (BMPs). These BMPs are intended to address the treatment of pollutants carried by storm water runoff and are required in all complete applications. The notification/application for a RWD must also address compliance with the Water Quality Control Plan for the Lahontan Region. Please note that the application would also require the payment of an application fee, which would be based on Project impacts.

5.1.2 California Department of Fish and Wildlife

Prior to construction, a Notification of Lake or Streambed Alteration (LSA) must be submitted to the CDFW that describes any proposed streambed alteration contemplated by the Project. If an LSA Agreement is required, the CDFW may want to conduct an on-site inspection.

In addition to the formal application materials and the fee, a copy of the appropriate environmental document should be included in the submittal, consistent with CEQA requirements. The CDFW will not deem the application to be complete until the application fees have been paid and the agency is provided with a certified CEQA document and a signed copy of the receipt of County Clerk filing fees for the Notice of Determination (NOD).

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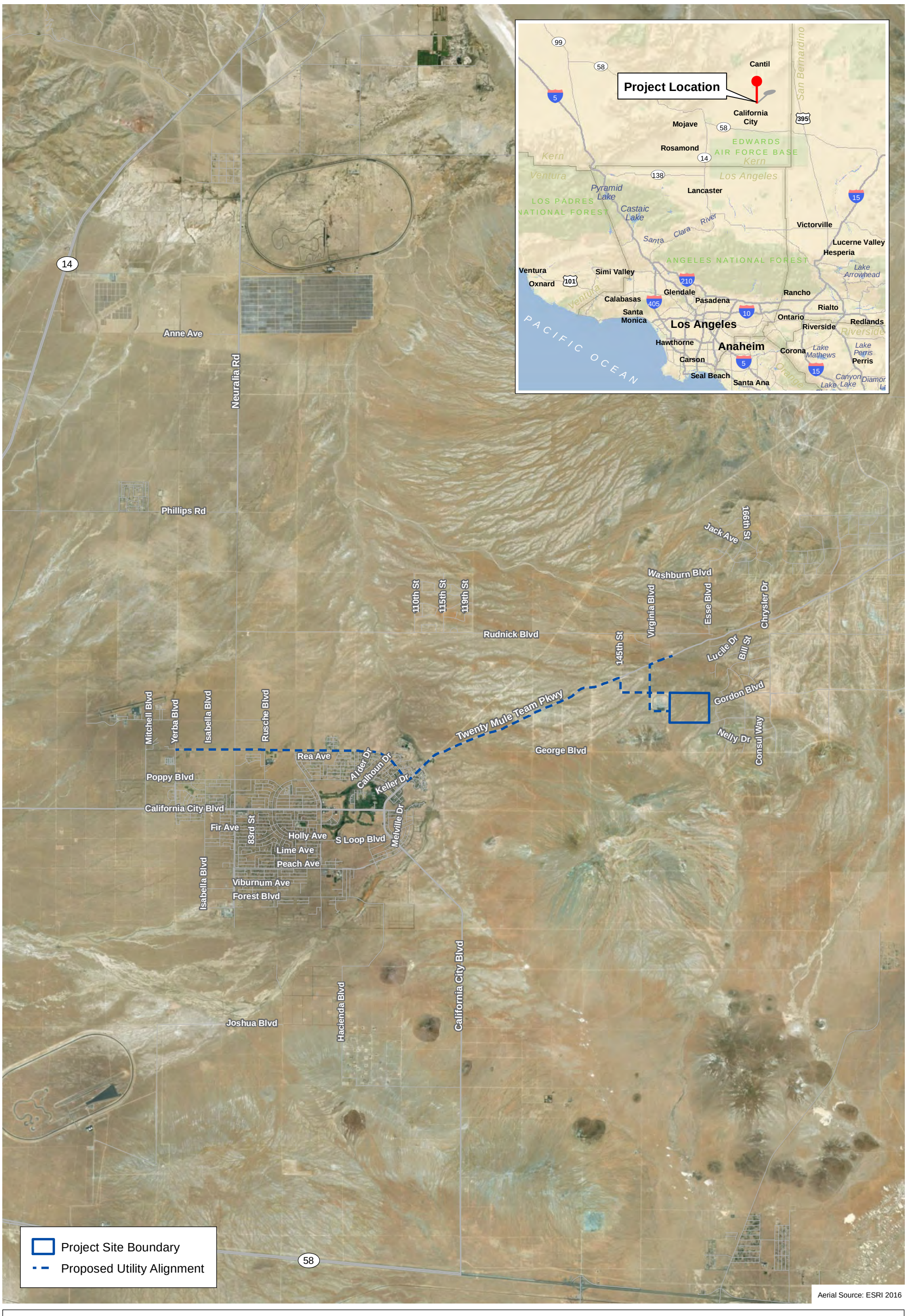
ATTACHMENT A

EXHIBITS



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Project Location

Exhibit 1

Correctional Development Facility at California City (CDFCC)

N W E S

1.5 0.75 0 1.5 Miles

PSOMAS

(Rev: 3-19-2018 MMD) R:\Projects\CRC\3CRC010100\Graphics\JD\ex_Project_Location.pdf

NEW PRIVATE ACCESS ROAD

EXISTING 67.46 ACRE CAL CITY CORRECTIONAL FACILITY

DETENTION BASIN NO. 2

AREA P
INMATE HOUSING
AREA N
AREA M
INMATE HOUSING
AREA L
AREA F
AREA B
AREA C
AREA H
AREA K
INMATE HOUSING
INMATE HOUSING
INMATE HOUSING
AREA E
ADMINISTRATION BUILDING
AREA A
AREA G
AREA J
ARMORY
AREA D

VACANT 35 ACRE PARCEL

ADMIN. 25,000sf
ARMORY
SORT
MAINT.
HOUSING 100 BEDS

Boundary for Prison Facility Area Counts

PROPOSED 1,512 BED CORRECTIONAL CENTER

VISIT.
WRHS.
INTAKE
MAINT.
COMM.
MEDICAL
SUPPORT SERVICES/ OPERATIONS
EDUCATION/ PROGRAMS
CHAPEL
LAND
SERVICE YARD
FOOD SERVICE
DINING
LIBRARY
M.C.
LOBBY
FAMILY VISIT
ATTORNEY VISIT
LAUND
COMM.
GYM
REC
SEG
216 BEDS CELL HOUSING

0 50' 100' 200' 400'

Source: Psomas 2017

Preliminary Site Plan

Correctional Development Facility at California City (CDFCC)

Exhibit 2

N W E S

PSOMAS

(7/14/17 CJS) R:\Projects\CRC\3CRC010100\Graphics\JD\Ex3-1_site_plan_20170614.pdf

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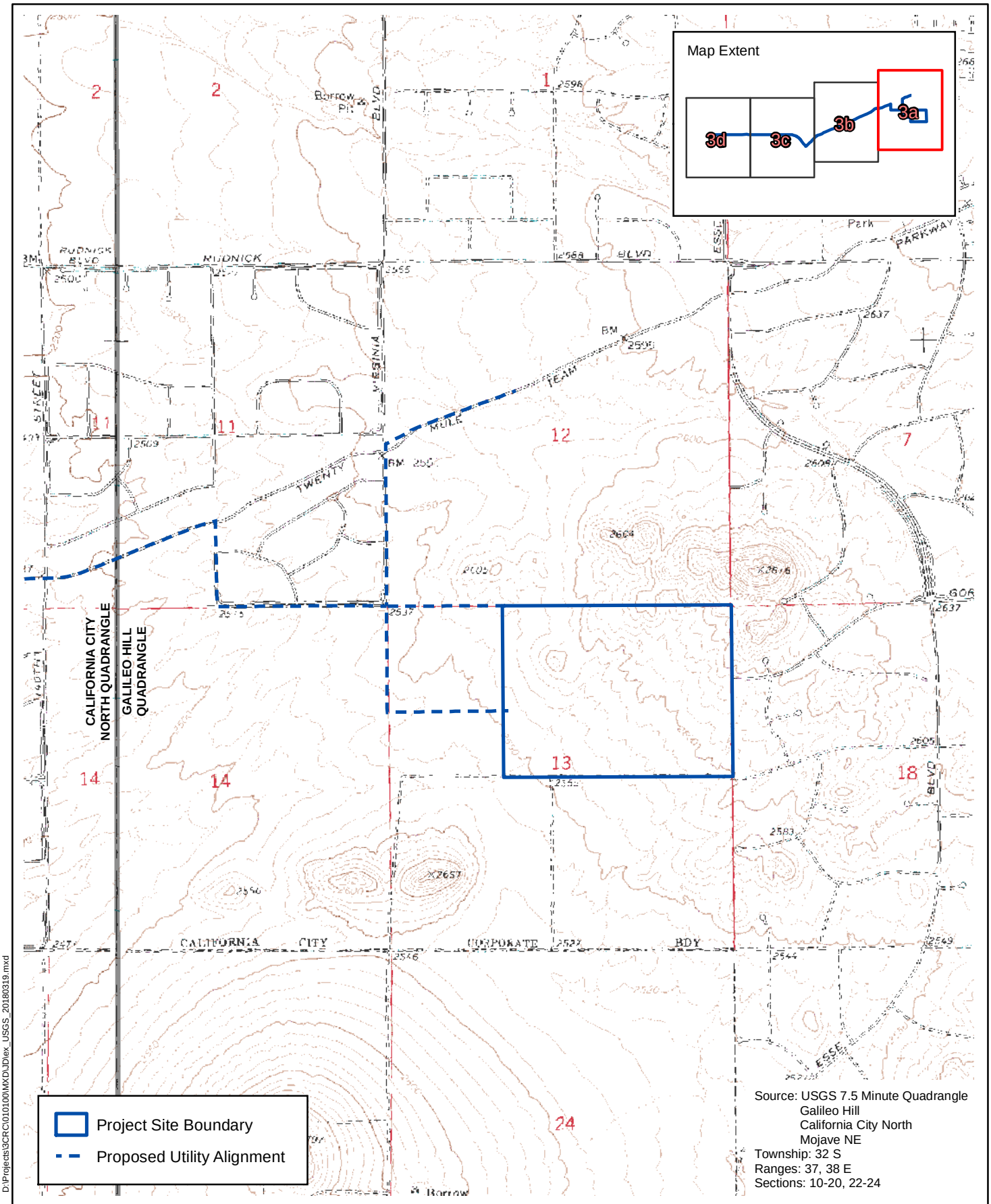

Source: USGS 7.5 Minute Quadrangle
Galileo Hill
California City North
Mojave NE
Township: 32 S
Ranges: 37, 38 E
Sections: 10-20, 22-24

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USGS 7.5-Minute Digital Quadrangle

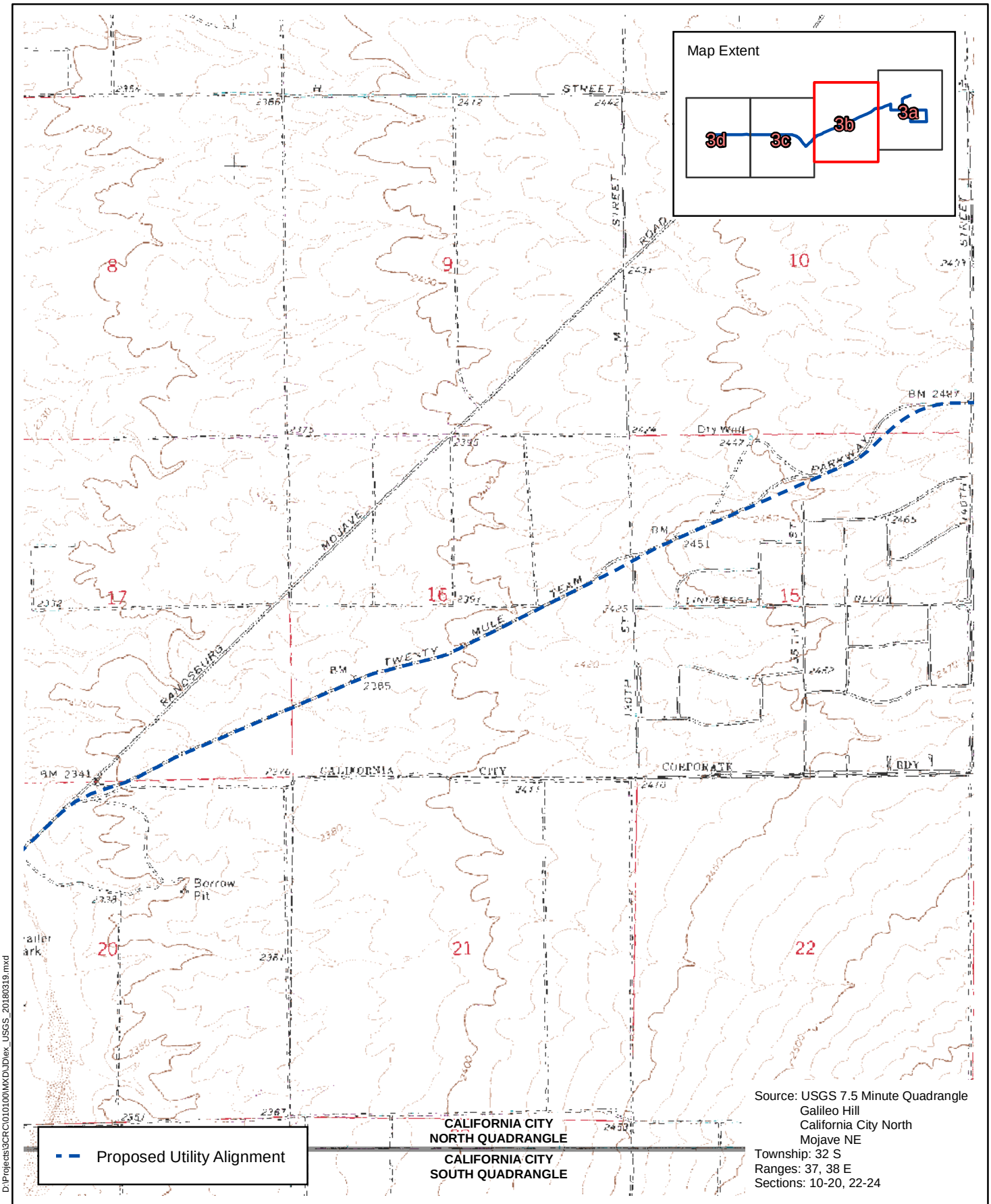
Exhibit 3a

Correctional Development Facility at California City (CDFCC)

N W E S

2,000 1,000 0 2,000 Feet

PSOMAS



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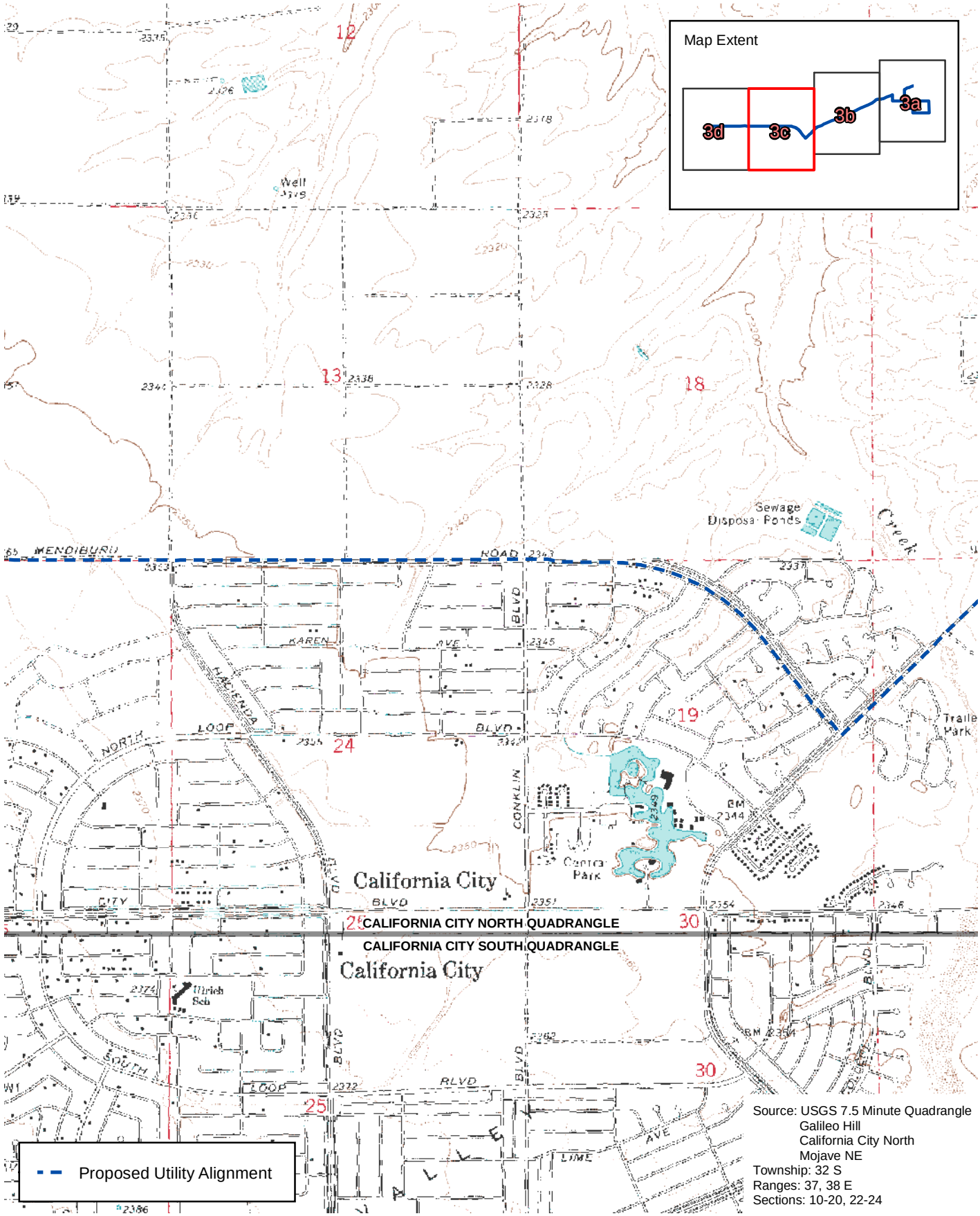
USGS 7.5-Minute Digital Quadrangle

Exhibit 3b

Correctional Development Facility at California City (CDFCC)

PSOMAS



Source: USGS 7.5 Minute Quadrangle
Galileo Hill
California City North
Mojave NE
Township: 32 S
Ranges: 37, 38 E
Sections: 10-20, 22-24

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USGS 7.5-Minute Digital Quadrangle

Exhibit 3c

Correctional Development Facility at California City (CDFCC)

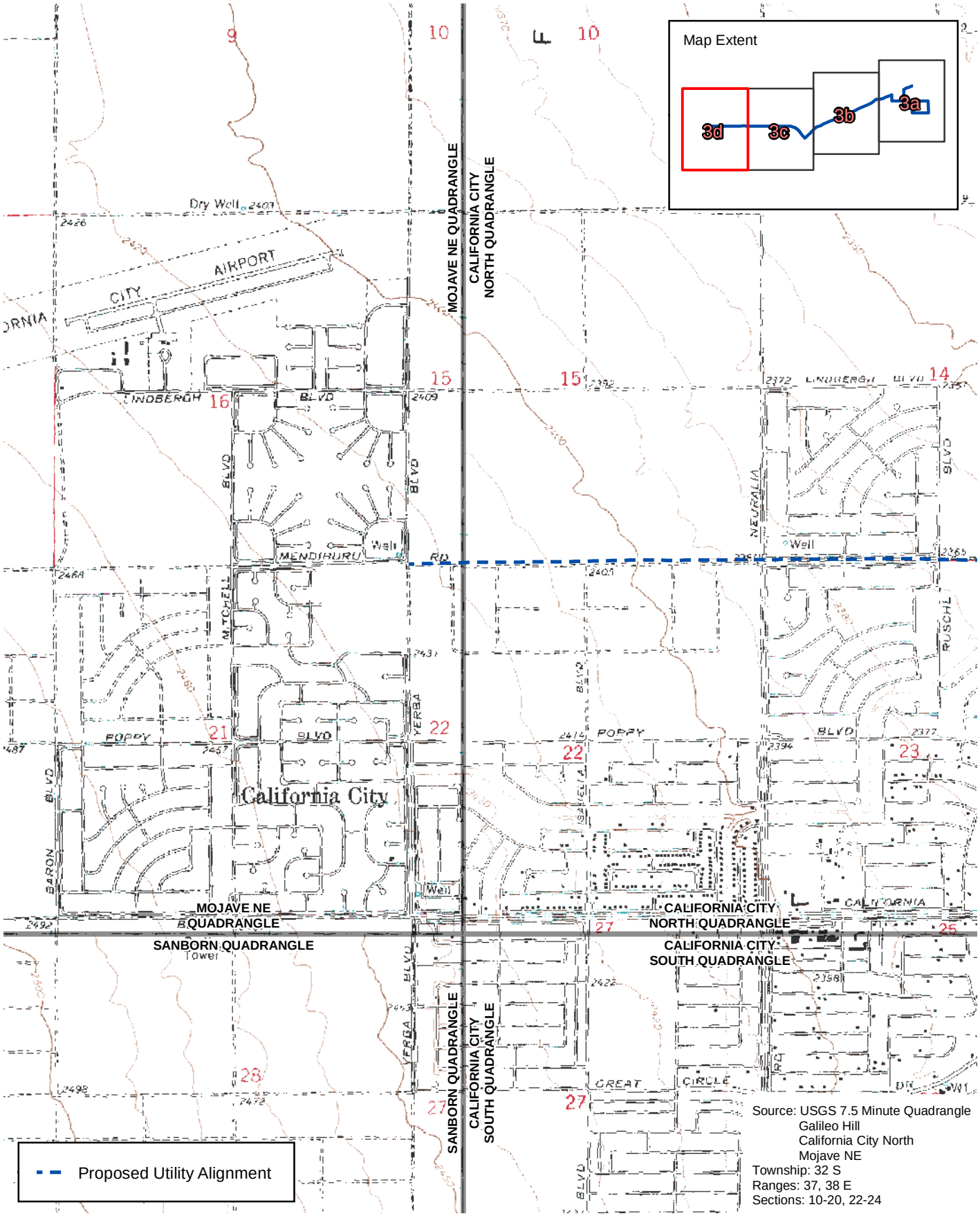
N
W E
S

2,000 1,000 0 2,000

Feet

PSOMAS

(Rev: 3-19-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_USGS.pdf



Source: USGS 7.5 Minute Quadrangle
Galileo Hill
California City North
Mojave NE
Township: 32 S
Ranges: 37, 38 E
Sections: 10-20, 22-24

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USGS 7.5-Minute Digital Quadrangle

Exhibit 3d

Correctional Development Facility at California City (CDFCC)

N W E S

2,000 1,000 0 2,000 Feet

PSOMAS

Survey Area
Project Site Boundary
Proposed Utility Alignment

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes
114 - Cajon loamy sand, 0 to 5 percent slopes
137 - Garlock loamy sand, 2 to 9 percent slopes
151 - Muroc-Randsburg sandy loams, 5 to 9 percent slopes
154 - Neuralia sandy loam, 2 to 5 percent slopes
185 - Torriorthents-Rock outcrop complex, very steep

Map Extent
4g
4f
4e
4d
4c
4b
4a

Match Line - Exhibit 4b

Lookout Dr
La Salle St
Gordon Blvd
Fay Ct
Belle St
Lindbergh Blvd
Innes Dr

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Correctional Development Facility at California City (CDFCC)

Exhibit 4a

N
W
E
S
500 250 0 500
Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area
Project Site Boundary
Proposed Utility Alignment

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes
114 - Cajon loamy sand, 0 to 5 percent slopes
137 - Garlock loamy sand, 2 to 9 percent slopes
151 - Muroc-Randsburg sandy loams, 5 to 9 percent slopes
154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent
4g
4f
4e
4d
4c
4b
4a

145th St
Twenty Mule Team Pkwy
Match Line - Exhibit 4a
Match Line - Exhibit 4c

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Correctional Development Facility at California City (CDFCC)

Exhibit 4b

N
W
E
S
500 250 0 500
Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area

Proposed Utility Alignment

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes

151 - Muroc-Randsburg sandy loams, 5 to 9 percent slopes

154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent

4g 4f 4e 4d 4c 4b 4a

Match Line - Exhibit 4d

Match Line - Exhibit 4b

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Correctional Development Facility at California City (CDFCC)

Exhibit 4c

N W E S

500 250 0 500

Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area

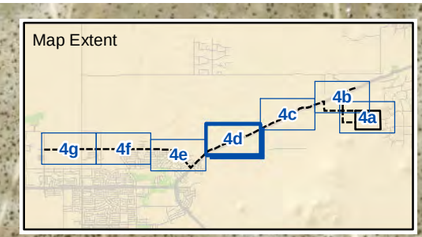
Proposed Utility Alignment

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes

154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent



Match Line - Exhibit 4c

Match Line - Exhibit 4e

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Correctional Development Facility at California City (CDFCC)

Exhibit 4d

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area
Proposed Utility Alignment

Soil Type

100 - Alko-Neuralia sandy loams, 0 to 9 percent slopes
114 - Cajon loamy sand, 0 to 5 percent slopes
154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent

4g 4f 4e 4d 4c 4b 4a

Match Line - Exhibit 4f

Match Line - Exhibit 4d

Rea Ave
Evelyn Ave
Margery Ave
Karen Ave
Susan Ave
Irene Ave
Sally Ave
N Loop Blvd
99th St
101st St
Ethel St
Conklin Blvd
Alder Dr
Bancroft Dr
Calhoun Dr
Trumbull St
Darrow Dr
Everett Dr
Garibaldi Ct
Hooker Dr
Sheridan St
Dolphin Ct
Camille Ct
Jeremy Ct
Jeremy Dr
Reed Pl
Keller Dr
N Garibaldi Dr
Joan Ct
Lydia Dr
Everett Ct
S Garibaldi Dr
Mendiburu Rd
Electra Ct
Ives Ct
Ives Dr
Randsburg Mojave Rd
Camp Fire Dr
Desert Breeze Dr
Morning Glory Dr

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Exhibit 4e

Correctional Development Facility at California City (CDFCC)

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area

Proposed Utility Alignment

Soil Type

114 - Cajon loamy sand, 0 to 5 percent slopes

137 - Garlock loamy sand, 2 to 9 percent slopes

154 - Neuralia sandy loam, 2 to 5 percent slopes

Map Extent

4g 4f 4e 4d 4c 4b 4a

Match Line - Exhibit 4g

Match Line - Exhibit 4e

Rusche Blvd

Charles Pl

Olivo Dr

85th St

Bolden Dr

Mike Dr

Denhart Ave

Raymond Ave

Sarah St

Lewis Ave

Rea Ave

93rd St

Evelyn Ave

Margery Ave

Hacienda Blvd

Lyn St

Susan Ave

95th St

96th St

Karen Ave

Shaw St

97th St

98th St

Ethel St

Irene Ave

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Correctional Development Facility at California City (CDFCC)

Exhibit 4f

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area

Proposed Utility Alignment

Soil Type

114 - Cajon loamy sand, 0 to 5 percent slopes

137 - Garlock loamy sand, 2 to 9 percent slopes

Map Extent

4g 4f 4e 4d 4c 4b 4a

Mendiburu Rd

Yerba Blvd

69th St

Mesquite St

Rea Ave

Charles Pl

Edward St

Olivo Dr

Karen Ave

Neuralia Rd

Match Line - Exhibit 4f

Data Source: U.S. Department of Agriculture; Natural Resources Conservation Service
Aerial Source: ESRI 2016

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Soil Types

Exhibit 4g

Correctional Development Facility at California City (CDFCC)

N W E S

500 250 0 500

Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_Soils.pdf

Survey Area

MESA Transect Location and Number

Site Transect

Topographic Contours (2-foot interval)

Flow Accumulation Classification

2

3 - 4

5 - 8

9 - 12

13 - 14

N

W E

S

300 150 0 300

Feet

Aerial Source: ESRI 2016

Modeling of Potential Resources

Exhibit 5

Correctional Development Facility at California City (CDFCC)

PSOMAS

(Rev: 03/20/2018 MMD) \CRC\3CRC010100\Graphics\JD\Ex_flow_accum.pdf

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Survey Area
Project Site Boundary
Proposed Utility Alignment

Wetland Type

Riverine

Map Extent

6g 6f 6e 6d 6c 6b 6a

Match Line - Exhibit 6b

Lookout Dr
La Salle St
Gordon Blvd
Fay Ct
Belle St
Lindbergh Blvd
Innes Dr

R4SBJ

Data Source: U.S. Fish & Wildlife Service; National Wetlands Inventory December 2016
Aerial Source: ESRI 2016

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National Wetlands Inventory

Correctional Development Facility at California City (CDFCC)

Exhibit 6a

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf

Survey Area
Project Site Boundary
Proposed Utility Alignment

Wetland Type

Riverine

Map Extent

6g 6f 6e 6d 6c 6b 6a

R4SBJ

145th St

Twenty Mule Team Pkwy

Match Line - Exhibit 6a

Match Line - Exhibit 6c

Data Source: U.S. Fish & Wildlife Service; National Wetlands Inventory December 2016
Aerial Source: ESRI 2016

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National Wetlands Inventory

Correctional Development Facility at California City (CDFCC)

Exhibit 6b

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf

Survey Area

Proposed Utility Alignment

Wetland Type

Riverine

R4SBJ

R4SBJ

R4SBJ

R4SBJ

Map Extent

6a 6b 6c 6d 6e 6f 6g

Match Line - Exhibit 6d

Match Line - Exhibit 6b

Data Source: U.S. Fish & Wildlife Service; National Wetlands Inventory December 2016
Aerial Source: ESRI 2016

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National Wetlands Inventory

Exhibit 6c

Correctional Development Facility at California City (CDFCC)

N W E S

500 250 0 500

Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf

Survey Area

Proposed Utility Alignment

Wetland Type

Riverine

Map Extent

6g 6f 6e 6d 6c 6b 6a

Match Line - Exhibit 6c

Match Line - Exhibit 6e

R4SBJ

R4SBJ

R4SBJ

Data Source: U.S. Fish & Wildlife Service; National Wetlands Inventory December 2016
Aerial Source: ESRI 2016

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National Wetlands Inventory

Correctional Development Facility at California City (CDFCC)

Exhibit 6d

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf

Survey Area

Proposed Utility Alignment

Wetland Type

Freshwater Forested/Shrub Wetland

Freshwater Pond

Riverine

Map Extent

6a 6b 6c 6d 6e 6f 6g

R4SBJ

PSS1J

PUSCx

PUBFx

PUBHx

Match Line - Exhibit 6f

Match Line - Exhibit 6d

Rea Ave

Evelyn Ave

Margery Ave

Karen Ave

Susan Ave

Irene Ave

Sally Ave

N Loop Blvd

Ethel St

99th St

101st St

Conklin Blvd

Alder Dr

Bancroft Dr

Calhoun Dr

Trumbull St

Darrow Dr

Everett Dr

Garibaldi Ct

Hooker Dr

Sheridan St

Dolphin Ct

Camille Ct

Jeremy Ct

Jeremy Dr

Reed Pl

Keller Dr

N Garibaldi Dr

Joan Ct

Lydia Dr

Everett Ct

Mendiburu Rd

S Garibaldi Dr

Electra Ct

Ives Ct

Ives Dr

Randsburg Mojave Rd

Camp Fire Dr

Desert Breeze Dr

Morning Glory Dr

Data Source: U.S. Fish & Wildlife Service; National Wetlands Inventory December 2016
Aerial Source: ESRI 2016

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National Wetlands Inventory

Correctional Development Facility at California City (CDFCC)

Exhibit 6e

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf

Survey Area

Proposed Utility Alignment

Wetland Type

Riverine

Map Extent

6g 6f 6e 6d 6c 6b 6a

R4SBJ

R4SBJx

Match Line - Exhibit 6g

Match Line - Exhibit 6e

Rusche Blvd

Charles Pl

Olivo Dr

85th St

Bolden Dr

Mike Dr

Denhart Ave

Raymond Ave

Sarah St

Lewis Ave

Rea Ave

93rd St

Evelyn Ave

Margery Ave

96th St

97th St

Ethel St

Karen Ave

Susan Ave

Lyn St

Hacienda Blvd

95th St

Shaw St

98th St

Irene Ave

Data Source: U.S. Fish & Wildlife Service; National Wetlands Inventory December 2016
Aerial Source: ESRI 2016

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National Wetlands Inventory

Correctional Development Facility at California City (CDFCC)

Exhibit 6f

N W E S

500 250 0 500 Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf

Survey Area

Proposed Utility Alignment

Wetland Type

Riverine

R4SBJ

Map Extent

6g 6f 6e 6d 6c 6b 6a

Mendiburu Rd

Yerba Blvd

69th St

Mesquite St

Rea Ave

Charles Pl

Edward St

Olivo Dr

Karen Ave

Neuralia Rd

Match Line - Exhibit 6f

Data Source: U.S. Fish & Wildlife Service; National Wetlands Inventory December 2016
Aerial Source: ESRI 2016

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National Wetlands Inventory

Correctional Development Facility at California City (CDFCC)

Exhibit 6g

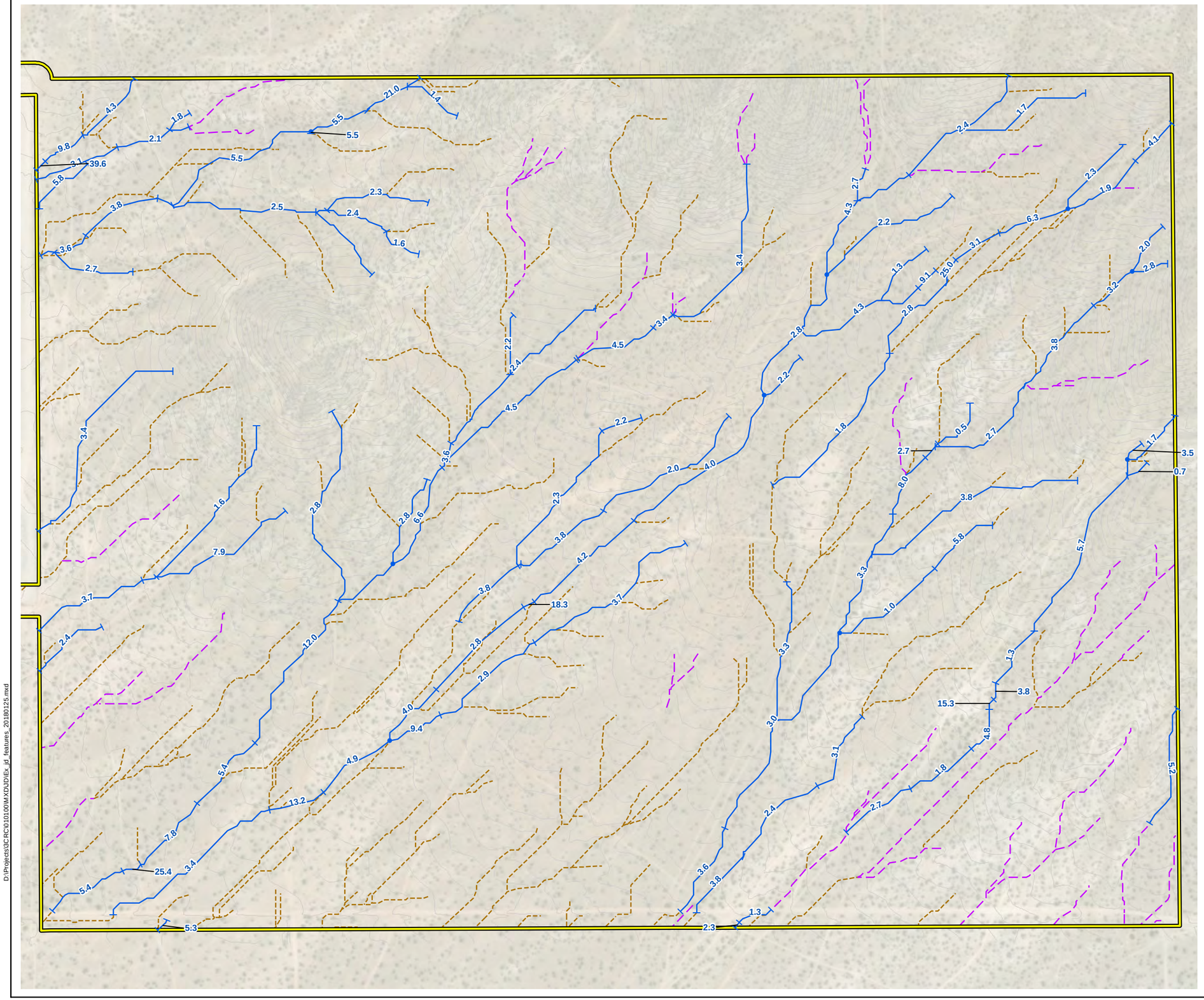
N W E S

500 250 0 500

Feet

PSOMAS

(Rev: 3-20-2018 MMD) Projects\CRC\3CRC010100\Graphics\JD\ex_wetlands_inventory.pdf



Survey Area

Jurisdictional Resources

Watercourse (width in feet)*

Swale

Upland

Topographic Contours (2-foot interval)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7a

Correctional Development Facility at California City (CDFCC)

PSOMAS

(Rev: 03/19/2018 MMD) \CRC\3CRC010100\Graphics\JD\Ex_jd_features.pdf

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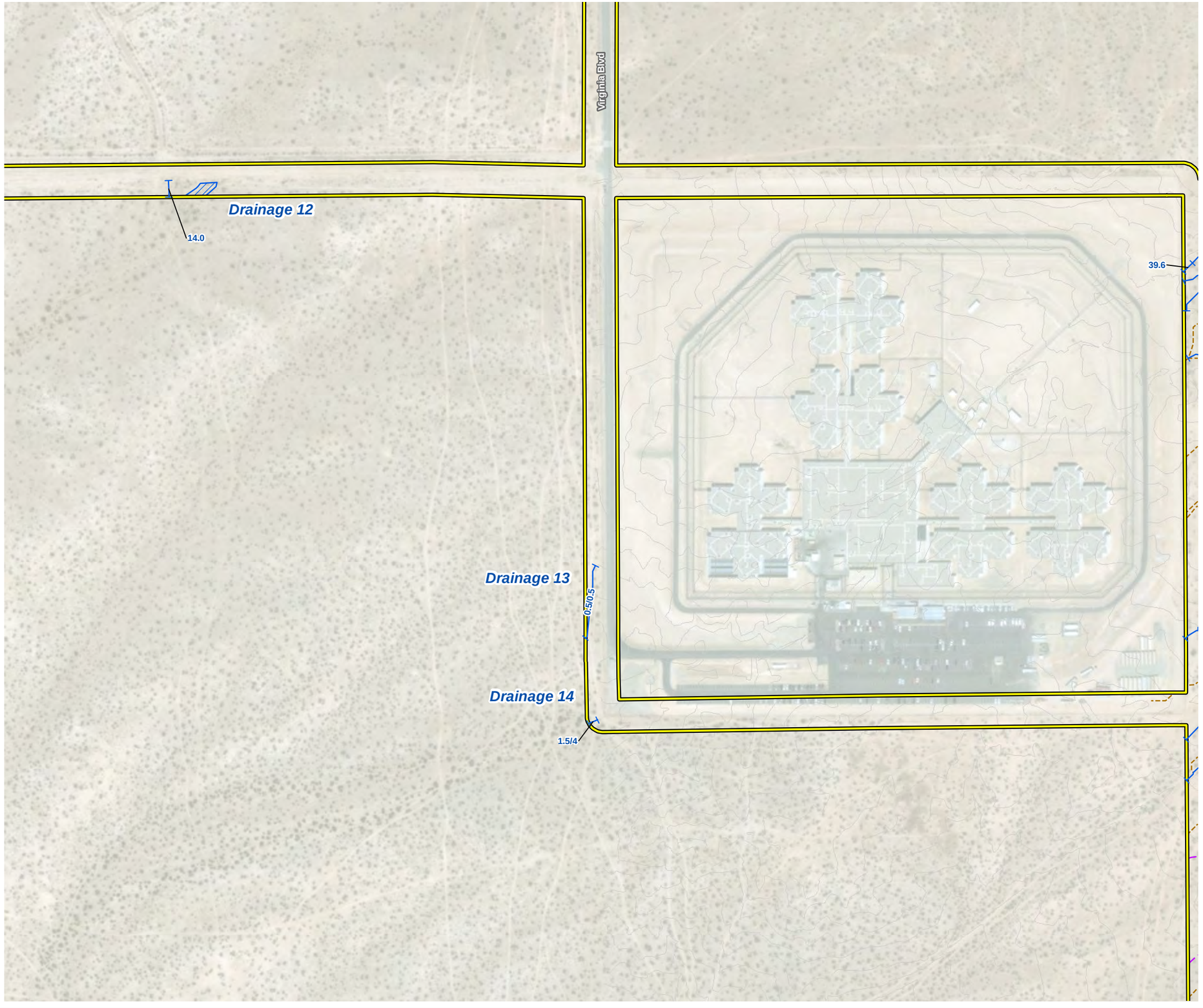

Survey Area

Jurisdictional Resources

- Watercourse (width in feet)*
- Watercourse (polygon)
- Swale
- Upland
- Topographic Contours (2-foot interval)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7b

Correctional Development Facility at California City (CDFCC)

PSOMAS

(Rev: 03/19/2018 MMD) \CRC\3CRC010100\Graphics\JD\Ex_jd_features.pdf

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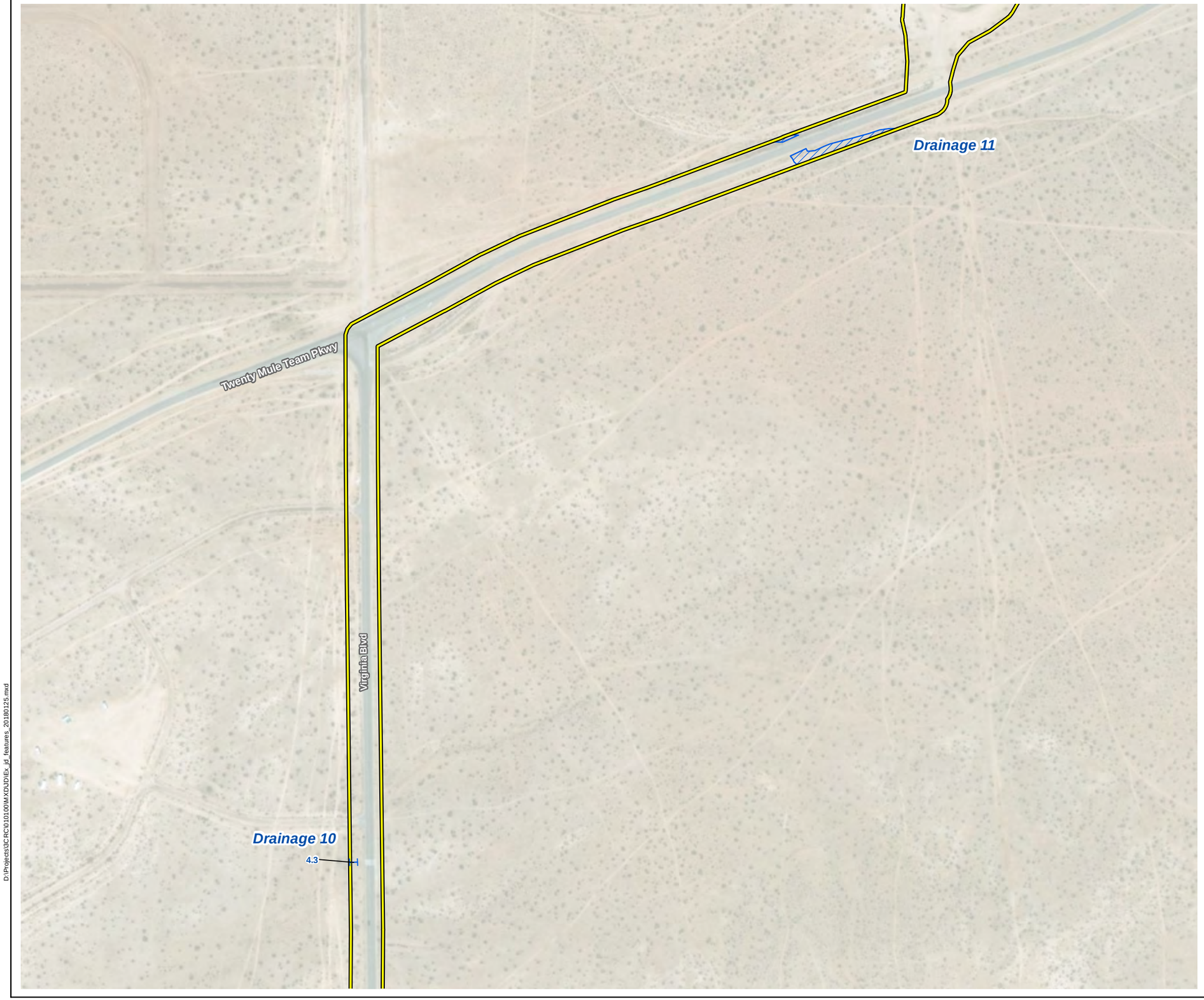

Survey Area

Jurisdictional Resources

Watercourse (width in feet)*

Watercourse (polygon)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7c

Correctional Development Facility at California City (CDFCC)

PSOMAS

(Rev: 03/19/2018 MMD) \CRC\3CRC010100\Graphics\JD\Ex_jd_features.pdf

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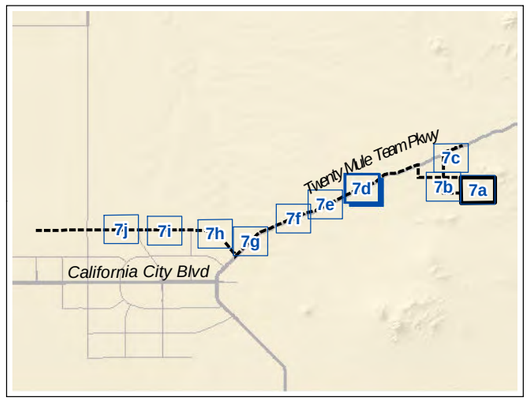

Survey Area

Jurisdictional Resources

Watercourse (width in feet)*

Watercourse (polygon)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7d

Correctional Development Facility at California City (CDFCC)

PSOMAS

(Rev: 03/19/2018 MMD) \CRC\3CRC010100\Graphics\JD\Ex_jd_features.pdf

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Survey Area

Jurisdictional Resources

Watercourse (width in feet)*

Watercourse (polygon)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7e

Correctional Development Facility at California City (CDFCC)

PSOMAS

(Rev: 03/19/2018 MMD) \CRC\3CRC010100\Graphics\JD\Ex_jd_features.pdf

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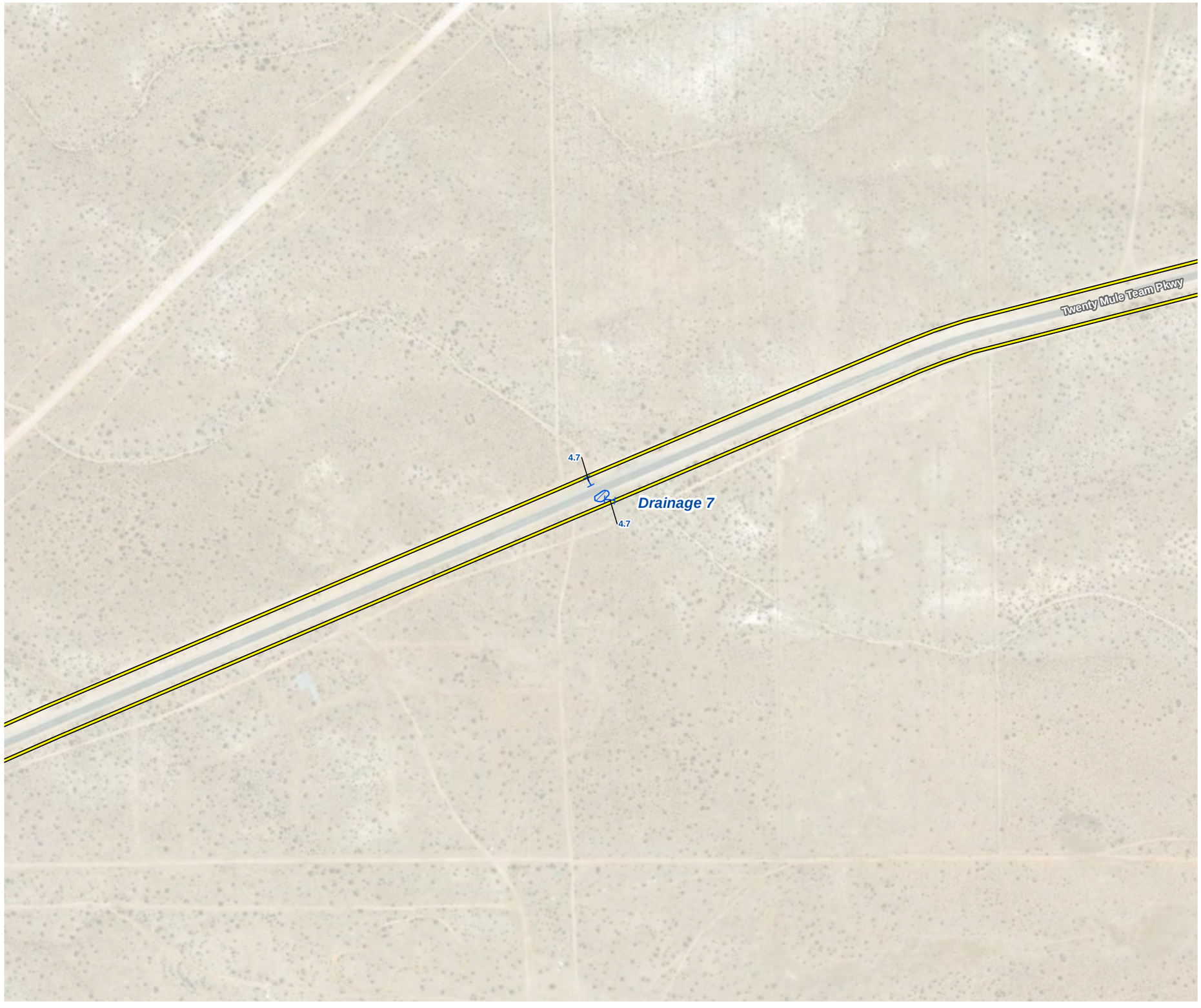

Survey Area

Jurisdictional Resources

Watercourse (width in feet)*

Watercourse (polygon)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7f

Correctional Development Facility at California City (CDFCC)

PSOMAS

(Rev: 03/19/2018 MMD) \CRC\3CRC010100\Graphics\JD\Ex_jd_features.pdf

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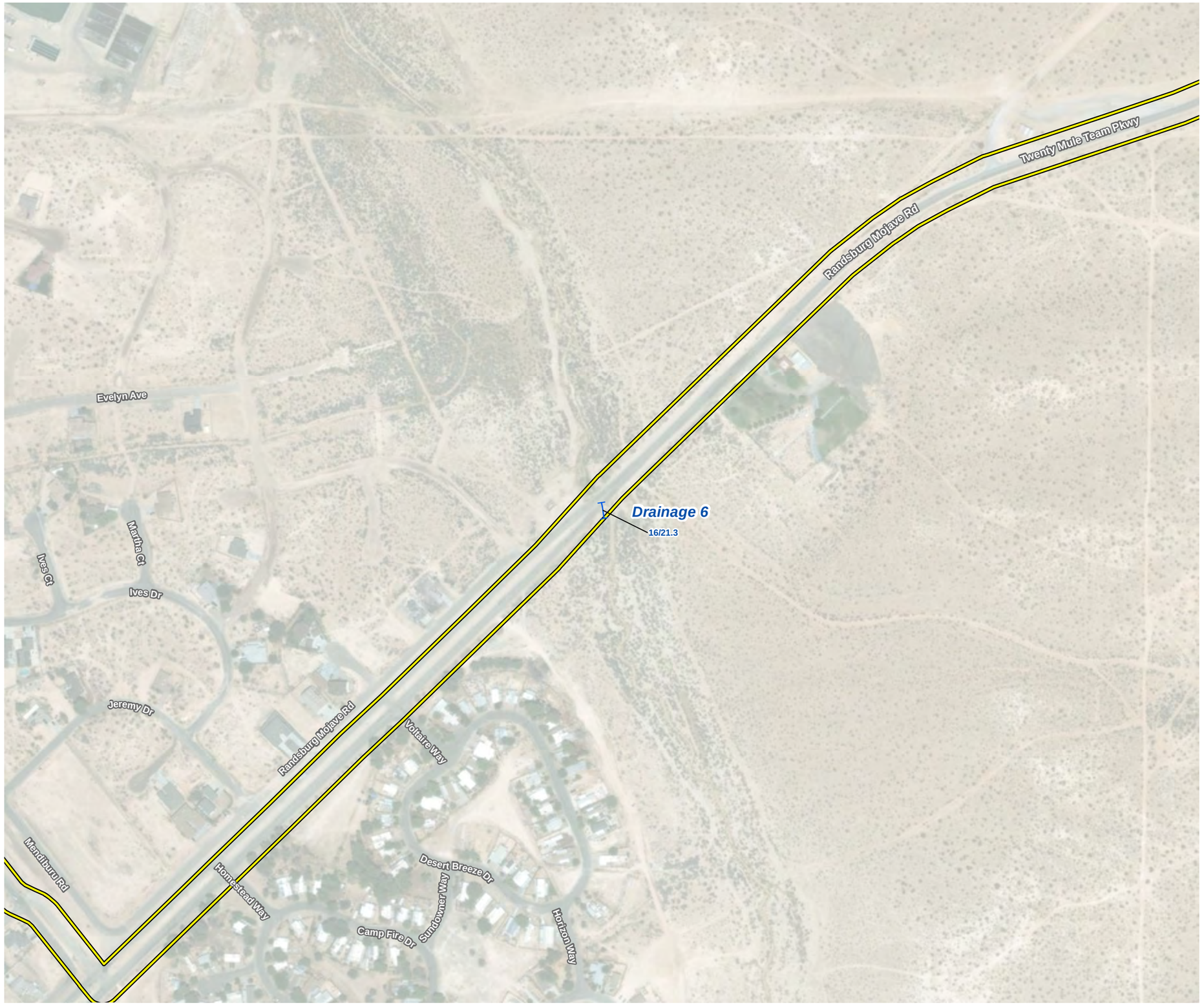

Survey Area

Jurisdictional Resources

Watercourse (width in feet)*

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7g

Correctional Development Facility at California City (CDFCC)

PSOMAS

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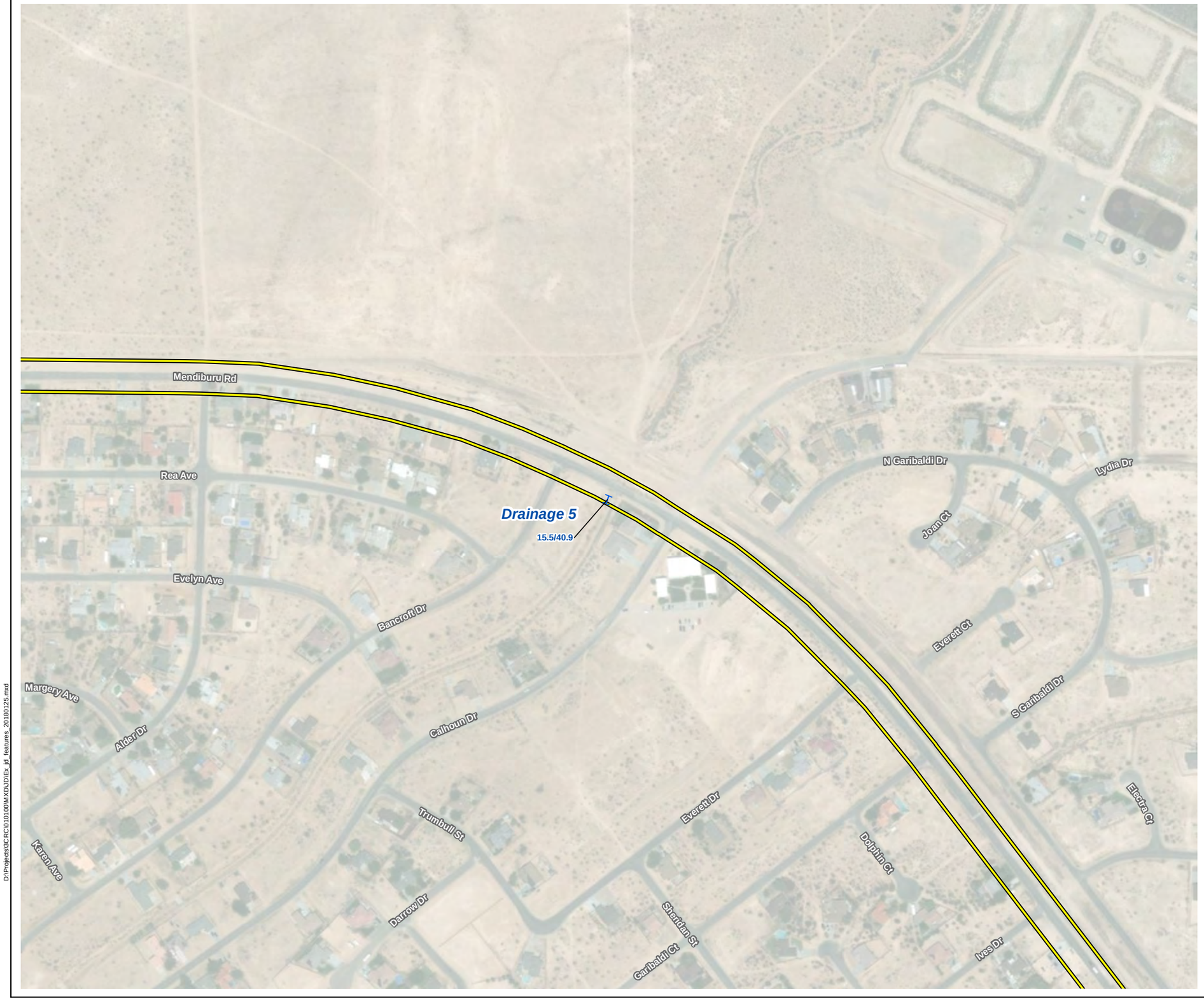

Survey Area

Jurisdictional Resources

Watercourse (width in feet)*

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7h

Correctional Development Facility at California City (CDFCC)

PSOMAS

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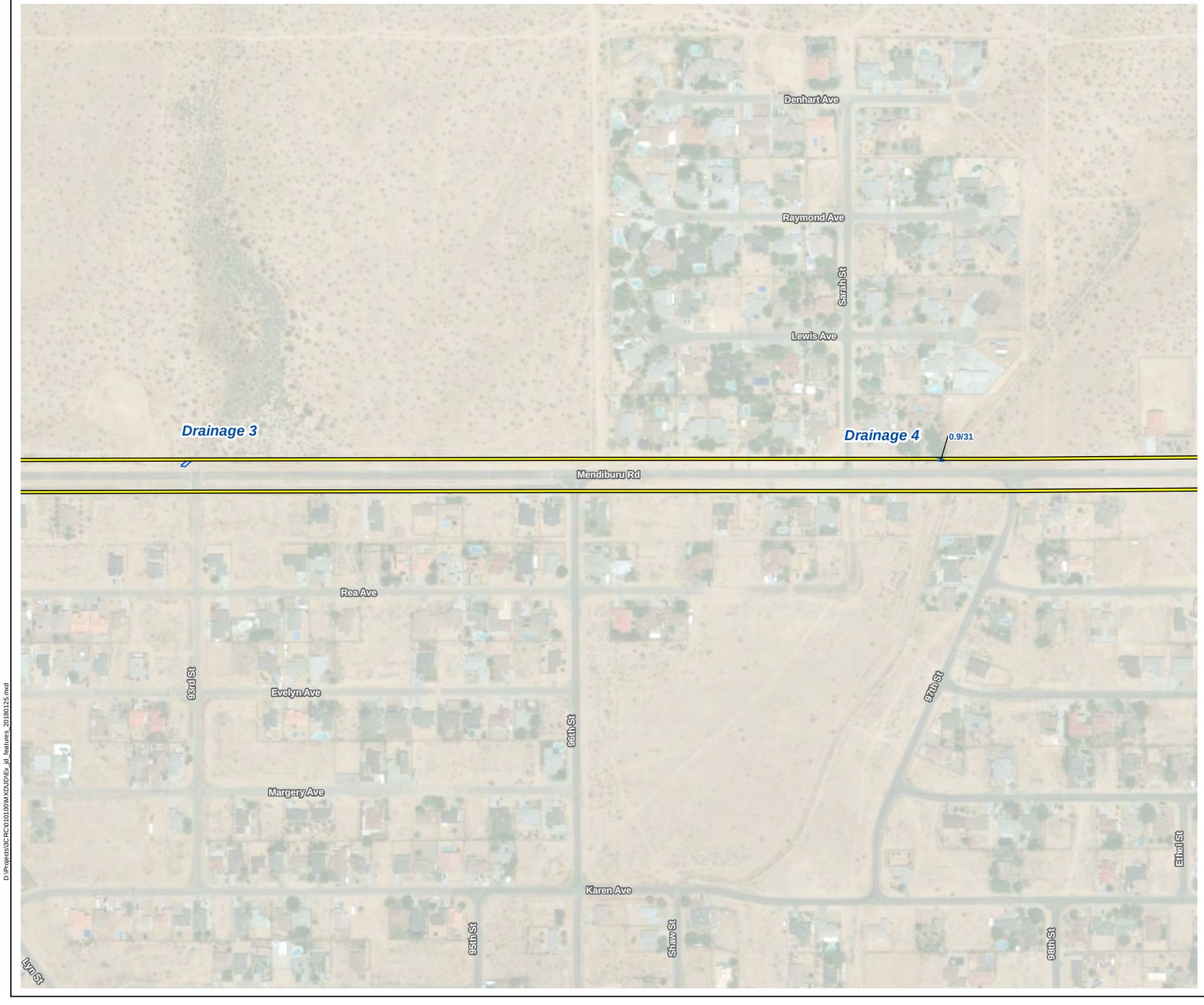

Survey Area

Jurisdictional Resources

Watercourse (width in feet)*

Watercourse (polygon)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7i

Correctional Development Facility at California City (CDFCC)

PSOMAS

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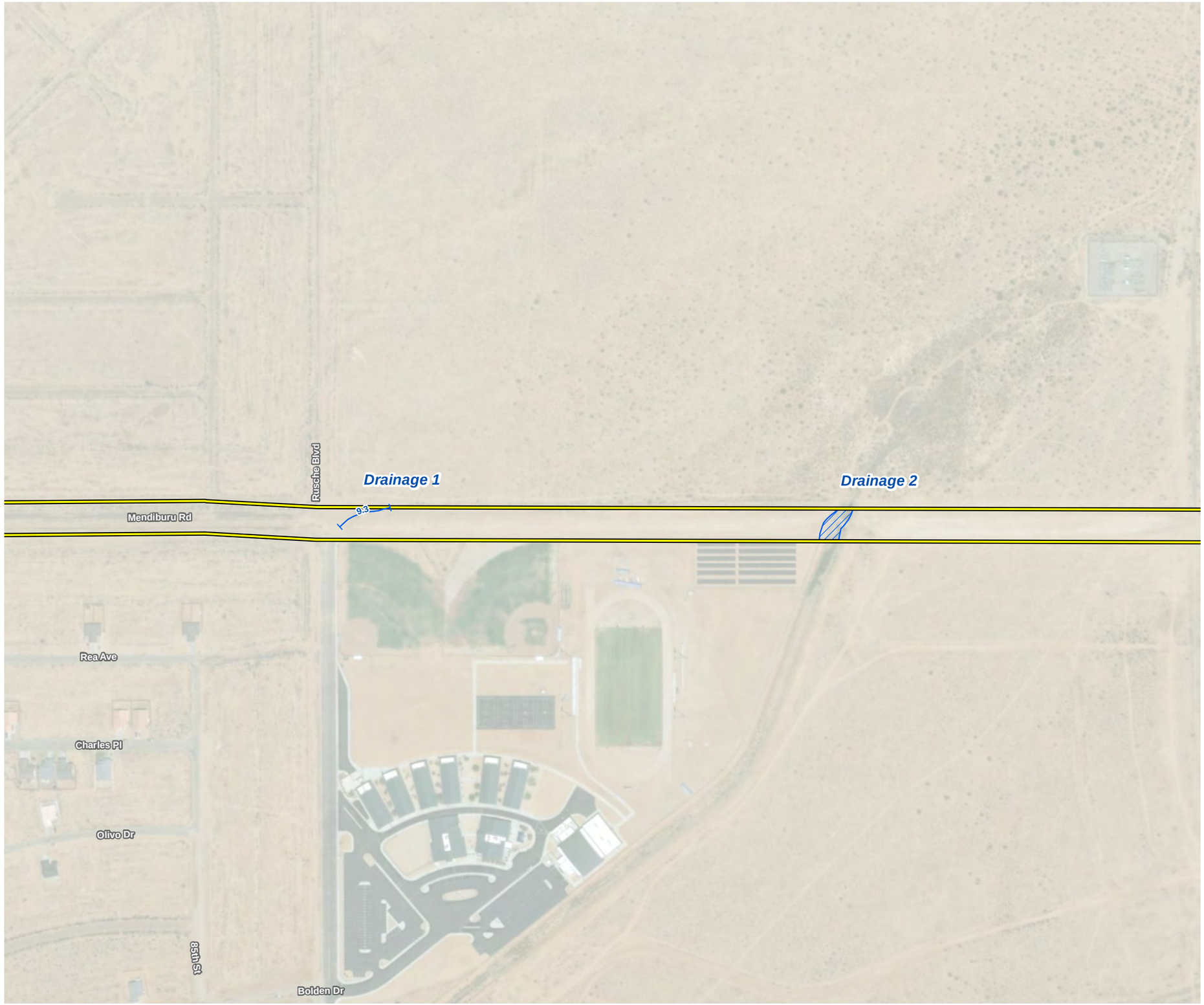

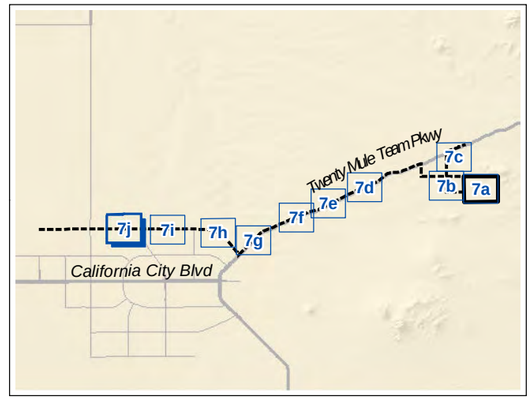

Survey Area

Jurisdictional Resources

Watercourse (width in feet)*

Watercourse (polygon)

*Note: Where two values are provided, the first indicates width of RWQCB jurisdiction and the second indicates width of CDFW jurisdiction.

N
W E
S

300 150 0 300
Feet

Aerial Source: ESRI, 2016

Jurisdictional Resources Exhibit 7j

Correctional Development Facility at California City (CDFCC)

PSOMAS

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ATTACHMENT B

REGULATORY AUTHORITY

REGULATORY AUTHORITY

This attachment summarizes the regulatory authority of the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW) over activities that have potential to impact jurisdictional resources.

U.S. Army Corps of Engineers

The USACE Regulatory Branch regulates activities that discharge dredged or fill materials into "waters of the U.S." under Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. This permitting authority applies to all "waters of the U.S." where the material (1) replaces any portion of "waters of the U.S." with dry land or (2) changes the bottom elevation of any portion of any "waters of the U.S.". These fill materials would include sand, rock, clay, construction debris, wood chips, and materials used to create any structure or infrastructure in these waters.

Waters of the United States

"Waters of the U.S." can be divided into three categories: territorial seas, tidal waters, or non-tidal waters. The term "waters of the U.S." is defined by the *Code of Federal Regulations*[1] (CFR) and includes:

1. All waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide (i.e., Traditional Navigable Waters [TNWs]).
2. All interstate waters including interstate wetlands.
3. All other waters such as intrastate lakes, rivers, or streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds where the use, degradation, or destruction of which could affect interstate or foreign commerce.
4. All impoundments of waters otherwise defined as "waters of the U.S." under the definition.
5. All tributaries of waters identified above.
6. The territorial seas.
7. All wetlands adjacent to waters (other than waters that are themselves wetlands) identified above.

The U.S. Supreme Court has issued three decisions that provide context and guidance in determining the appropriate scope of "waters of the U.S.". In *United States v. Riverside Bayview Homes*, the Court upheld the inclusion of adjacent wetlands in the regulatory definition of "waters of the U.S.". In *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC), the Court held that the use of "isolated" non-navigable intrastate ponds by migratory birds was not, by itself, sufficient basis for the exercise of federal regulatory authority under the CWA. In *Rapanos v. United States* (Rapanos),[2] a majority of the U.S. Supreme Court overturned two Sixth Circuit Court of Appeals decisions, finding that certain wetlands constituted "waters of the U.S." under the CWA. In his plurality opinion, Justice Scalia argued that "waters of the U.S." should not include channels through which water flows intermittently or ephemerally or channels

[1] Specifically, Title 33, Navigation and Navigable Waters; Part 328, Definition of waters of the United States; §328.3, Definitions.

[2] Consolidated cases: *Rapanos v. United States* and *Carabell v. United States* refer to the U.S. Supreme Court's decision concerning USACE jurisdiction over "waters of the U.S." under the CWA.

that periodically provide drainage for rainfall. He also stated that a wetland may not be considered "adjacent to" remote "waters of the U.S." based on a mere hydrologic connection. Justice Kennedy authored a separate concurring opinion concluding that wetlands are "waters of the U.S." if they, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as "navigable". Lacking a majority opinion, regulatory jurisdiction under the CWA exists over a water body if either the plurality's or Justice Kennedy's "significant nexus" standard is satisfied.

In summary, the USACE and the U.S. Environmental Protection Agency (USEPA) will assert jurisdiction over the following waters: (1) TNWs; (2) wetlands adjacent to a TNW; (3) relatively permanent, non-navigable tributaries of a TNW that typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and (4) wetlands that directly abut such tributaries.

The USACE and the USEPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW: (1) non-navigable tributaries that are not relatively permanent; (2) wetlands adjacent to non-navigable tributaries that are not relatively permanent; and (3) wetlands adjacent to, but that do not directly abut, a relatively permanent, non-navigable tributary.

The USACE and the USEPA will apply the significant nexus standard defined as follows:

1. A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNWs.
2. A significant nexus includes consideration of hydrologic and ecological factors.

The USACE and the USEPA generally will not assert jurisdiction over the following features: (1) swales or erosional features (e.g., gullies or small washes characterized by low volume, infrequent, or short duration flow) and (2) ditches (including roadside ditches) excavated wholly within and draining only uplands and that do not carry a relatively permanent flow of water.

Ordinary High Water Mark

The landward limit of tidal "waters of the U.S." is the high-tide line. In non-tidal waters where adjacent wetlands are absent, the lateral limits of USACE jurisdiction extend to the ordinary high water mark (OHWM).[3] The OHWM is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas".[4] When wetlands are present, the lateral limits of USACE jurisdiction extend beyond the OHWM to the limits of the adjacent wetlands.[5]

[3] U.S. Army Corps of Engineers (USACE). 2005 (December 7). Regulatory Guidance Letter. Ordinary High Water Mark Identification. Washington, D.C.: USACE.

[4] *Code of Federal Regulations* (CFR), Title 33, §328.3(e)

[5] USACE 2005

Wetlands

A wetland is a subset of jurisdictional waters and is defined by the USACE and the USEPA as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions".[6] Wetlands generally include swamps, marshes, bogs, and areas containing similar features.

The definition and methods for identifying wetland resources can be found in the USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*,[7] a supplement to the 1987 *Corps of Engineers Wetlands Delineation Manual*.[8] Both the 1987 Wetlands Manual and the 2008 Arid West Supplement to the manual provide technical methods and guidelines for determining the presence of wetland "waters of the U.S.". Pursuant to these manuals, a three-parameter approach is used to identify wetlands and requires evidence of wetland hydrology, hydrophytic vegetation, and hydric soils. In order to be considered a wetland, an area must exhibit one or more indicators of all three of these parameters. However, problem areas may periodically or permanently lack certain indicators for reasons such as seasonal or annual variability of rainfall, vegetation, and other factors. Atypical wetlands lack certain indicators due to recent human activities or natural events. Guidance for determining the presence of wetlands in these situations is presented in the regional supplement.

Section 404 Permit

Except as specified in Section 323.4 of the CFR, impacts to "waters of the U.S." require a Section 404 Permit. Permit authorization may be in the form of (1) a "general permit" authorizing a category of activities in a specific geographical region or nationwide or (2) an "individual permit" (IP) following a review of an individual application form (to be obtained from the district office having jurisdiction over the waters in which the activity is proposed to be located).

Regulatory authorization in the form of a Nationwide Permit (NWP) is provided for certain categories of activities such as repair, rehabilitation, or replacement of a structure or fill which was previously authorized; utility line placement; or bank stabilization. The current set of NWPs became effective on March 19, 2017, and will expire on March 18, 2022. NWPs authorize only those activities with minimal adverse effects on the aquatic environment and are valid only if the conditions applicable to the permits are met or waivers to these conditions are provided in writing from the USACE. Please note that waivers may require consultation with affected federal and State agencies, which can be a lengthy process with no mandated processing time frames. Certain activities do not require submission of an application form, but may require a separate notification. If the NWP conditions cannot be met, an IP will be required. "Waters of the U.S." temporarily filled, flooded, excavated, or drained but restored to pre-construction contours and elevations after construction are not included in the measurement of loss of "waters of the U.S.". The appropriate permit authorization will be based on the amount of impacts to "waters of the U.S.", as determined by the USACE. There is no filing fee for the Section 404 Permit.

Approximately three or four months are typically required to process a routine permit application; large or complex activities may take longer to process. When a permit application is received, it will be assigned an identification number and reviewed for completeness by the District Engineer. If an application is incomplete, additional information will be requested within 15 days of receipt

6 33 CFR §328.3(b)

7 USACE. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. (J.S. Wakeley, R.W. Lichvar, and C.V. Noble, Eds.). Vicksburg, MS: U.S. Army Engineer Research and Development Center.

8 Environmental Laboratory. 1987. Cor*ps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1)*. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station.

of the application. If an application is complete, the District Engineer will issue a public notice within 15 days unless specifically exempted by provisions of the CFR. Public comments will be accepted no more than 30 days but not less than 15 days from the date of public notice; these will become part of the administrative record of the application. Generally, the District Engineer will decide on the application no later than 60 days after receipt of the completed application. Additional permit situations may increase the permit processing time (e.g., projects involving a Section 401 Water Quality Certification, a coastal zone management consistency analysis, historic properties, a federal agency, and/or Endangered species). The Project Applicant will be given time, not to exceed 30 days, to respond to requests of the District Engineer.

On January 31, 2007, the USACE published a memorandum clarifying the Interim Guidance for Amendments to the National Historic Preservation Act and the Advisory Council on Historic Preservation (ACHP) implementing regulations.[9] The Interim Guidance applies to all Department of the Army requests for authorization/verification, including Individual Permits (IPs, i.e., standard permits and letters of permission) and all Regional General Permits (RGPs) and Nationwide Permits (NWPs). The State or Tribal Historic Preservation Officer (SHPO/THPO) has 30 days to respond to a determination that a proposed activity, which otherwise qualifies for an NWP or an RGP, has no effect or no adverse effect on a historic property. If the SHPO/THPO does not respond within 30 days of notification, the Los Angeles District may proceed with verification. If the SHPO/THPO disagrees with the District's determination, the District may work with the SHPO/THPO to resolve the disagreement or request an opinion from the ACHP. The USACE will submit the Draft Jurisdictional Delineation Report to the SHPO/THPO for review prior to initiating the actual regulatory process.

Please note that, if the USACE determines that the drainages/waterbodies are jurisdictional and would be impacted by project implementation, the Applicant will be required to obtain a CWA Section 401 Water Quality Certification from the RWQCB before the USACE will issue the Section 404 Permit. If the USACE determines that the impacted drainage/waterbody is not jurisdictional, the Applicant will be required to obtain RWQCB authorization under the provisions of an RWD.

Jurisdictional Determinations

Pursuant to USACE Regulatory Guidance Letter (RGL) 08-02 (dated June 26, 2008), the USACE can issue two types of jurisdictional determinations to implement Section 404 of the CWA: Approved Jurisdictional Determinations and Preliminary Jurisdictional Determinations.[10] An Approved Jurisdictional Determination is an official USACE determination that jurisdictional "waters of the U.S.", "Navigable Waters of the U.S.", or both are either present or absent on a site. An Approved Jurisdictional Determination also identifies the precise limits of jurisdictional waters on a project site.

The USACE will provide an Approved Jurisdictional Determination when (1) an Applicant requests an official jurisdictional determination; (2) an Applicant contests jurisdiction over a particular water body or wetland; or (3) when the USACE determines that jurisdiction does not exist over a particular water body or wetland. The Approved Jurisdictional Determination then becomes the USACE's official determination that can then be relied upon over a five-year period to request regulatory authorization as part of the permit application.

[9] USACE. 2007 (January 31). Memorandum: Interim Guidance for Amendments to the National Historic Preservation Act and the Advisory Council on Historic Preservation (ACHP) Implementing Regulations. Washington, D.C.: USACE.

[10] USACE. 2008b (June 26). Regulatory Guidance Letter. Jurisdictional Determinations. Washington, D.C.: USACE.

In addition, an Applicant may decline to request an Approved Jurisdictional Determination and instead obtain a USACE IP or General Permit Authorization based on a Preliminary Jurisdictional Determination or, in certain circumstances (e.g., authorizations by non-reporting nationwide general permits), with no Jurisdictional Determination.

Preliminary Jurisdictional Determinations are non-binding, advisory in nature, and may not be appealed. They indicate that there may be "waters of the U.S." on a project site. An Applicant may elect to use a Preliminary Jurisdictional Determination to voluntarily waive or set aside questions regarding CWA jurisdiction over a site, usually in the interest of expediting the permitting process. The USACE will determine what form of Jurisdictional Determination is appropriate for a particular project site.

The USACE Regulatory Branch Offices will coordinate with the USEPA Regional Office and USACE Headquarters (HQ), as outlined in its January 28, 2008, memorandum entitled "Process for Coordinating Jurisdictional Determinations Conducted Pursuant to Section 404 of the Clean Water Act in Light of the *Rapanos* and *SWANCC* Supreme Court Decisions".[11] The guidance provided in this memorandum is quoted as follows:

1. Effective immediately, unless and until paragraph 5(b) of the June 5, 2007, Rapanos guidance coordination memorandum is modified by a joint memorandum from Army and EPA, we will follow these procedures:
    a. For jurisdictional determinations involving significant nexus determinations, USACE districts will send copies of draft jurisdictional delineations via e-mail to appropriate EPA regional offices. The EPA regional office will have 15 calendar days to decide whether to take the draft jurisdictional delineation as a special case under the January 19, 1989, "Memorandum of Agreement Between the Department of the Army and the USEPA Concerning the Determination of the Section 404 Program and the Application of the Exceptions under Section 404(f) of the Clean Water Act." If the EPA regional office does not respond to the district within 15 days, the district will finalize the jurisdictional determination.
    b. For jurisdictional determinations involving isolated waters determinations, the agencies will continue to follow the procedure in paragraph 5(b) of June 5, 2007, coordination memorandum, until a new coordination memorandum is signed by USACE and EPA. (In accordance with paragraph 6 of the June 5, 2007, coordination memorandum, this is a 21-day timeline that can only be changed through a joint memorandum between agencies).
2. Approved JDs are not required for non-reporting NWPs, unless the project proponent specifically requests an approved JD. For proposed activities that may qualify for authorization under a State Programmatic General Permit (SPGP) or RGP, an approved JD is not required unless requested by the project proponent.
3. The USACE will continue to work with EPA to resolve the JDs involving significant nexus and isolated waters determinations that are currently in the elevation process.

[11] USACE. 2008c (January 28). *Memorandum for Commander, Major Subordinate Commands and District Commands. Process for Coordinating Jurisdictional Determinations Conducted Pursuant to Section 404 of the Clean Water Act in Light of the Rapanos and SWANCC Supreme Court Decisions.* Washington, D.C.: USACE.

4. USACE districts will continue posting completed Approved JD Forms on their web pages.

Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California through the regulation of discharges to surface waters under the CWA and the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The RWQCB's jurisdiction extends to all "waters of the State" and to all "waters of the U.S.", including wetlands (isolated and non-isolated).

Section 401 of the CWA provides the RWQCB with the authority to regulate, through a Water Quality Certification, any proposed, federally permitted activity that may affect water quality. Among such activities are discharges of dredged or fill material permitted by the USACE pursuant to Section 404 of the CWA. Section 401 requires the RWQCB to provide certification that there is reasonable assurance that an activity which may result in discharge to navigable waters will not violate water quality standards. Water Quality Certification must be based on a finding that the proposed discharge will comply with water quality standards, which contain numeric and narrative objectives that can be found in each of the nine RWQCBs' Basin Plans.

The Porter-Cologne Act provides the State with very broad authority to regulate "waters of the State" (which are defined as any surface water or groundwater, including saline waters). The Porter-Cologne Act has become an important tool in the post-SWANCC (*Solid Waste Agency of Northern Cook Counties vs. United States Army Corps of Engineers*) and Rapanos era with respect to the State's authority over isolated waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file an RWD when there is no federal nexus, such as under Section 404(b)(1) of the CWA. Although "waste" is partially defined as any waste substance associated with human habitation, the RWQCB interprets this to include fill discharge into water bodies.

Section 401 Water Quality Certification

Issuance of the USACE Section 404 Permit would be contingent upon the approval of a Section 401 Water Quality Certification from the RWQCB. Also, the RWQCB requires certification of the project's California Environmental Quality Act (CEQA) documentation before it will approve the Section 401 Water Quality Certification or RWD. The RWQCB, as a responsible agency, will use the project's CEQA document to satisfy its own CEQA-compliance requirements.

Upon acceptance of a complete permit application, the RWQCB has between 60 days and 1 year to make a decision regarding the permit request. This is compliant with USACE regulations, which indicate that the RWQCB has 60 days from the date of receipt of a completed application that requests water quality certification to make a decision.[12] The RWQCB has the option of issuing a "Denial Without Prejudice", which does not mean that the request is denied, but that it requires more information in order to make a decision. This effectively stops the processing clock until this information is provided.

The RWQCB is required under the *California Code of Regulations* (CCR) to have a "minimum 21 day public comment period" before any action can be taken on the Section 401 application.[13] This period closes when the RWQCB acts on the application. Since projects often change or are revised during the Section 401 permit process, the comment period can remain open. The public comment period starts as soon as an application has been received. Generally, the RWQCB Section 401, USACE Section 404, and CDFW Section 1602 permit applications are submitted at

[12] 33 CFR §325.2(b)(1)(ii)
[13] 23 CCR §3858(a)

the same time. However, the RWQCB Section 401 Water Quality Certification may take longer to process than the other two applications.

The RWQCB requires the Applicant to address urban storm water runoff during and after construction in the form of BMPs. These BMPs are intended to address the treatment of pollutants carried by storm water runoff and are required in all complete applications. The notification/application for a CWA Section 401 Water Quality Certification must also address compliance with the Basin Plan. Please note that filing an application would also require the payment of an application fee which would be based on project impacts. The fee schedule calculator is available at http://www.waterboards.ca.gov/santaana/water_issues/programs/401_certification/index.shtml.

National Pollutant Discharge Elimination System/Report of Waste Discharge

If project operation or discharges from a property or business affects California surface, coastal, or groundwater, a Project Applicant may need to obtain a permit to discharge waste from the RWQCB. The discharge of pollutants into surface waters requires filing of a completed federal National Pollutant Discharge Elimination System (NPDES) permit application form with the appropriate RWQCB. For other types of discharges, such as those affecting groundwater or in a diffused manner (e.g., erosion from soil disturbance or waste discharges to land), an RWD must be filed with the RWQCB in order to obtain Waste Discharge Requirements (WDRs). For specific situations, the RWQCB may waive the requirement to obtain a WDR for discharges to land or may determine that a proposed discharge can be permitted more effectively through enrollment in a general NPDES permit or general WDR. WDRs are in effect until a discharge is terminated or until revoked by the RWQCB. NPDES permits expire after five years and must be reissued.

In order to obtain an NPDES permit, the RWD form (FORM 200) and the appropriate federal NPDES application forms must be filed at least 180 days before beginning the activity. RWQCB staff reviews the application for completeness. Once the application is complete, it is forwarded to the U.S. Environmental Protection Agency (USEPA) within 15 days. The USEPA has 30 days to review the application for completeness and request any additional information. After it is deemed complete, the USEPA has 30 days to forward comments to the RWQCB. The RWQCB then determines if they should issue the NPDES permit or prohibit the discharge. If it is determined that a permit should be issued, the RWQCB prepared a proposed permit and sends it to the USEPA for review. The USEPA has 30 days to object or submit comments, but may request an additional 60 days to review the proposed permit. Following the USEPA's review, the RWQCB prepares a "Notice of Public Hearing" for the Project Applicant, which is also sent to persons and public agencies with known interest in the project. The Project Applicant must publish the notice for one day and submit proof of having complied with the instructions to the RWQCB within 15 days after the posting or publication. The RWQCB holds a public hearing with at least a 30-day public notification. They may then adopt the proposed permit or modify it and adopt if by majority vote. The USEPA has 10 days to object to the adopted permit. The entire RWQCB review and permit issuance process takes approximately six months, but may take longer depending upon the nature of the discharge and public concerns.

In order to obtain WDRs for a project, the RWD form (FORM 200) must be filed at least 120 days before beginning to discharge waste. RWQCB staff reviews the application for completeness. Once the application is complete, RWQCB staff determines whether they should adopt WDRs, prohibit the discharge, or waive the WDRs. If WDRs should be issued, the RWQCB prepares proposed WDRs and distributes them to persons/public agencies with known interest in the project for a minimum 30-day comment period. The RWQCB holds a public hearing with at least a 30-day public notification and may adopt the proposed WDRs or modify and adopt them by majority vote. This process generally takes approximately three months.

California Department of Fish and Wildlife

The CDFW has jurisdictional authority over wetland resources associated with rivers, streams, and lakes pursuant to the *California Fish and Game Code*.[14] Activities of State and local agencies as well as public utilities that are project proponents are regulated by the CDFW under Section 1602 of the *California Fish and Game Code.* This section regulates any work that will (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. Section 1602 of the *California Fish and Game Code* applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State.

The CDFW jurisdictional limits are not as clearly defined by regulation as those of the USACE. While they closely resemble the limits described by USACE regulations, they include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric and saturated soils conditions. In general, the CDFW takes jurisdiction from the top of a stream bank or to the outer limits of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place within or in the vicinity of a river, stream, lake or within or in the vicinity of tributaries to a river, stream, or lake. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish and other aquatic plant and/or wildlife species. It also includes watercourses that have a surface or subsurface flow that support or have supported riparian vegetation.

Section 1602 Lake or Streambed Alteration Agreement

The CDFW enters into a Lake or Streambed Alteration (LSA) Agreement with a project proponent in order to ensure protection of wildlife and habitat values and acreages.

Prior to construction, a Notification of an LSA must be submitted to the CDFW that describes any proposed lake or streambed alteration that would occur with implementation of a project. The Notification of an LSA must address the initial construction and long-term operation and maintenance of any structures (such as a culvert or a desilting basin) included in the project design that are located within any river, stream, or lake and that may require periodic maintenance. In addition to the formal application materials and the fee, a copy of the appropriate environmental document (e.g., a Mitigated Negative Declaration) should be included in the submittal, consistent with CEQA requirements. The complete notification package must be submitted to the CDFW regional office that services the county where the activity will take place. This notification will serve as the basis for the CDFW's issuance of a Section 1602 LSA Agreement. Note that notification is not required before beginning emergency work, but the CDFW must be notified in writing within 14 days after beginning the work.

After receiving Notification of an LSA Agreement, the CDFW will determine whether an LSA Agreement will be required for the proposed activity. An LSA Agreement will be required if the activity could substantially adversely affect an existing fish and wildlife resource. If an LSA Agreement is required, the CDFW may want to conduct an on-site inspection.

If the CDFW does not respond in writing concerning the completeness of the Notification within 30 days of its submittal, the Notification automatically becomes complete. If the CDFW does not submit a draft LSA Agreement to the Applicant within 60 days of the determination of a completed Notification package, the CDFW will issue a letter that either (1) identifies the final date to transmit a draft LSA Agreement or (2) indicates that an LSA Agreement was not required. The CDFW will

[14] See §§1600–1616.

also indicate that it was unable to meet this mandated compliance date and that, by law, the Applicant is authorized to complete the project without an LSA Agreement as long as the Applicant constructs the project as proposed and complies with all avoidance, minimization, and mitigation measures described in the submitted Notification package. Please note that, if the project requires revisions to the design or project construction, the CDFW may require submittal of a new Notification/application with an additional 90-day permit process.

If determined to be necessary, the CDFW will prepare a draft LSA Agreement, which will include standard measures to protect fish and wildlife resources during project construction and during ongoing operation and maintenance of any project element that occurs within a CDFW jurisdictional area. The draft Agreement must be transmitted to the Applicant within 60 calendar days of the CDFW's determination that the notification is complete. It should be noted that the 60-day timeframe might not apply to long-range agreements.

Following receipt of a draft LSA Agreement from the CDFW, the Applicant has 30 calendar days to notify the CDFW concerning the acceptability of the proposed terms, conditions, and measures. If the Applicant agrees with these terms, conditions and measures, the Agreement must be signed and returned to the CDFW. The Agreement becomes final once the CDFW executes it and an LSA Agreement is issued. Please note that all application fees must be paid and the final certified CEQA documentation must be provided prior to the CDFW's execution of the Agreement.

ATTACHMENT C

DATASHEETS

Mesa Transect 1

Episodic Stream Indicator Data Sheet					page 1 of 4
Site ID: 3CRC010100	Stream ID: Stream Pt 19				Date: 1/26/17
Nearest Town: California City				County: Kern	
Investigators: ARudalevige, LMessett					
Base Map					
Aerial Photo #:	Date: 2014	Topographic Map Name:			Date:
GPS Data					
GPS Name: Garmin eTrex Vista	Datum: NAD83	Transect Elevation:	Zone 10 / (11)	GPS Error: ± 1 ft / (m)	
GPS co-ords start of transect:		GPS co-ords end of transect:			

Geomorphic Province (✓one)		Mojave	x	Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

	Single thread		Braided		Compound		Distributary		Discontinuous	Other:

Transect was selected to:

X	Document fluvial activity & boundaries		Document channel elevations & boundaries
	Document habitat associations		Document a change in watercourse morphology
	Other:		

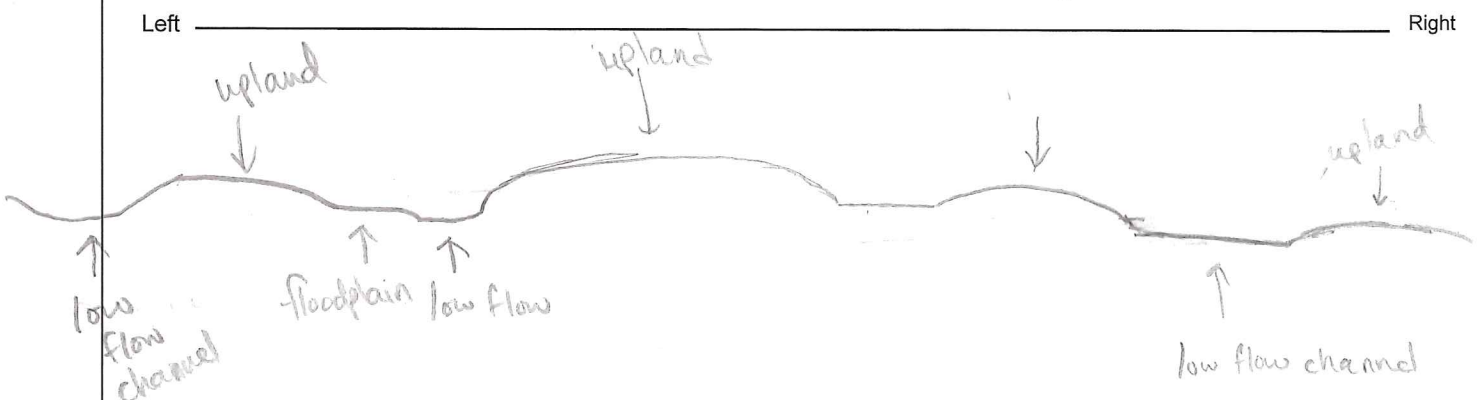
Date of most recent runoff event (if known): 1/23/16 (www.wunderground.com; Mojave, CA)

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Multiple unpaved OHV trails cross the site.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

facing d.s.



Site ID: 3CRC010100	Stream ID: Stream Pt 19	page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

–	Av soil horizon	–	Relict bars & swales
–	Biotic soil crusts	–	Rock fractured in place
+	Bioturbation	–	Rock varnish
–	Caliche: coatings / layers / rubble	+	Rock weathering
–	Carbonate etching	–	Rubified rock undersides
+	Coppice dunes: active / relict	*	Soil development DNR
+	Deflated surface	+	Surface rounding of landform
–	Pavement	+	Woody debris in place
	Other:		

Substrate Particle Size

Estimated percentages

0	% Bedrock / Cemented substrate	
0	% Boulder	≥ 256 mm
1	% Cobble	≥ 64 – 256mm
15	% Pebble	≥ 4 – 64 mm
50	% Granule	≥ 2 – 4 mm
30	% Sand	≤ 2 mm
4	% Silt/Clay	Fines

* = Did not record

Fluvial Indicators

–	Bars: sand / gravel	–	Mud: cracks / curls / drapes	–	Sediment tails: sand / gravel
–	Cut banks	–	Organic drift	–	Vegetation-channel alignment
–	Drainage swales	–	Overturned rocks	–	Water-cut benches
–	Exposed roots	–	Scour	–	Wrack
–	First-order streams	–	Sediment ramps: sand / gravel	–	Wrinkle marks
–	Flow lineations	–	Sediment sorting		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
5	Creosote 90 white bur-sage 10	H 5-6' W 6-8' H 2' W 2'

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences): Vegetative cover so low, difficult to tell.

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences): NO, vegetation fairly homogeneous

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

Creosote & bur-sage widely spaced in uplands, unable to determine differences

Site ID: 3CRC010100	Stream ID: Stream Pt 19	page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

–	Bar forms: sand / gravel	–	Secondary channels
–	Bifurcated flow	–	Sediment plastering
–	Drainage swales	–	Sediment ramps: sand / gravel
–	Flow lineations	–	Sediment sheets: sand / gravel
–	Imbricated gravel	+	Sediment sorting
–	Levee ridges: sand / gravel	–	Sediment tails: sand / gravel
–	Mud: cracks / curls / drapes	–	Vegetation-channel alignments
+	Organic drift	+	Wrack
–	Overturned rocks	–	Wrinkle marks
+	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
–	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages

0	% Bedrock / Cemented substrate	
0	% Boulder	≥ 256 mm
1	% Cobble	≥ 64 – 256 mm
1	% Pebble	≥ 4 – 64 mm
55	% Granule	≥ 2 – 4 mm
43	% Sand	≤ 2 mm
0	% Silt/Clay	Fines

Erosion Indicators

–	Cut banks	–	Rills	+	Water-cut benches
–	Exposed roots	–	Scour	–	Water level mark
–	Headcuts	–	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
<1	N/A	N/A

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences): No shrubs obs in channel, but upland shrubs are widely scattered.

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences): N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences) N/A

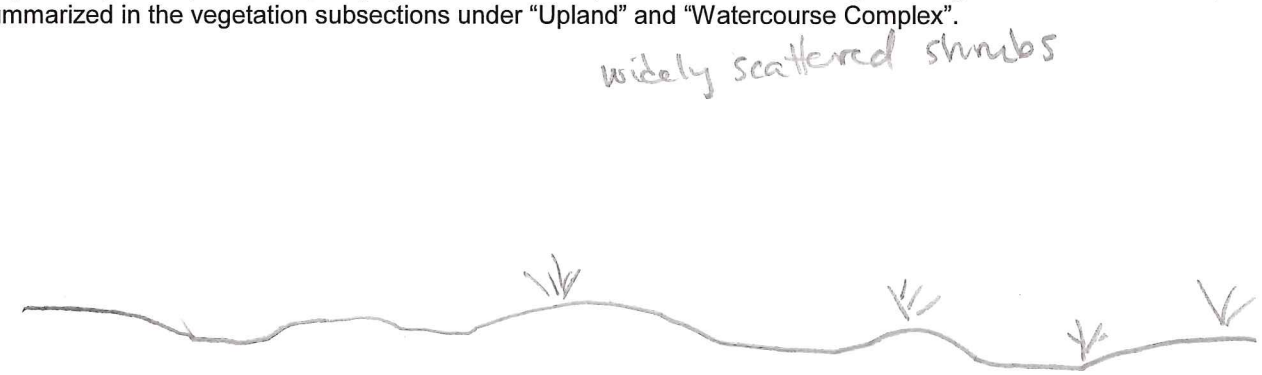
Site ID 3CRC010100	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
156	channel, out of channel flow		
157	" "		
158	channel		
159	close up of drift		
160	upland; bioturbation; coppice dunes		
161	upland		

MESA transect 2

Episodic Stream Indicator Data Sheet					page 1 of 4
Site ID: 3CRC010100	Stream ID:				Date: 1/26/17
Nearest Town: California City			County: Kern		
Investigators: ARudalevige, LMessett					
Base Map					
Aerial Photo #:	Date: 2014	Topographic Map Name:			Date:
GPS Data					
GPS Name: Garmin eTrex Vista	Datum: NAD83	Transect Elevation:	Zone 10 / (11)	GPS Error: ± 1 ft / (m)	
GPS co-ords start of transect:		GPS co-ords end of transect:			

Geomorphic Province (✓one)		Mojave	x	Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

	Single thread		Braided		Compound		Distributary		Discontinuous	Other:

Transect was selected to:

X	Document fluvial activity & boundaries		Document channel elevations & boundaries
	Document habitat associations		Document a change in watercourse morphology
	Other:		

Date of most recent runoff event (if known): 1/23/16 (www.wunderground.com; Mojave, CA)

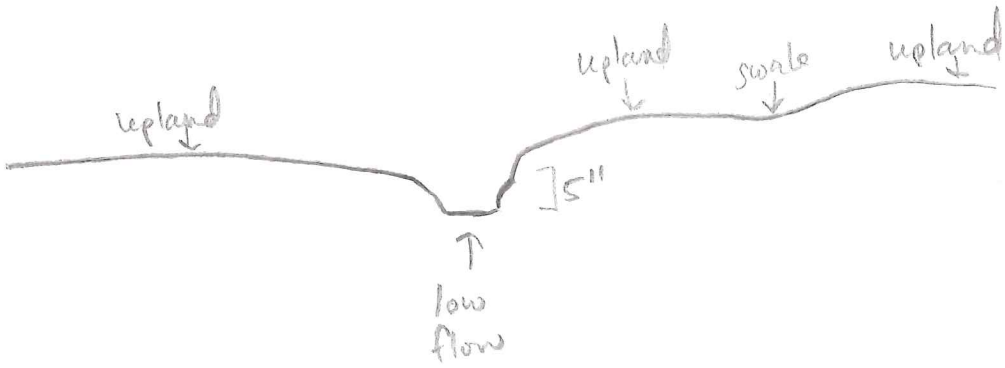
Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Multiple unpaved OHV trails cross the site.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

facing upstream

Left ——— Right



Site ID: 3CRC010100	Stream ID:	page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

–	Av soil horizon	+	Relict bars & swales
–	Biotic soil crusts	–	Rock fractured in place
+	Bioturbation	–	Rock varnish
–	Caliche: coatings / layers / rubble	–	Rock weathering
–	Carbonate etching	–	Rubified rock undersides
+	Coppice dunes: active / relict	*	Soil development
+	Deflated surface	+	Surface rounding of landform
–	Pavement	+	Woody debris in place
	Other:		

Substrate Particle Size

Estimated percentages

0	% Bedrock / Cemented substrate	
–	% Boulder	≥ 256 mm
1	% Cobble	≥ 64 – 256mm
55	% Pebble	≥ 4 – 64 mm
33	% Granule	≥ 2 – 4 mm
2	% Sand	≤ 2 mm
10	% Silt/Clay	Fines

*: did not record

Fluvial Indicators

–	Bars: sand / gravel	–	Mud: cracks / curls / drapes	–	Sediment tails: sand / gravel
–	Cut banks	–	Organic drift	–	Vegetation-channel alignment
+	Drainage swales	–	Overturned rocks	–	Water-cut benches
–	Exposed roots	–	Scour	–	Wrack
–	First-order streams	–	Sediment ramps: sand / gravel	–	Wrinkle marks
–	Flow lineations	–	Sediment sorting		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
5	creosote 90 white bur-sage 10	H 5-6' W 6-8' H 2' W 2'

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences): Vegetative cover low overall

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences): No, vegetation fairly homogeneous

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

Shrubs widely spaced in uplands; cannot determine differences.

Site ID: 3CRC010100	Stream ID:	page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

–	Bar forms: sand / gravel	–	Secondary channels
+	Bifurcated flow	–	Sediment plastering
–	Drainage swales	–	Sediment ramps: sand / gravel
–	Flow lineations	–	Sediment sheets: sand / gravel
–	Imbricated gravel	–	Sediment sorting
–	Levee ridges: sand / gravel	–	Sediment tails: sand / gravel
–	Mud: cracks / curls / drapes	–	Vegetation-channel alignments
–	Organic drift	+	Wrack
–	Overturned rocks	–	Wrinkle marks
+	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
–	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages		
0	% Bedrock / Cemented substrate	
0	% Boulder	≥ 256 mm
1	% Cobble	≥ 64 – 256 mm
2	% Pebble	≥ 4 – 64 mm
20	% Granule	≥ 2 – 4 mm
77	% Sand	≤ 2 mm
0	% Silt/Clay	Fines

Erosion Indicators

–	Cut banks	+	Rills	+	Water-cut benches
+	Exposed roots	+	Scour	–	Water level mark
–	Headcuts	–	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
0	N/A	N/A

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences): No shrubs obs in channel.

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences): N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences) N/A

Site ID 3CRC010100	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION					
—	Algal crusts	—	Sand-filled channels		
—	Beach ridges	—	Springs		
—	Coppice dunes: active / relict	—	Substrate staining		
—	Crusts: carbonate / salt / soda	—	Vegetation-landscape alignments		
—	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".

Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
162	close up of channel, trough		
163	channel facing downstream		
164	close up of exposed roots		
165	channel facing upstream		
166	upland facing upslope		
167	upland facing downslope, burrow		

MESA Transect 3

Episodic Stream Indicator Data Sheet			page 1 of 4
Site ID: 3CRC010100	Stream ID:		Date: 1/26/17
Nearest Town: California City		County: Kern	
Investigators: ARudalevige, LMessett			

Base Map

Aerial Photo #:	Date: 2014	Topographic Map Name:	Date:

GPS Data

GPS Name: Garmin eTrex Vista	Datum: NAD83	Transect Elevation:	Zone 10 / (11)	GPS Error: ± ⌊ ft / (m)
GPS co-ords start of transect:		GPS co-ords end of transect:		

Geomorphic Province (✓one)		Mojave	x	Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

	Single thread		Braided		Compound		Distributary		Discontinuous	Other:

Transect was selected to:

X	Document fluvial activity & boundaries		Document channel elevations & boundaries
	Document habitat associations		Document a change in watercourse morphology
	Other:		

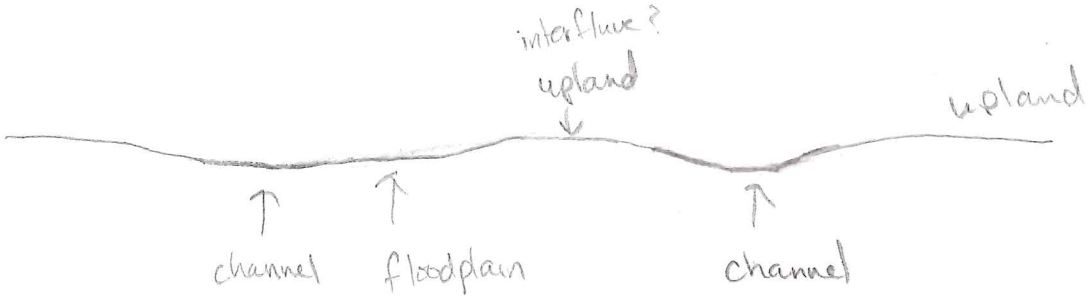
Date of most recent runoff event (if known): 1/23/16 (www.wunderground.com; Mojave, CA)

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Multiple unpaved OHV trails cross the site.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left ——— Right



Site ID: 3CRC010100	Stream ID:	page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon	–	Relict bars & swales	Substrate Particle Size		
				Estimated percentages		
+	Biotic soil crusts	–	Rock fractured in place	0	% Bedrock / Cemented substrate	
+	Bioturbation	–	Rock varnish	0	% Boulder	≥ 256 mm
–	Caliche: coatings / layers / rubble	–	Rock weathering	0	% Cobble	≥ 64 – 256mm
–	Carbonate etching	–	Rubified rock undersides	45	% Pebble	≥ 4 – 64 mm
+	Coppice dunes: active / relict	*	Soil development DNR	50	% Granule	≥ 2 – 4 mm
+	Deflated surface	+	Surface rounding of landform	1	% Sand	≤ 2 mm
+	Pavement	+	Woody debris in place	5	% Silt/Clay	Fines
	Other:					

* = Did not record

Fluvial Indicators

–	Bars: sand / gravel	?	Mud: cracks / curls / drapes	–	Sediment tails: sand / gravel
+	Cut banks	–	Organic drift	–	Vegetation-channel alignment
–	Drainage swales	–	Overturned rocks	–	Water-cut benches
–	Exposed roots	–	Scour	–	Wrack
–	First-order streams	–	Sediment ramps: sand / gravel	–	Wrinkle marks
–	Flow lineations	–	Sediment sorting		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
10%	Creosote 95% White bursage 1%	H 4-6' W 5-8' H 1-2' W 1-2'

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences): No veg obs in watercourse

Veg sparse in upland.

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences): N/A

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

N/A

Site ID: 3CRC010100	Stream ID:	page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

–	Bar forms: sand / gravel	–	Secondary channels
+	Bifurcated flow	–	Sediment plastering
–	Drainage swales	–	Sediment ramps: sand / gravel
–	Flow lineations	–	Sediment sheets: sand / gravel
–	Imbricated gravel	–	Sediment sorting
–	Levee ridges: sand / gravel	–	Sediment tails: sand / gravel
+	Mud: cracks / curls / drapes	–	Vegetation-channel alignments
–	Organic drift	+	Wrack
–	Overturned rocks	–	Wrinkle marks
+	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
–	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages		
0	% Bedrock / Cemented substrate	
0	% Boulder	≥ 256 mm
0	% Cobble	≥ 64 – 256 mm
1	% Pebble	≥ 4 – 64 mm
8	% Granule	≥ 2 – 4 mm
90	% Sand	≤ 2 mm
1	% Silt/Clay	Fines

Erosion Indicators

+	Cut banks	–	Rills	+	Water-cut benches
+	Exposed roots	–	Scour	–	Water level mark
+	Headcuts	–	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
0	N/A	N/A

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences): No shrubs in channel

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences): N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences) N/A

Site ID 3CRC010100	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".

Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
168	close up of headcut 1		
169	close up of headcut 2		
170	watercourse		
171	watercourse possibly bifurcated flow		
172	bifurcated flow		

MESA Transect 4

Episodic Stream Indicator Data Sheet			page 1 of 4
Site ID: 3CRC010100	Stream ID:		Date: 1/26/17
Nearest Town: California City		County: Kern	
Investigators: ARudalevige, LMessett			

Base Map

Aerial Photo #:	Date: 2014	Topographic Map Name:	Date:

GPS Data

GPS Name: Garmin eTrex Vista	Datum: NAD83	Transect Elevation:	Zone 10 / (11)	GPS Error: ± 1 ft / (m)
GPS co-ords start of transect:		GPS co-ords end of transect:		

Geomorphic Province (✓one)		Mojave	x	Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

	Single thread		Braided		Compound		Distributary		Discontinuous	Other:

Transect was selected to:

X	Document fluvial activity & boundaries		Document channel elevations & boundaries
	Document habitat associations		Document a change in watercourse morphology
	Other:		

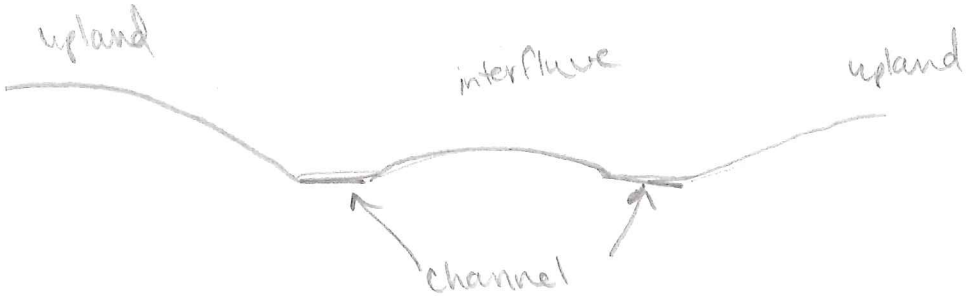
Date of most recent runoff event (if known): 1/23/16 (www.wunderground.com; Mojave, CA)

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Multiple unpaved OHV trails cross the site.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated. facing downstream

Left ——— Right



Site ID: 3CRC010100	Stream ID:	page 2 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

–	Av soil horizon	–	Relict bars & swales	Substrate Particle Size		
–	Biotic soil crusts	+	Rock fractured in place	Estimated percentages		
+	Bioturbation	–	Rock varnish	1	% Bedrock / Cemented substrate	
–	Caliche: coatings / layers / rubble	–	Rock weathering	2	% Boulder	≥ 256 mm
–	Carbonate etching	–	Rubified rock undersides	3	% Cobble	≥ 64 – 256mm
+	Coppice dunes: active / relict	*	Soil development	5	% Pebble	≥ 4 – 64 mm
+	Deflated surface	+	Surface rounding of landform	60	% Granule	≥ 2 – 4 mm
–	Pavement	+	Woody debris in place	27	% Sand	≤ 2 mm
	Other:			2	% Silt/Clay	Fines

* = did not record

Fluvial Indicators

–	Bars: sand / gravel	–	Mud: cracks / curls / drapes	–	Sediment tails: sand / gravel
–	Cut banks	–	Organic drift	–	Vegetation-channel alignment
–	Drainage swales	–	Overturned rocks	–	Water-cut benches
–	Exposed roots	–	Scour	–	Wrack
–	First-order streams	–	Sediment ramps: sand / gravel	–	Wrinkle marks
–	Flow lineations	–	Sediment sorting		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
8%	Creosote 95 white bursage 5	H 4-5' W 4-5 H 1 W 1

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences): Vegetation sparse

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences): N/A

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

N/A

Site ID: 3CRC010100	Stream ID:	page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

–	Bar forms: sand / gravel	–	Secondary channels
–	Bifurcated flow	–	Sediment plastering
–	Drainage swales	–	Sediment ramps: sand / gravel
–	Flow lineations	–	Sediment sheets: sand / gravel
–	Imbricated gravel	–	Sediment sorting
–	Levee ridges: sand / gravel	–	Sediment tails: sand / gravel
–	Mud: cracks / curls / drapes	–	Vegetation-channel alignments
–	Organic drift	+	Wrack
–	Overturned rocks	–	Wrinkle marks
+	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
–	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages		
0	% Bedrock / Cemented substrate	
6	% Boulder	≥ 256 mm
1	% Cobble	≥ 64 – 256 mm
1	% Pebble	≥ 4 – 64 mm
60	% Granule	≥ 2 – 4 mm
38	% Sand	≤ 2 mm
0	% Silt/Clay	Fines

Erosion Indicators

–	Cut banks	–	Rills	+	Water-cut benches
–	Exposed roots	–	Scour	–	Water level mark
–	Headcuts	–	Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
0	–	–

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences): No shrubs in channel

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences): N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences) N/A

Site ID 3CRC010100	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION					
	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".

Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
174	watercourse 1		
175	watercourse 2		
176	upland		
177	bioturbation example		

ATTACHMENT D

REPRESENTATIVE PHOTOGRAPHS

Overview of the 215-acre site, taken from the eastern edge facing west.

Representative drainage on the 215-acre site.

Representative view of uplands on the 215-acre site with dirt road.

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Representative Photographs

Attachment D-1

Correctional Development Facility at California City (CDFCC)

PSOMAS

Out of channel flow, an indicator of transportation, deposition, and flow transition observed at MESA transect 1.

Exposed roots, an indicator of fluvial erosion observed at MESA transect 2.

Headcut, an indicator of fluvial erosion observed at MESA transect 3.

Bioturbation and relict coppice dunes, terrestrial indicators observed in uplands at MESA transect 1.

Bioturbation, a terrestrial indicator observed in uplands at MESA transect 3.

Rock fractured in place, a terrestrial indicator observed in uplands in the northern portion of the 215-acre site.

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Representative Photographs

Attachment D-2

Correctional Development Facility at California City (CDFCC)

PSOMAS

Utility Alignment Drainage 1.

Utility Alignment Drainage 2.

Utility Alignment Drainage 3.

Utility Alignment Drainage 4.

Utility Alignment Drainage 5.

Utility Alignment Drainage 6.

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Representative Photographs

Attachment D-3

Correctional Development Facility at California City (CDFCC)

PSOMAS

Utility Alignment Drainage 7.

Utility Alignment Drainage 8.

Utility Alignment Drainage 9.

Utility Alignment Drainage 10.

Utility Alignment Drainage 11.

Utility Alignment Drainage 12.

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Representative Photographs

Attachment D-4

Correctional Development Facility at California City (CDFCC)

PSOMAS

ATTACHMENT E

LITERATURE REVIEW DETAILS

This attachment provides detailed results of the literature review.

SOIL SERIES

The description identified below was obtained from the U.S. Department of Agriculture, Natural Resources Conservation Service.[18]

Alko Series

The Alko series is a loamy, mixed, superactive, thermic, shallow Typic Haplodurid. It consists of shallow or very shallow over a duripan, well drained soils that formed in mixed alluvium from ignimbrite, granodiorite and basalt. Alko soils are on fan piedmonts and have slopes that range from 0 to 15 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 65 degrees Fahrenheit (°F).

Range in Characteristics:

The soil moisture is usually dry. It is moist in some part of the moisture control section for 10 to 20 days cumulatively between July and October. Soil temperature ranges from 59°F to 66°F. The depth to duripan is 5 to 20 inches. Reactions are moderately alkaline or strongly alkaline above the duripan and strongly alkaline or very strongly alkaline below the duripan. Some pedons are slightly influenced from gypsum.

The A horizon has a hue of 10YR or 7.5YR. The value is 6 through 8 dry (4 through 7 moist) and commonly 1 unit of value darker than the underlying Bk or Bw horizon. The chroma ranges from 2 to 4. It is strongly or violently effervescent.

The Bk horizon and the Bw horizon (when present) have a hue of 10YR or 7.5YR. The value is 6 through 8 dry (4 through 7 wet). The chroma ranges from 2 to 4. The texture is predominantly sandy loam or coarse sandy loam; some pedons contain thin strata of loam or other textures. The structure is massive or granular. Some pedons have common thin lime coats on undersides of rock fragments. These horizons are strongly or violently effervescent.

The Bqkm horizon is very strongly cemented to indurated.

The 2Bk and 3C horizons have a hue of 10YR or 7.5YR. The value is 6 through 8 dry (4 through 7 moist). The chroma ranges from 2 to 4. Texture below the pan is sand, coarse sand, or loamy fine sand. The structure is massive, subangular blocky, or single grain. Some pedons have common thin lime coats on the undersides of rock fragments. These horizons are strongly or violently effervescent, with less than two percent exchangeable sodium in the lower part of the Bk horizon.

Drainage and Permeability:

Alko soils are well drained; have slow or medium runoff; and have moderately rapid permeability above the duripan.

Cajon Series

The Cajon series is a mixed, thermic Typic Torripsamment. It consists of very deep, somewhat excessively drained soils that formed in sandy alluvium from dominantly granitic rocks. Cajon soils

[18] U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2017 (Accessed July). Official Soil Series Descriptions (OSDs) [View OSD by Series Name (with best-match feature)] Lincoln, NE: USDA NRCS. http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/soils/survey/class/data/?cid=nrcs142p2_053587.

are on alluvial fans, fan aprons, fan skirts, inset fans and river terraces. Slopes are 0 to 15 percent. The average annual precipitation is about 6 inches and the mean annual temperature is about 65°F.

Range in Characteristics:

The soil moisture is usually dry from mid-March to mid-December and is not continuously moist for up to 90 days in the winter. The soil temperature ranges from 59°F to 72°F and is not usually below 47°F at any time. Rock fragments are mostly gravel size and make up as much as 35 percent, though many pedons have less than 15 percent gravel. There is weak stratification of sandy material in some or all parts. Typically, the soil is slightly effervescent to strongly effervescent throughout, although some pedons are noneffervescent in the A horizon. The soil is typically slightly to moderately alkaline, although some pedons are neutral. Some pedons are strongly alkaline and mildly saline-alkali to strongly saline-alkali. Electrical conductivity ranges up to 16 ds/m and the SAR to 20.

The A horizon is 10YR or 2.5Y with a value between 3 and 6 (moist) or 5 and 7 (dry). The chroma ranges from 2 to 6 (moist and dry). Soil texture is coarse sand, loamy coarse sand, sand, and loamy sand. Some pedons have sandy loam overblown phases. Some pedons have as much as 60 percent gravel within 2 inches.

The C horizon is 10YR or 2.5Y with a value between 3 and 6 (moist) or 5 and 7 (dry). The chroma ranges from 2 to 6 (moist and dry). Soil texture is coarse sand, loamy coarse sand, sand, loamy sand, fine sand, or loamy fine sand (or their gravelly or cobbly equivalents). Some pedons have a sandy loam horizon at a depth of more than 40 inches.

Drainage and Permeability:

Cajon soils are somewhat excessively drained; have negligible to low runoff; and have rapid permeability. Soils with sandy loam surface textures have moderately rapid over rapid permeability. Flooding is none to rare.

Garlock Series

The Garlock series is a fine-loamy, mixed, superactive, thermic Typic Haplargid. It consists of very deep, well drained soils that formed from mixed alluvium. Garlock soils are on old stream terraces and alluvial fans in the Mojave Desert and have slopes of 2 to 9 percent. The mean annual precipitation is about 6 inches, some in the form of snow, and the mean annual air temperature is about 63°F.

Range in Characteristics:

The soil between the depths of 12 and 24 inches is dry from mid-May until the end of November. Mean annual soil temperature is 63°F to 72°F. Reaction ranges from neutral to moderately alkaline throughout. Lime occurs below a depth of 40 inches in some pedons. Clay content in the control section averages 20 to 35 percent.

The A horizon is grayish brown, brown, yellowish brown light yellowish brown or light brown (10YR 5/2, 5/3, 5/4, 5/6, 6/3, 6/4, 6/6; 7.5YR 5/2, 5/4, 6/4). It is sand, coarse sand, loamy sand, coarse sandy loam or sandy loam and has 0 to 15 percent rock fragments by volume. It is usually massive but the surface inch or two has weak platy or fine granular structure in some pedons.

The AB or Bt1 horizon is brown, yellowish brown, strong brown, light yellowish brown or light brown (10YR 5/3, 5/4, 5/6, 6/4, 6/6; 7.5YR 5/2, 5/4, 5/6, 6/4, 6/6). It is coarse sandy loam, sandy

loam, sandy clay loam, gravelly coarse sandy loam, gravelly sandy loam, or gravelly sandy clay loam, and has 12 to 35 percent clay and 0 to 30 percent rock fragments ranging from 2mm to 5mm in diameter.

The Bt2 horizon is brown, yellow, strong brown, or reddish yellow (10YR 5/3, 5/4, 5/6, 6/6, 7/6; 7.5YR 5/2, 5/4, 5/6, 5/8, 6/6, 6/8). It is sandy clay loam or gravelly sandy clay loam and has 22 to 35 percent clay and 0 to 30 percent gravel. A few pedons have thin horizons with 35 to 50 percent clay.

The Bt3 horizon is brown, yellow, yellowish brown, strong brown or reddish yellow (10YR 5/3, 5/4, 5/6, 6/6, 7/6; 7.5YR 5/2, 5/4, 5/6, 5/8, 6/6, 6/8). It is coarse sandy loam, sandy loam or gravelly sandy loam and has 0 to 30 percent gravel by volume.

The C horizon is brown, yellowish brown, brownish yellow, yellow, strong brown, or reddish yellow (10YR 5/3, 5/4, 5/6, 5/8, 6/6, 7/6, 7/8; 7.5YR 5/4, 5/6, 5/8, 6/6, 6/8). It is loamy sand, loamy coarse sand or coarse sand with gravelly and very gravelly equivalents of each and has 0 to 35 percent gravel. Unrelated gravelly and cobbly stratifications and silty substratums occur below depth of 40 inches in some pedons. Rock fragments have lime coatings.

Drainage and Permeability:

Garlock soils are well drained; have low to medium runoff; and have moderately slow over very rapid permeability.

Muroc Series

The Muroc series is a loamy, mixed, superactive, thermic, shallow Typic Haplodurid. It consists of shallow to indurated duripan directly over rock, well drained soils that formed in material weathered from granitic rock. Muroc soils are on hills and granitic rock pediments and have slopes of 2 to 15 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is about 66°F.

Range in Characteristics:

Depth to a duripan is 8 to 20 inches. The duripan overlies granitic rock. The mean soil temperature is 62°F to 72°F and the soil temperature usually is not below 47°F at any time. The soil is usually dry and is not continuously moist for as long as 60 days. Dominant texture throughout the sola is sandy loam or coarse sandy loam. Gravel fragments, less than 10 mm in diameter, are present in volumes up to 15 percent.

The A horizon has colors of 10YR 5/3, 5/4, 6/4, 6/3 dry and 10YR 4/3, 4/4 moist.

The Bqk horizon has colors of 10YR 7/4, 8/1, 8/2, 8/3, 8/4 dry and 10YR 6/2, 6/4, 7/2 moist. In some pedons the duripan occurs as several hard laminar horizontal bands separated by an inch or two of calcareous sandy material. These bands are not continuous. The duripan becomes softer with increasing depth.

The Crkq horizon has colors of 10YR 7/3, 8/2, 8/3 dry and 10YR 6/2, 6/3, 7/2, 7/3 moist, depending on the amount of carbonates present. The amount of carbonate that has accumulated in some pedons is very small, and here the color of the horizon is that of the minerals that make up the weathered granitic rock. In some pedons this horizon contains few to many thin discontinuous laminar layers that are horizontal in orientation. These are spaced several inches apart in the weathered granitic rock. Some of these silica-lime seams extend nearly vertically along cracks in the weathered granitic rock.

Drainage and Permeability:

Muroc soils are well drained, have low to medium runoff, and have moderately rapid permeability in the soil and very slow permeability in the duripan that caps the weathered granite.

Neuralia Series

The Neuralia series is a fine-loamy, mixed, superactive, thermic Typic Haplargid. It consists of very deep, well drained soils formed in alluvium from mixed sources. Neuralia soils are on alluvial fans, fan terraces, and plains and have slopes of 0 to 15 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 60°F.

Range in Characteristics:

Thickness of the solum is 21 to 50 inches. The mean annual soil temperature is 59°F to 65°F. and the difference between mean summer and mean winter soil temperature is 35°F to 45°F. The soil temperature is below 47°F from about December 1 to March 1 and is below 41°F from about January 1 to February 1 in most years. The soil between the depths of 10 and 18 inches is dry throughout for 230 to 260 days from about April 1 to December 15. It is moist throughout for 30 to 50 days from about January 15 to March 1 and is moist in some or all parts for 25 to 35 consecutive days from about March 1 to April 1, when the soil temperature exceeds 47°F. The surface is covered with about 30 to 60 percent fine (2 to 25 mm) gravel. Reaction is neutral to moderately alkaline to a depth of 10 inches and slightly alkaline or moderately alkaline below.

The A horizon color is 10YR 5/2, 5/3, 5/4, 6/3, 6/4, 6/6; or 7.5YR 5/4. Moist color is 10YR 3/2, 3/3, 4/3, 4/4; or 7.5YR 4/4. It is sandy loam, loamy sand, sand or gravelly sand. It has 0 to 30 percent coarse fragments with 0 to 30 percent gravel and 0 to 5 percent cobbles. In most pedons, there is a transitional AB horizon or BA horizon that has colors of 10YR 5/3, 5/4, 6/4; 7.5YR 5/4, or 5/6. Moist color is 10YR 4/3, 4/4; 7.5YR 3/4, 4/4, or 4/6. It is sandy clay loam, sandy loam, or loamy sand. It has 0 to 15 percent coarse fragments with 0 to 15 percent gravel and 0 to 5 percent cobbles.

The Bt horizon color is 10YR 5/3, 5/4, 6/4, 6/6; 7.5YR 5/4, or 5/6. Moist color is 10YR 4/3, 4/4, 4/6, 5/4, 5/6; 7.5YR 4/4, 4/6, 5/4 or 5/6. It is sandy loam, sandy clay loam or gravelly sandy clay loam. It has 0 to 35 percent coarse fragments with 0 to 30 percent gravel and 0 to 10 percent cobbles. In the lower part of the Bt horizon carbonates are disseminated or segregated with many pedons having common, small or medium, irregular soft masses. Calcium carbonate equivalent is 1 to 10 percent.

The BC horizon color is 10YR 5/3, 5/4, 6/4, 6/6, 7/2; or 7.5YR 5/4. Moist color is 10YR 4/3, 4/4, 5/2; 7.5YR 3/4, 4/4 or 5/6. It is sandy clay loam, clay loam, or their gravelly equivalents. It has 0 to 35 percent coarse fragments with 0 to 30 percent gravel and 0 to 10 percent cobbles. Carbonates are disseminated or segregated in soft masses. Calcium carbonate equivalent is 1 to 10 percent. Some pedons do not have a BC horizon.

The C horizon color is 10YR 5/4, 5/6, 6/4, 6/6; 7.5YR 5/4, 6/4, 7/2, or 7/6. Moist color is 10YR 3/4, 4/3, 4/4, 4/6, 4/6; 7.5YR 4/4, 5/2, or 5/6. It is loam, sandy loam, loamy sand, loamy coarse sand, sand or their gravelly, cobbly or very gravelly and very cobbly equivalents. It has 0 to 60 percent rock fragments with 0 to 35 percent gravel, 0 to 40 percent cobbles and 0 to 10 percent stones. Some pedons have strata that are very stony or that are saline-sodic in the substratum. Calcium carbonate equivalent is 1 to 10 percent.

Drainage and Permeability:

Neuralia soils are well drained, have slow and medium runoff, and have moderately slow permeability.

Randsburg Series

The Randsburg series is a loamy, mixed, superactive, calcareous, thermic, shallow Typic Torriorthent. It consists of shallow to soft rock, well drained soils that formed in residuum from granitic rock. Randsburg soils are on hills and granitic rock pediments. Slopes are 2 to 50 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is about 66°F.

Range in Characteristics:

Depth to a paralithic contact is 8 to 20 inches. The mean annual soil temperature is 62°F to 72°F and the soil temperature usually is not below 47°F at any time. The soil is usually dry and is not continuously moist for as long as 60 days.

The A horizon is lOYR 5/3, 5/4, 6/4 dry; 10YR 4/3, 4/4, 5/4 moist. It is sandy loam or coarse sandy loam and fine gravel is present in volumes up to 15 percent. The A1 horizon ranges in structure from weak very fine granular to weak thin platy or it may be massive. The surface of most pedons is paved with fine gravel.

The Bt horizon is lOYR 6/3, 6/4 dry; 10YR 4/3, 4/4 moist. Where this horizon is lacking the A horizon rests directly on the weathered granite.

The Cr horizon is strongly weathered granitic rock that has retained rock structure. This weathered rock will disperse into separate minerals with soaking in water or with soaking and shaking in water. In some pedons sufficient carbonate has not accumulated in the weathered granitic rock to form a Crk horizon. The carbonate occurs in other pedons as thin randomly oriented seams. Some of these small seams have silica as part of the cement, and in some pedons the small discontinuous pieces of duripan are absent.

Drainage and Permeability:

Randsburg soils are well drained, have low to high runoff, and have moderately rapid permeability.

NATIONAL WETLANDS INVENTORY

The following resources are mapped on the Project site: R4SBJ and R4SBJx (see Exhibit 5 in Attachment A). The descriptions for mapped resources are provided below.

- **R: System RIVERINE.** The Riverine System includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) habitats with water containing ocean-derived salts of 0.5 parts per trillion or greater. A channel is an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water.
  - **4: Subsystem INTERMITTENT.** This Subsystem includes channels that contain flowing water only part of the year. When the water is not flowing, it may remain in isolated pools or surface water may be absent.

- **SB: Class STREAMBED.** Includes all wetlands contained within the Intermittent Subsystem of the Riverine System and all channels of the Estuarine System or of the Tidal Subsystem of the Riverine System that are completely dewatered at low tide.
    - **J: Water Regime INTERMITTENTLY FLOODED.** The substrate is usually exposed, but surface water is present for variable periods without detectable seasonal periodicity. Weeks, months, or even years may intervene between periods of inundation. The dominant plant communities under this Water Regime may change as soil moisture conditions change. Some areas exhibiting this Water Regime do not fall within our definition of wetland because they do not have hydric soils or support hydrophytes. This Water Regime is generally limited to the arid West.
        - **x: Special Modifier EXCAVATED.** These wetlands lie within a basin or channel that have been dug, gouged, blasted, or suctioned through artificial means by man.