SECTION 4.2:
BIOLOGICAL RESOURCES

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SECTION 4.2:
BIOLOGICAL RESOURCES

This section of the draft subsequent environmental impact report (Draft SEIR) documents potential impacts of the project on biological resources, including special-status plants, wildlife, and invertebrate species and their habitat.

The information in this section is based on the following biological technical studies which were previously prepared to support the 2008 EIR/EIS and 2019 SEIS, as well as a habitat mitigation and monitoring plan prepared for the offsite mitigation sites:

- *Biological Resources Technical Report: United States Gypsum Company Expansion and Modernization Project* (Aspen Environmental Group 2019) (Appendix D-1, "SEIS Biological Resources Technical Report")
- *Jurisdictional Delineation for United States Gypsum Company Plaster City Expansion/Modernization Project* (Hernandez Environmental Services 2016) (Appendix D-2, "2016 Jurisdictional Delineation")
- *Section 7 Biological Opinion for the United States Gypsum Company Expansion/Modernization Project, Imperial County, California* (United States Fish and Wildlife Service 2019) (Appendix D-3, "Biological Opinion")
- *Draft Habitat Mitigation and Monitoring Plan for the United States Gypsum Company Plaster City Expansion/Modernization Project, Ocotillo Wells, California* (Dudek 2021) (Appendix D-4, "Draft Habitat Mitigation and Monitoring Plan")

4.2.1 Environmental Setting

This section discusses the existing biological resources conditions within and adjacent to the project site at both the time the 2008 EIR/EIS was prepared and at present. Methods for evaluating site conditions, including literature review and field surveys, are discussed first, which is followed by a description of the habitat types and species composition on the project site and each of the off-site mitigation sites.

4.2.1.1 Regional Setting

The project site and Imperial County are in the Colorado Desert, the California portion of the larger Sonora Desert which encompasses lands around the Gulf of California and the delta of the Colorado River, including northwestern Mexico, southwestern Arizona, southeastern California (US) and Baja California (Mexico). The dominant physical feature of the Colorado Desert is the Salton Trough, an elongated depression that is separated from the Gulf of California by the Colorado River delta and extends northerly to the San Gorgonio Pass, north of Palm Springs. The dominant hydrologic feature is the Salton Sea located in the lowest portion of the Salton Trough. The Colorado Desert extends from the Colorado River westerly to the base of the Peninsular Ranges in western Imperial County/Eastern San Diego County. The Quarry site is located in the Fish Creek Mountains at the eastern base of the Peninsular Ranges.

Vegetation in the arid Colorado Desert is sparse desert shrubland dominated by creosote bush (*Larrea tridentata*) with white bursage (*Franseria ilicifolia*), burrobush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), cheesebush (*Hymenoclea salsola*), pygmy cedar (*Peucephulum schottii*), catclaw acacia (*Acacia greggii*), indigo bush (*Psorothamnus schottii*), smoketree (*Psorothamnus spinosus*) as well as several

varieties of cactus such as barrel cactus (*Ferocactus acanthodes*), beavertail cactus (*Opuntia basilaris*), silver cholla (*Opuntia echinocarpa*), and ocotillo (*Foquieria splendens*).

Despite its harsh environment, the Colorado Desert supports a diverse wildlife population including both resident and migratory species of reptiles, birds, invertebrates, and mammals. Common wildlife include mule deer, bobcat, desert kangaroo rate, cactus mouse, black-tailed jackrabbit, Gambel's quail, and red-diamond rattlesnake. The vegetation described above also supports a variety of special-status wildlife species including Peninsular bighorn sheep, desert pupfish, flat-tailed horned lizard and barefoot banded gecko.

4.2.1.2 Biological Resource Conditions at the Time of the 2008 EIR/EIS

The following discussion is based entirely on the analysis provided in the 2008 EIR/EIS and its appendices which include a Biological Technical Report prepared in 2005 by White & Leatherman BioServices for the Quarry.

Vegetation

At the time the 2008 EIR/EIS was prepared, three special-status plant communities had been reported in the area by the California Natural Diversity Data Base (CNDDB): desert fan palm oasis, mesquite bosque, and transmontane alkali marsh.

Two biological field surveys had been conducted for the Quarry site at the time the 2008 EIR/EIS was prepared: the first by Lilburn Corporation in 1995, and the second by White & Leatherman BioServices in 2002. During these surveys, no special-status plants were observed at the Quarry, at the Well No. 3 site, or along the pipeline alignment (Imperial County 2006).

Wildlife

Based on literature reviews conducted for the 2008 EIR/EIS, biologists identified 27 special status species occurring or potentially occurring in the general region of the Quarry site. Of these, four were state- or federally-listed threatened or endangered species in 2008—desert pupfish (*Cyprinodon macularius*), desert tortoise (*gopherus agassizii*), barefoot banded gecko (*Coleonyx switaki*), and peninsular bighorn sheep (*Ovis canadensis*)—and one, flat-tailed horned lizard (FTHL) (*Phrynosoma mcallii*), is a special status wildlife species protected by an interagency management agreement. The 2008 EIR/EIS determined there was no potential for desert pupfish to occur on the site due to the absence of any perennial surface water. Neither desert tortoise nor barefoot banded gecko was observed during site surveys and were determined by project biologists to be unlikely to occur on the project site. Portions of the Quarry are located within the critical habitat for Peninsular big-horned sheep. However, the 2008 EIR/EIS determines that as the Quarry and adjacent mountains have no permanent or long-lasting seasonal water source they do not serve as habitat for peninsular bighorn sheep. The 2008 EIR/EIS concluded that FTHL is likely to occur along the narrow-gauge railroad right-of-way as well as other habitat types. There have been several sightings near the proposed pipeline alignment as it traverses the West Mesa Management Area.

The 2008 EIR/EIS also identified a low probability for the occurrence of three special status invertebrate species: Carlson's dune beetle (*Anomala carlsoni*), Hardy's dune beetle (*A. hardyroum*), and Andrew's dune scarab beetle (*Pseudocotalpha andrewsi*).

Numerous bird species were either observed during site surveys or have the potential to occur on the site due to geographic range and presence of suitable habitat. These include two special status birds – black

tailed gnatcatcher (*Polioptila melanura*) and loggerhead shrike (*Lanius ludovicianus*) which were observed onsite during the 2002 site survey. Several raptor species, including the golden eagle and prairie falcon, are likely to occur during winter or migration and potential habitat is present for burrowing owls.

The 2008 EIR/EIS also identified several special status bat species likely to forage and/or roost on the site including pallid bat (*Antrozous pallidus*), California mastiff bat (*Eumops perotis californicus*), and California leaf-nosed bat (*Macrotus californicus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), spotted bat (*Euderma maculatum*), and Townsend's big-eared bat (*Plecotus townsendii pallescens*). No significant potential roosting sites were observed on the site during surveys.

American badger was also determined to be likely to occur on the Quarry site at least occasionally but are unlikely to live on the site year-round (Imperial County 2006).

4.2.1.3 Biological Resource Conditions at Present

The following discussion of biological resource conditions at the Quarry, Well No. 3 site, and associated pipeline alignment is based on the Biological Resources Technical Report prepared by Aspen Environmental Group in 2019 (Appendix D-1), the Jurisdictional Delineation prepared by Hernandez in 2016 (Appendix D-2), and the Biological Opinion issued by USFWS in 2019 (Appendix D-3). The discussion of biological resource conditions at the off-site mitigation sites is based on the Habitat Mitigation and Monitoring Plan (HMMP) prepared by Dudek in 2021 (Appendix D-4).

Quarry, Well No. 3 and Associated Pipeline

Vegetation Types

According to Aspen (2019), the Quarry area is characterized by broad sandy wash and adjacent upland slopes and mountains. The wash slopes gently toward the northwest and is fed by several canyons in the Fish Creek Mountains (on the northeast) and Split Mountain (on the southwest). The wash is vegetated by several types of wash shrubland, and woodland as described below. The uplands are also vegetated by a variety of shrubland types. A total of seven vegetation types were mapped within the project area. Other land cover types including sparsely vegetated sandy wash and existing development were also mapped within the project area. Vegetation and cover types within the project area are described in the following paragraphs and mapped on Figure 4.2-1, "Project Site Vegetation and Landcover."

Creosote bush scrub

Creosote bush scrub is an upland vegetation type that is characterized by creosote bush (*Larrea tridentata*) which is the dominant shrub. Other species such as dyebush (*Psorothamnus emoryi*), desert straw (*Stephanomeria pauciflora*), and indigo bush (*Psoro-Thamnus schottii*) are also present but in much lower numbers. It is most common in the uplands along the northwest portion of the project site.

Creosote bush–white bursage scrub

Creosote bush–white bursage scrub is an upland vegetation that is characterized by creosote bush and white bursage (*Ambrosia dumosa*) which co-dominate these areas. Several other species are present in these areas including (*Condea emoryi*), desert straw, ocotillo (*Foquieria splendens*), and three species of cholla (*Cylindropuntia spp.*). Scattered catclaw (*Senegalia greggii*) are also present

in some of the smaller upland swales that originate in these areas and eventually change to catclaw acacia thorn scrub further downstream.

Catclaw acacia thorn scrub
Catclaw acacia thorn scrub is a wash vegetation that is dominated by catclaw. Other species such as desert lavender, smoke tree (*Psorothamnus spinosus*), cheesebrush (*Ambrosia salsola*), and sweetbush (*Bebbia juncea*). It is most common in the upper washes and in more isolated portions of the main wash that are slightly protected from scouring flows.

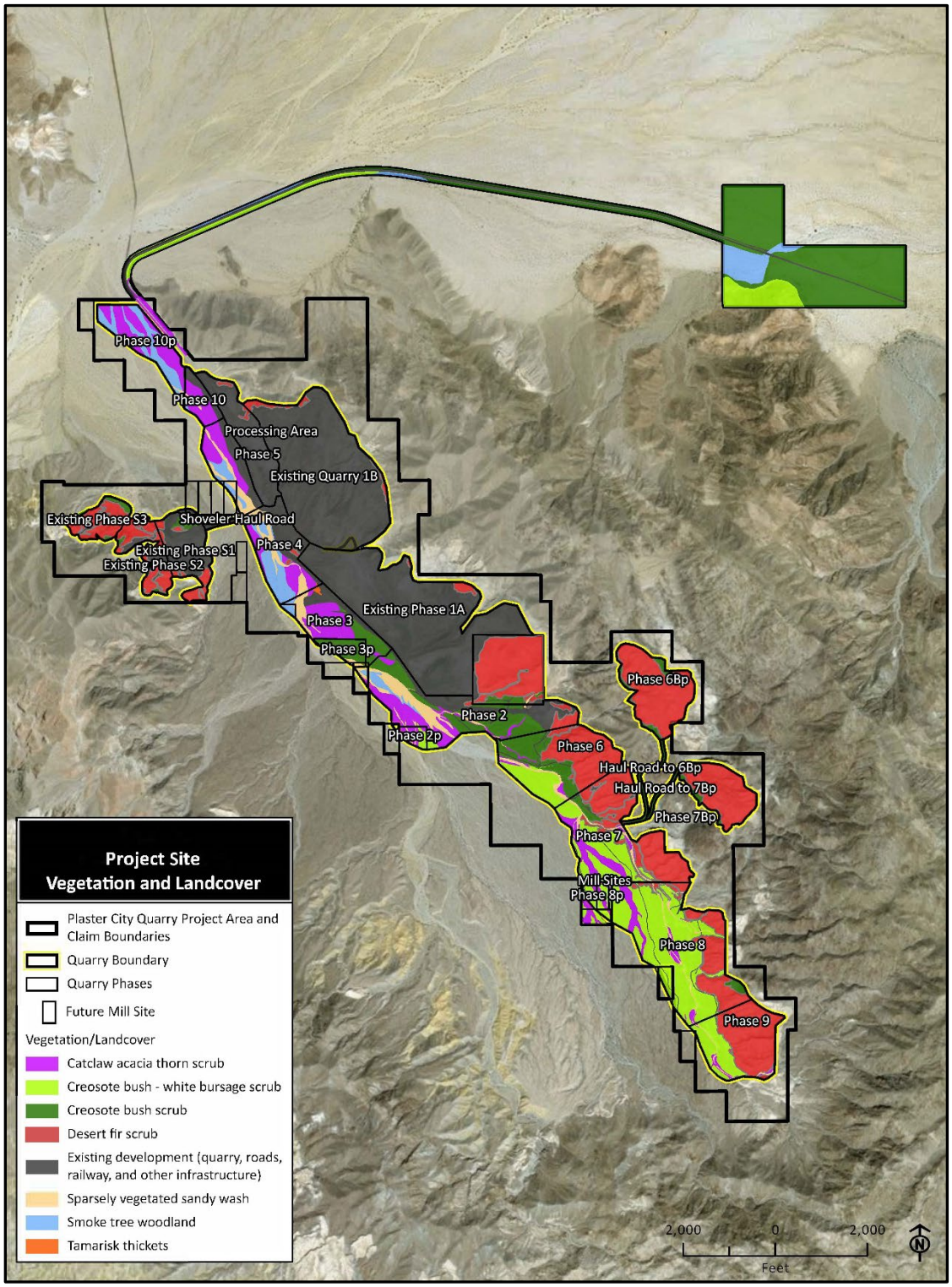
Smoke tree woodland
Smoke tree woodland is a wash vegetation that is dominated by smoke trees. Other species such as desert lavender, indigo bush, catclaw, desert willow (*Chilopsis linearis*), and cheesebrush (*Ambrosia salsola*) are also present. Several desert ironwood (*Olneya tesota*) were also present within the smoke tree woodlands along the Ocotillo pipeline alignment. It is most common in the large wash that flows through the lower elevations within the project site. It grows in the most active portion of the wash that is frequently scoured. Some areas mapped as smoke tree woodland have very little vegetative cover, primarily because of scouring floods that hit the area in 2014. Many of the dominate trees and shrubs survived but were buried or knocked over and are continuing to recover. Smoke tree woodland is ranked by CDFW as a sensitive natural community (CDFW 2010).

Desert fir scrub
Desert fir scrub is an upland vegetation type that grows on the gypsum outcrops within the project area. It is dominated by desert fir (*Peucephyllum schottii*) with other species such as flat-topped buckwheat (*Eriogonum plumatella*), and creosote bush also present but in much lower numbers. The areas mapped as this vegetation type do not match any of the vegetation types named or described in A Manual of California Vegetation (Sawyer et al. 2009, cited in Aspen 2019). Therefore, Aspen biologists named it to best match the naming convention used in Sawyer et al (2009).

Allscale scrub
Allscale scrub is dominated by allscale (*Atriplex polycarpa*) and is present along the Ocotillo pipeline alignment. It grows on fine sandy soils and old playalike habitats near the community of Ocotillo. Other species such as cheesebrush, dyebush, creosote bush, white bursage, and big galleta (*Hilaria rigida*). Fine wind-blown sands are present in several areas along the Ocotillo pipeline.

Tamarisk thickets
Tamarisk thickets was used to map one patch of vegetation dominated by saltcedar (*Tamarix ramosissima*) and athel tamarisk (*Tamarix aphylla*). Tamarisk thickets are present in a single location within the project area where flood waters in 2014 ponded and allowed these species to flourish.

Sparsely vegetated sandy wash
Sparsely vegetated sandy washes are present within the quarry, the northern pipeline alignments and along the Ocotillo pipeline alignment. It is used to map areas that are largely unvegetated washes with scattered shrubs such as sweetbush and cheesebrush. Seedling trees such as smoke tree and desert ironwood may be present but in very low numbers. These washes have a high abundance of spring annuals.



SOURCE: Aspen 2019; Figure 2
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Figure 4.2-1
Project Site Vegetation and Landcover

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Special Status Plant Species

Table 3 of Appendix D-1 lists the 39 special-status plant species reported within the USGS 7.5-minute quads surrounding the project site. One of these species, San Diego button-celery (*Eryngium aristulatum* var. *parishii*) is both state and federally listed as endangered.

Six plants recognized by the BLM as sensitive have at least some potential to be present within the project site. Of these, none were observed and only two species, chaparral sand verbena (*Albronia villosa* var. *aurita*) and Orcutt's aster (*Xylorhiza orcuttii*), have at least a moderate potential to be present and are discussed below (Aspen 2019).

Annual rock-nettle (*Eucnide rupestris*) is recognized by the CNPS as a California Rare Plant. This species was observed on the project site in the southeastern phases of the Quarry. The locations of field observations of Annual rock-nettle are shown on Figure 4.2-2, "Project Site Biological Resources." These and other species with at least a moderate potential to be present on the project site are described below.

Listed Threatened and Endangered Plant Species

San Diego button-celery

This plant occurs only in vernal pools in San Diego, Orange, and Riverside counties, inland as far as the In-Ko-Pah Gorge area. It is considered absent from the project site due to the lack of any suitable vernal pool habitat (Aspen 2019).

BLM Sensitive Plants

Chaparral sand verbena

Chaparral sand verbena is a BLM sensitive species and has a CRPR of 1B.1. It is a perennial herb in the four o'clock (*Nyctaginaceae*) family. It grows in the western Sonoran Desert, San Jacinto Mountains, and coastal sides of southern California mountains (CNPS 2018, cited in Aspen 2019). In the desert, it is found in desert shrublands on dunes, sandfields, and sandy washes. Chaparral sand-verbena is an annual or perennial herb that tends to integrate with the common desert sand-verbena (*A. villosa* var. *villosa*). Its distribution and identification are unclear in published reference works. The conservation concern is primarily for chaparral sand-verbena occurrences in western Riverside County and other locations outside the desert where the variety is considered rare (Roberts et al. 2004, cited in Aspen 2019).

Chaparral sand verbena was not observed within the project site during focused surveys, which were conducted during two years with below average rainfall. It has a moderate potential to be present along the northern pipeline alignment following a year with higher-than-average rainfall.

Orcutt's aster

Orcutt's aster is a BLM sensitive species and has a CRPR of 1B.2. It is a woody perennial in the aster (Asteraceae) family that blooms from March to April. It grows in the western Sonoran Desert from the Salton Sea in the east to Anza Borrego State Park in the west, north to near Salton City and south to near Interstate 8. It is a woody perennial that is present year-round and flowers in the spring. It is most commonly found in arid canyons and nearly barren slopes in areas vegetated by creosote-bush scrub (Baldwin et al. 2012, cited in Aspen 2019). Several of the records also note that it grows on sandy, clay, alkali, and gypsum substrates (CNPS 2018, cited in Aspen 2019).

Orcutt's aster was not observed during focused surveys of the project site. It has a moderate potential to be present within all three components of the project site as a waif from upstream populations that are known to occur within 0.75 miles of the project site.

Other Special-status Plant Species

Several other special-status plant species ranked by CNPS and CDFW have at least a moderate potential to be present. These include several plants ranked as a CRPR 2 species and CRPR 4 species. These species, with at least a moderate potential to be present, are described below.

Annual rock-nettle

Annual rock-nettle (*Eucnide rupestris)* has a CRPR of 2B.2. It is an annual herb in the stick-leaf (*Loasaceae*) family and blooms from December through April. It is found in Sonoran Desert scrub at elevations from about 400 to 2,000 feet in California (Imperial and San Diego counties), Arizona, and northern Mexico. In California, it has been documented growing on gypsum soils. However, further south into Mexico it does not seem to show any soil affinity and has been observed on volcanic soils as well as more typical granitic substrates (SEINET 2018, cited in Aspen 2019).

Annual rock-nettle was observed within the project during focused surveys. Dozens of plants were growing on eroded gypsum cliffs, in adjacent gypsum bedrock, and downstream in sandy washes. All observations were in the southeastern phases of the quarry including Phases 6 through 9. Additional plants are not expected in other portions of the project site.

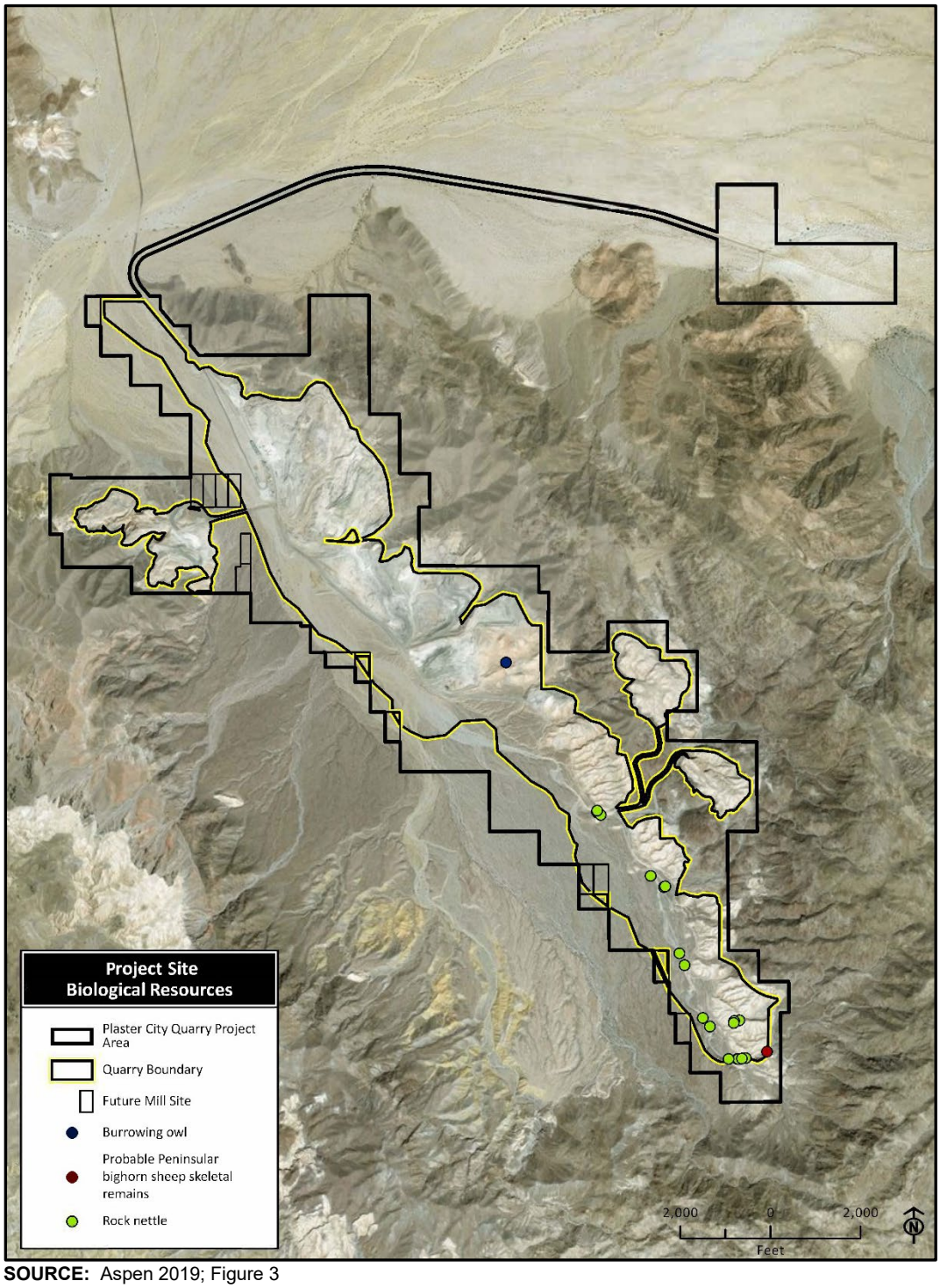
Harwood's milk vetch

Harwood's milk vetch (*Astragalus insularis var. harwoodii*) has a CRPR of 2B.2. It is an annual herb in the pea (Fabaceae) family that blooms from March to April (CNPS 2018, cited in Aspen 2019). It grows in sandy, windblown soils throughout much of the western Sonoran Desert from near Anza Borrego State Park in the south, to the Whipple Mountains in the north and east into Arizona (CDFW 2018, cited in Aspen 2019). It is an annual that requires adequate rainfall to trigger germination. It is known from several records in the immediate vicinity of the existing pipeline near Plaster City and was documented in 2017 within about 0.5 miles of the proposed pipeline alignment (CCH 2018 and Calflora 2018, cited in Aspen 2019).

Harwood's milk vetch was not observed during focused surveys of the project area, which were conducted during two years with below average rainfall. It has a high potential to be present in fine sand accumulations within all three components of the project area in a year with higher-than-average rainfall.

Brown turbans

Brown turbans (*Malperia tenuis*) has a CRPR of 2B.3. It is an annual herb in the aster (Asteraceae) family and blooms from February through April (CNPS 2018, cited in Aspen 2019). It is found in sandy or gravelly areas of Sonoran Desert scrub at elevations from about 50 to 1,100 feet in California (Imperial and San Diego counties) and Baja California, Mexico. It is known from numerous locations in the vicinity of the project area (CCH 2018, cited in Aspen 2019).



SOURCE: Aspen 2019; Figure 3
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Figure 4.2-2
Project Site Biological Resources

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Dozens of plants were observed within Phases 7 through 9, primarily on rocky slopes and flats adjacent to the sandy washes. Several plants were also observed along the proposed pipeline near the entrance gate to the quarry. Additional plants are likely to be present in similar habitats within the project area in a year with higher-than-average rainfall. It also has a high potential to be present along the existing pipeline although it was not observed during the surveys.

Hairy blazingstar

Hairy blazingstar (*Mentzelia hirsutissima*) has a CRPR of 2B.3. It is an annual herb in the stick-leaf (*Loasaceae*) family and blooms from March to May (CNPS 2018, cited in Aspen 2019). It is found on rocky substrates and talus in the Sonoran Desert at elevations up to about 2,000 feet in California (Imperial and San Diego counties) and in Baja California, Mexico. It was documented in 2017 within about 0.5 miles of the proposed pipeline alignment (CCH 2018 and Calflora 2018, cited in Aspen 2019).

Hairy blazingstar was not observed during the focused surveys of the project area, which were conducted during two years with below average rainfall. It has a high potential to be present within the Quarry and along the proposed pipeline alignment in a year with higher-than-average rainfall.

Narrow-leaf sandpaper-plant

Narrow-leaf sandpaper-plant (*Petalonyx linearis*) has a CRPR of 2B.3. It is a shrub in the stick-leaf *(Loasaceae*) family and blooms from March to May (CNPS 2018, cited in Aspen 2019). It is found on sandy and rocky substrates in a variety of habitats throughout the Sonoran Desert. It was documented on gypsum soil in 2015 just south of the project area. Narrow-leaf sandpaper-plant was reported from the project area in an earlier report (White and Leatherman 2005, cited in Aspen 2019) although it was not observed during the recent surveys and may no longer be present. It has a high potential to be present in the quarry and has a moderate potential to be present within the proposed pipeline alignment.

Four special-status plants with a California Rare Plant Rank (CRPR) of 4 were observed during the surveys: winged cryptantha (*Cryptantha holoptera*), Wolf's opuntia (*Cylindropuntia wolfii*), Thurber's pilostyles (*Pilostyles thurberi*), and Coulter's lyrepod (*Lyrocarpa coulteri*). Winged cryptantha and Coulter's lyrepod were both observed at several locations in the upper wash within Phases 6 through 9. Dozens of Wolf's opuntia were observed on upland terraces within Phases 7 through 9. Thurber's pilostyles were observed growing on dyebush along the proposed pipeline.

Four additional special-status plants with a CRPR of 4 have at least a moderate potential to be present: Salton milkvetch (*Astragalus crotalariae*), ribbed cryptantha (*Cryptantha costata*), Utah vine milkweed (*Funastrum utahense*), and slender-lobed four o'clock (*Mirabilis tenuiloba*). These plants are ranked as CRPR 4 species (i.e., a "watch list," not indicating rarity) and none are listed as threatened or endangered.

Special Status Wildlife Species

Table 4 in Appendix D-1 lists the special-status wildlife species reported within the USGS 7.5-minute quads surrounding the project site. The state and federally listed Peninsular bighorn sheep is present in the area. Two candidates for state listing, flat-tailed horned lizard, and Townsend's big-eared bat, may also occur. Loggerhead shrike, San Diego desert woodrat, and burrowing owl, all California Species of

Special Concern, have been observed on the project site. The locations of field observations of burrowing owl and peninsular bighorn sheep remains are shown on Figure 4.2-2. These and other species with at least a moderate potential to be present on the project site are described below.

Listed Threatened or Endangered Wildlife

Peninsular bighorn sheep

The Peninsular bighorn sheep (*Ovis canadensis nelsoni* DPS) (PBS) is federally listed as endangered, State-listed as threatened and designated as a "fully protected animal" by the California Fish and Game Code. Under the federal Endangered Species Act listing (USFWS 2009, cited in Aspen 2019) “Peninsular bighorn sheep” refers to the regional Distinct Population Segment (DPS) of desert bighorn sheep (or Nelson’s bighorn sheep). Under the 1971 California Endangered Species Act listing, Peninsular bighorn sheep refers to the subspecies Ovis canadensis cremnobates, although that subspecies is no longer recognized in more recent literature. Regardless of nomenclature, both listing designations refer to the same animals: the bighorn sheep population found in the Peninsular Ranges of southern California and southward into Baja California. This population is recognized as genetically isolated from other populations located farther to the north and east. PBS inhabit the desert slopes of the Peninsular ranges from Riverside County south to Baja California, Mexico, including the Fish Creek Mountains, where the Plaster City Quarry is located. PBS biology, life history, and conservation status are described by the US Fish and Wildlife Service (USFWS 2011a, cited in Aspen 2019) in its 5-year review. A few key aspects of its life history are seasonal movements and habitat use, reliance on surface water availability, and metapopulation geography.

The decline of PBS is attributed to combined effects of disease and parasitism; low lamb recruitment; habitat loss, degradation, and fragmentation; non-adaptive behavioral responses associated with residential and commercial development; and high predation rates.

The USFWS (2000, cited in Aspen 2019) has prepared a Recovery Plan for PBS, identifying 9 Recovery Regions, extending from the northernmost Recovery Region 1 on the desert-facing slopes of the San Jacinto Mountains (about 50 miles north of the Plaster City Quarry), to the southernmost Recovery Region 9 extending from the Coyote Mountains (about 10 miles south of the quarry expansion area) south to the international border (the range of the animals within Recovery Region 9 extends southward through the Coyote Mountains, across Interstate 8, and across the international border into Mexico). The Plaster City Quarry is located within Recovery Region 8 (Vallecito Mountains). The estimated numbers of Peninsular bighorn sheep in Recovery Regions 8 and 9 increased during the period from 1998 to 2016 (USFWS 2011a; Colby and Botta 2017, cited in Aspen 2019). CDFW (Colby and Botta 2017, cited in Aspen 2019) estimated the Region 8 and Region 9 populations at 163 and 256 animals, respectively.

The behavioral response of desert bighorn sheep (including PBS) to human activity is considered to be highly variable and dependent upon many factors, including: (1) the type of activity, (2) an animal’s previous experience with humans, (3) size or composition of the bighorn sheep group, (4) location of the bighorn sheep relative to elevation of the activity, (5) distance to escape terrain, and (6) distance to the activity (USFWS 2011a, p. 14, cited in Aspen 2019). Responses can range from cautious curiosity to immediate flight or abandonment of habitat, as well as disruption of normal social patterns and resource use. In some cases, Nelson’s bighorn sheep have become acclimated to

quarrying activities. For example, in local resident Nelson's bighorn sheep the northern San Bernardino Mountains have become acclimated to limestone quarrying and make regular use of inactive quarries and even active quarries during inactive hours (personal observations and communications with quarry staff by Scott D. White).

There are several research publications on Nelson's bighorn sheep activity in the vicinity of mining operations. None of these papers addresses PBS; however, the following three address Nelson's bighorn sheep populations in arid habitats in California or Arizona that are comparable to the Plaster City Quarry site. The summary that follows is based on these three publications, particularly the discussion by Bleich and coauthors (2009, cited in Aspen 2019), which is the most recent of the three, comparing and contrasting their own study results with the others and with broader Nelson's bighorn sheep literature.

- Panamint Mountains, California (Oehler et al., 2005)
- Silver Bell Mountains, Arizona (Jansen et al., 2007)
- San Bernardino Mountains, California (Bleich et al., 2009)

Bleich and coauthors (2009, cited in Aspen 2019) state that "the characteristic that best defines mountain sheep habitat is the presence of escape terrain," and that many habitat studies have found that juxtaposition of escape terrain with valuable water or food sources has been important. They identify potential mining-related habitat benefits and deterrents, as follows: Mining can enhance escape terrain by removing vegetation (i.e., improving visibility) and creating steeper topography, especially if the improved escape terrain is near valuable food or water sources. However, mining-related disturbance could outweigh the benefits of improved escape terrain if it causes sheep to avoid the quarry areas. They found that Nelson's bighorn sheep in the San Bernardino Mountains limestone mining areas generally avoided roads (human disturbance) but did not avoid mined areas and in fact favored them over random locations.

Bleich and coauthors (2009, cited in Aspen 2019) cite several publications indicating that Nelson's bighorn sheep can habituate to disturbance, and are frequently observed on or near active mines, stating "we speculate that such disturbance is of minimal concern to sheep when it is consistent in nature and occurs in highly predictable locations." In the Panamint Mountains study, Oheler and coauthors found that proximity to active mining did not affect home ranges, diet composition, or demographic indices, and that Nelson's bighorn sheep activity in the mining area was not affected by frequency of blasting or mine productivity.

The USFWS designated critical habitat for PBS in 2009. Much of the proposed Quarry expansion area, as well as the southern and western currently active quarry areas, are within designated critical habitat (see Figure 4.2-3, "Peninsular Bighorn Sheep Critical Habitat"). In its critical habitat designation, the USFWS (2009, cited in Aspen 2019) described "primary constituent elements" (PCEs) essential to the conservation of Peninsular bighorn sheep. The 5 PCEs are paraphrased below:

- Moderate to steep, open slopes and canyons, that provide space for sheltering, predator detection, rearing of young, foraging and watering, mating, and movement within and between ewe groups;

- Presence of a variety of forage plants, including shrubs that provide a primary food source year-round, grasses, and cacti that provide a source of forage in the fall, and forbs that provide a source of forage in the spring;
- Steep, rugged, slopes (60 percent slope or greater) that provide secluded space for lambing and terrain for predator evasion;
- Alluvial fans, washes, and valley bottoms that provide important foraging areas where nutritious and digestible plants can be more readily found during times of drought and lactation, and that provide and maintain habitat connectivity by serving as travel routes between and within ewe groups, adjacent mountain ranges, and important resource areas (e.g., foraging areas and escape terrain); and
- Intermittent and permanent water sources that are available during extended dry periods and provide relatively nutritious plants and drinking water.

On the whole, the USG claims and the surrounding slopes and canyon provide all PCEs identified above. Intermittent or permanent water is available from a natural rock tinaja water source located in the Fish Creek Mountains south of the Quarry. Several additional water sources are located about one to three miles west of the Quarry, within Anza Borrego Desert State Park (Colby and Botta 2017, cited in Aspen 2019).

Open slopes and canyons, as well as steep rugged slopes, are largely found above or in between the active quarry areas and the gypsum deposits proposed for future quarrying. Alluvial fans and washes, recognized as important foraging areas, are found throughout the area, including the large unnamed alluvial wash where below-grade quarrying would occur.

The proposed Quarry expansion would take place on two landforms: gypsum outcrops located above the level of the alluvial wash, and below-grade gypsum deposits, located beneath the alluvial wash. The planned expansion areas are located within larger claims, which also include more extensive upland and alluvial topography. In terms of the PCEs, the gypsum outcrops provide limited habitat value because of their sparse vegetation cover and minimal plant species diversity (predominantly desert fir, which is not identified as a PBS food plant). In addition, the surfaces of the undisturbed outcrops are covered by a crusted clay material that collapses underfoot, possibly affecting its habitat value for sheltering, predator detection, rearing of young, foraging and watering, mating, and movement within and between ewe groups (the first PCE).

The existing alluvial wash habitat located in the expansion areas planned for below-grade mining provides the high diversity of food plants identified in the second and fourth PCEs and may provide habitat connectivity within the canyon (per the fourth PCE), although most evidence of PBS movement in the area is found on the steep slopes and ridges, rather than in the canyon.

CDFW conducts regular monitoring of radio-collared Peninsular bighorn sheep throughout the area. The annual reports identify several “ewe groups” within each Recovery Region; each ewe group comprises a few adult female Peninsular bighorn sheep and their offspring. There are four identified ewe groups in Recovery Region 8 (Colby and Botta 2017, cited in Aspen 2019). The Quarry is located between the mapped home ranges of Vallecito Mountains ewe group and the Fish Creek Mountains ewe group. Suitable and occupied PBS habitat occurs to the west, northwest, south, and east of the Quarry, but not to the north. CDFW radio collar data provided by R. Botta (see Figure 4.2-4, “Fish

Creek Mountains Radio Collared Ewe Locations") show numerous PBS occurrences around the Quarry, around Split Mountain (west of the Quarry) and the Fish Creek Mountains (east, south, and southeast of the Quarry).

Ewes with young lambs have been reported within about one mile of the project site.

The existing Quarry and planned expansion areas are located along the eastern (Phases 1 through 10) and western (Phases S1, S2, and S3) slopes above a broad alluvial wash between the home ranges of two ewe groups whose core ranges are in the steeper mountains to the east and west. The two home ranges are in steep topography above the active quarry and planned expansion areas. At the narrowest point the overlap where the two ewe groups share territories (and, thus, biological connectivity) is about 4,000 feet wide, ranging in elevation between about 800 and 1,800 feet above MSL, with a few peaks above 2,100 feet above MSL. The existing Quarry and planned expansion area may limit potential east west movement across the canyon, although the animals seem to avoid the canyon floor (even to the south of the active Quarry area). Proposed Quarry development would not prevent continued geographic contact between the two ewe groups south of the planned Quarry expansion areas.

Peninsular bighorn sheep give birth mainly in late winter through early spring (February - April). Lambing is the period from one month before birth until weaning (at about 4 to 6 months of age). Births can occur over much of the winter or spring, so lambing activity can extend from January through August, but lambing season is generally identified as the period from 1 January through 30 May. During pregnancy and lactation, ewes require high-protein forage, as found on deeper more productive soils of alluvial fans and canyon bottoms but retreat to better escape terrain late in pregnancy and to give birth.

Lambing areas are associated with ridge benches or canyon rims adjacent to steep slopes or escarpments. The Fish Creek Mountains surrounding the project site provide suitable habitat components for lambing habitat and appear to be used by radio-collared females (ewes) during lambing season.

Peninsular bighorn sheep also occasionally move across valleys (not generally considered suitable habitat for most activities) between disjunct habitat areas. These movements can supplement small subpopulations with new members and provide for gene flow among multiple small groups. This pattern of partially isolated sub-populations with occasional demographic and genetic movement among them is known as a metapopulation. The proposed project would not prevent long-distance movement among distant sub-populations.

Peninsular bighorn sheep have been observed, albeit infrequently, at the existing Quarry site and the proposed Quarry expansion areas. During biological surveys conducted for the Biological resources Technical Report (Aspen 2019; Appendix D-1), PBS signs such as tracks, scat (feces), and "beds" (i.e., cleared areas for resting or sleeping) were commonly observed on upland slopes above the proposed Quarry expansion areas, especially near the southern end of the proposed Quarry areas, and less often observed in the unnamed alluvial wash.

Skeletal remains of an apparent bighorn sheep were also observed near the southern end of the proposed Quarry areas (Figure 4.2-2). PBS tracks were also observed commonly near the active Quarry area in 2014, following a year of heavy rainfall and subsequent ponding within the Quarry. Due to the ponding, USG pumped water from the Quarry, and multiple sheep tracks indicated the animals had repeatedly crossed the wide wash (from the west) to reach the water discharge.

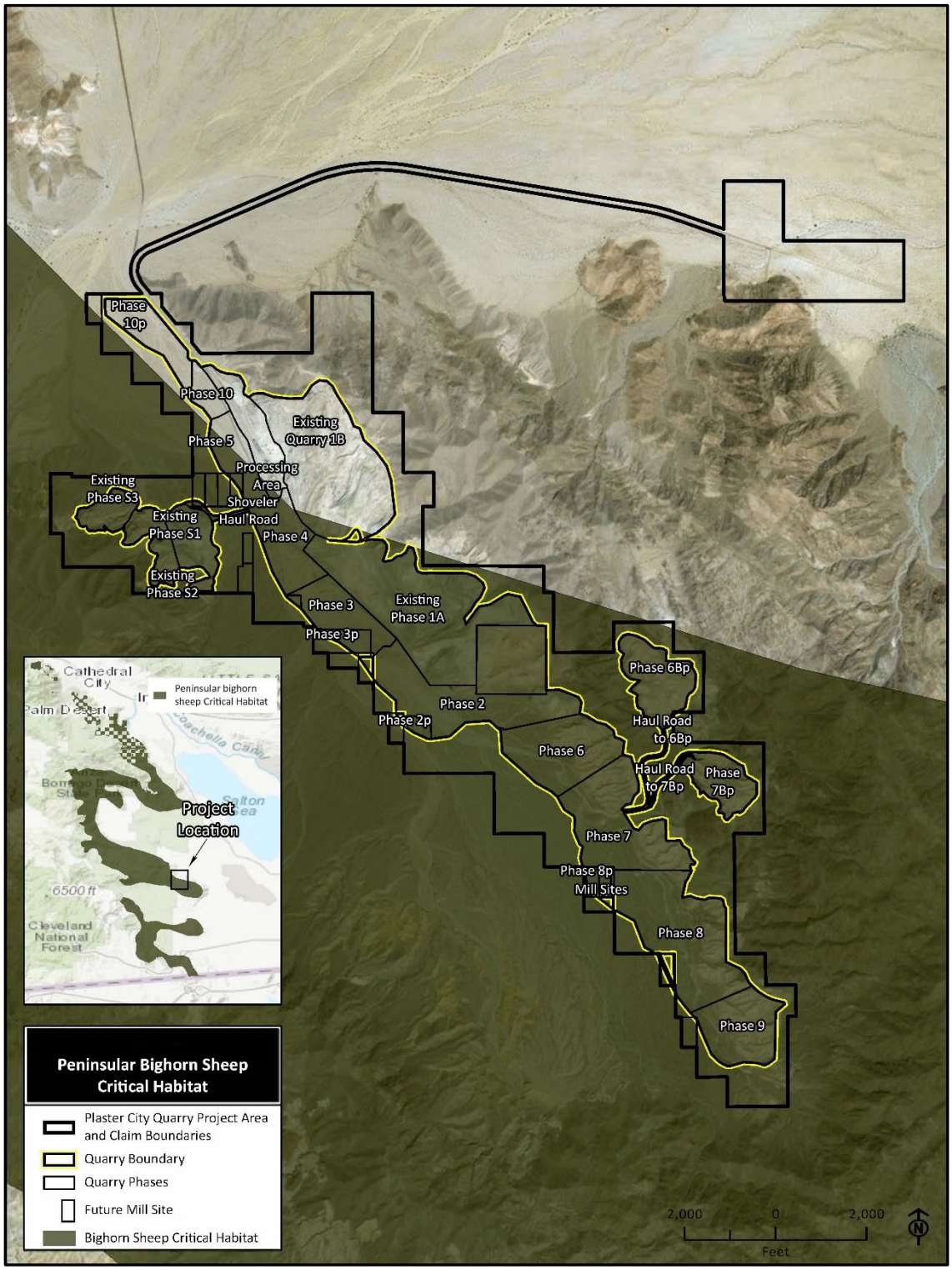
California Department of Parks and Recreation unpublished data also include PBS occurrences in the project area: sign was observed in the Shoveler claims area on the west part of the project site, and at the narrow-gauge rail line where a sheep evidently crossed from west to east north of the USG processing area and went into the Fish Creek Mountains above the existing Quarry. Finally, an individual PBS was documented on the project site in 2006. In early August, Quarry staff saw an animal in the Shoveler claims area at the west part of the project site; over the next few days, it was seen twice more near the processing area (though the workers did not get good views). Finally, on August 7, 2006, the remains of a dead immature male PBS were found at the Shoveler claims area. The USG Quarry Manager contacted Anza-Borrego Desert State Park. A Park officer investigated the site and disposed of the remains. There was no evidence of predation (e.g., by mountain lion) or major injury and the cause of death is unknown.

The CDFW has only recently begun to understand ewe group structure and seasonal movements within the Fish Creek Mountains (FCM). CDFW observed 15 PBS, including 1 lamb, 1 yearling ewe, 6 ewes and 4 rams in the FCM during the 2016 aerial survey. However, during more recent ground telemetry monitoring upwards of 30 sheep have been observed.

There is no abundance estimate for the FCM ewe group alone. Because PBS move between the Fish Creek Mountains and Vallecito Mountains by way of Split Mountain, CDFW's surveys of the two mountain ranges are combined. For the 2016 aerial survey the total Vallecito and FCM adult ewe estimate was 79, the adult ewe/yearling ewe estimate was 101 and the adult and yearling ewe and ram estimate was 163. Given the increase in the PBS population over the last 10+ years and CDFW's improved understanding of ewe group structure, CDFW hopes to estimate PBS abundance by individual ewe groups. Doing so will depend on funding availability.

To date, CDFW has data from 3 GPS-collared ewes. Thus far, the core use area is in a large north-south running drainage on the eastern side of the Fish Creek Mountains (east of the ridgeline above the Quarry). As of 2017, the distribution and movement patterns had not changed significantly in the Vallecito and FCM ewe groups.

There are only a few known water sources within the Fish Creek Mountains, including the north/south trending canyon at the northeast end of the FCM ewe group's home range. In summer 2016, the lower tinaja was checked and found to be dry; however, CDFW GPS data show this canyon to be the most heavily used during the summer months. As of 2017, numerous tinajas in the FCM have been dry for the past few years (prior to above-average rainfall in 2019). If recurring drought conditions continue these water sources may no longer meet the needs of PBS within FCM and water enhancement projects may be warranted.



SOURCE: Aspen 2019; Figure 4
NOTE: Image has been altered by Benchmark Resources and is not printed to scale.

Figure 4.2-3
Peninsular Bighorn Sheep Critical Habitat

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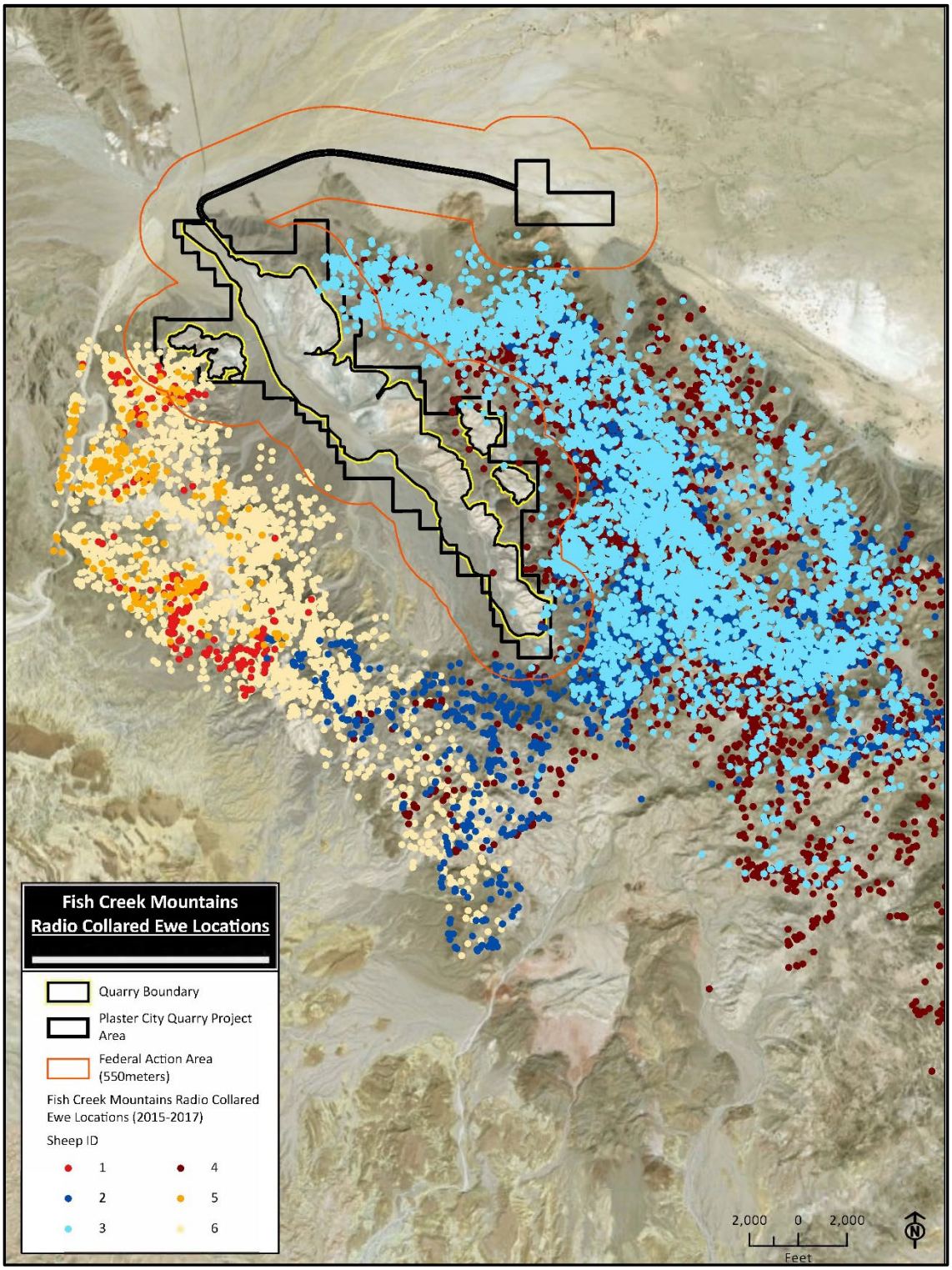

SOURCE: Aspen 2019; Figure 5
NOTE: Image has been altered by Benchmark Resources and is not printed to scale.

Figure 4.2-4
Fish Creek Mountains Radio Collared Ewe Locations

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Swainson's hawk

Swainson's hawk (*Buteo swainsoni*) is listed as threatened by CDFW and is recognized as sensitive by the BLM. It is a hawk that preys on small mammals, birds, large insects, reptiles, and amphibians. Swainson's hawks usually hunt from perches such as fence posts and low trees, or from vantage points on the ground. This species is most commonly found over open plains and prairies in the Great Plains and relatively arid areas of western North America. It builds rather flimsy nests in shrubs and trees along wetlands and drainages and in windbreaks in fields and around farmsteads. They nest in the San Joaquin, Owens, and western Antelope Valleys of California. The primary wintering grounds for this species is in Argentina. They migrate through southern California every spring and fall. Suitable foraging habitat for this species is present throughout the project area.

Barefoot banded gecko

This summary is based on reviews by Stebbins (2003, cited in Aspen 2019) and CDFG (2005, cited in Aspen 2019). The barefoot banded gecko (*Coleonyx switaki*) is a state-listed threatened species and a BLM sensitive species. It is not listed under the federal ESA. Its documented geographic range extends from San Diego and Imperial counties south to central Baja California, Mexico. It occurs in rock outcrops and boulder strewn slopes and canyons. It is rarely observed because of its steep, poorly accessible habitat, and because it spends most of its time in rock crevices or below ground. Due to its behavior and inaccessible habitats, its range in southern California may be more extensive than shown by documented occurrences. For example, Stebbins (2003, cited in Aspen 2019) reported it as far north as State Highway 74 in the Santa Rosa Mountains, Riverside County. The nearest known occurrences to the project site are within Anza Borrego Desert State Park and in the Coyote Mountains. The principal threats to barefoot banded geckos appear to be collecting live animals for the reptile hobbyist trade, and consequent habitat destruction (e.g., prying rock crevices apart). Barefoot banded geckos are unlikely to occur on the quarry site or pipeline alignments. The gypsum outcrops do not provide suitable boulders or crevices. The surrounding metamorphic rock outcrops and perhaps the alluvial wash may offer marginal habitat such as boulders and crevices. There is no suitable habitat in the proposed pipeline alignment. Barefoot banded geckos were not found during field surveys conducted for the 2008 EIR/EIS or during recent field surveys in a portion of the gypsum quarry conducted in compliance with Mitigation Measure 3.5-1e of the 2008 EIR/EIS and current CDFW survey protocol (CDFG 2011, cited in Aspen 2019).

Desert pupfish

Desert pupfish (*Cyprinodon macularius*) are absent from the project site due to the absence of perennial surface water. However, desert pupfish occurs lower in the watershed, several miles downstream from the quarry. Critical habitat at San Felipe Creek, Carrizo Wash, and Fish Creek Wash and occupied habitat at San Sebastian Marsh are located about 7 miles northeast of proposed Quarry Well No. 3, 11 miles northeast of the Quarry, about 20 miles north of the Plaster City Plant, and about 24 miles north of the proposed wells near Ocotillo.

Historically, desert pupfish were widespread and common in shallow water of stream margins, marshes, springs, and slow-flowing reaches of major rivers in the lower Gila River and Colorado River watersheds in Arizona, California, Baja California, and Sonora Mexico. They are exceptionally hardy, surviving in a broad range of water chemistry and temperature regimes, but they are vulnerable to competition and predation by non-native species. The desert pupfish is endangered due to habitat loss and the introduction of non-native competitors and predators (e.g., Tilapia) into

its habitat (Minckley et al. 1991; USFWS 1986; Moyle 2002, all cited in Aspen 2019). Dam construction on several of its river and tributary habitats in Arizona and on the Colorado River inundated some occurrences and dewatered others. Surface water diversions have eliminated habitat in some areas, and lowered water tables due to groundwater pumping and groundwater use by invasive shrubs (*Tamarix ramosissima*) have eliminated other occurrences (USFWS 1986, 1993; CDFG 2005, all cited in Aspen 2019). Agricultural pollution may threaten some occurrences. In California, desert pupfish populations persist in native populations, at San Sebastian Marsh and upstream in San Felipe Creek and tributaries (Imperial County), at Salt Creek (Riverside County), and in shoreline pools and irrigation ditches around the Salton Sea (USFWS 1993, cited in Aspen 2019). They also persist in irrigation canals near the Salton Sea and in a few introduced "refugia" sites, including three in Anza Borrego Desert State Park.

The USFWS designated critical habitat for desert pupfish at San Sebastian Marsh and along portions of its tributaries, San Felipe Creek, Carrizo Wash, and Fish Creek Wash in Imperial County (USFWS 1986, cited in Aspen 2019). In the critical habitat designation, the USFWS listed several activities that could adversely modify critical habitat, including withdrawal of water, either directly or indirectly, from San Sebastian Marsh. In addition, the USFWS (1993, cited in Aspen 2019) published a Desert Pupfish Recovery Plan with recommendations for land management and recovery.

BLM Sensitive Species

Flat-tailed horned lizard

The flat-tailed horned lizard (*Phrynosoma mcalli*) is recognized as a sensitive species by the BLM and is a CDFW Species of Special Concern. The flat-tailed horned lizard has been proposed for federal listing several times but in each case the USFWS determined that listing was not warranted (USFWS 2011b, cited in Aspen 2019). Although not federally listed, an interagency management strategy and conservation agreement for the flat-tailed homed lizard was established in 1997 and remains in place (Flat-tailed Horned Lizard Interagency Coordinating Committee 2003, cited in Aspen 2019); its signatory agencies include the Bureau of Land Management and El Centro Naval Air Command. Together, these agencies manage several large reserves, including the West Mesa Management Area. A portion of the existing narrow gauge rail line crosses the West Mesa Management Area, but none of the project components are located within it. The West Mesa Management Area is located approximately 2 miles north of the proposed replacement pipeline alignment and about 5 miles east of the proposed new pipeline alignment (Flat-tailed Horned Lizard Interagency Coordinating Committee 2003, cited in Aspen 2019).

The flat-tailed horned lizard's historic range extends throughout much of southeastern California, southwestern Arizona, northwestern Sonora and northeastern Baja California, Mexico. Populations are becoming isolated from one another by development. They occur almost exclusively in windblown sand dunes and partially stabilized sand flats. They overwinter by burying themselves in loose sand at depths to 8 inches (20 cm). They also bury themselves in sand to escape predators and to escape extreme high temperatures during their summer activity period (Flat-tailed Horned Lizard Interagency Coordinating Committee, 2003) Flat-tailed horned lizard was not observed during the surveys. They were observed in the immediate vicinity of the proposed pipeline alignment in 2016 and 2017 (inaturalist 2018, cited in Aspen 2019). They have a high potential to be present along both pipeline alignments and only a moderate potential to be present in the washes at the downstream end of the quarry.

The USFWS (2011b, cited in Aspen 2019) determined that flat-tailed horned lizard populations within Management Areas are not low or declining and that most populations (with the exception of occurrences in the Coachella Valley) are not likely to become endangered in the foreseeable future. The USFWS evaluated the conservation efforts implemented under the Rangewide Management Strategy and recognized that these efforts reduce threats and "promote actions that benefit the flat-tailed horned lizard throughout its range." The USFWS states that "there is no information to suggest that the flat-tailed horned lizard population is declining or is in danger of becoming an endangered species in the foreseeable future."

Colorado Desert fringe-toed lizard

Colorado Desert fringe-toed lizard (*Uma notata*) is recognized as a sensitive species by the BLM and is a CDFW Species of Special Concern. It lives in fine, loose, wind-blown sand, primarily in desert dunes and sandy washes. Their range in California includes the Sonoran Desert from Anza Borrego State Park to the Arizona and Mexico borders in Imperial and San Diego counties.

Suitable windblown habitat is present along both pipeline alignments. There are recent records of Colorado Desert fringe-toed lizard within about 5 miles of the proposed pipeline (inaturalist 2018, cited in Aspen 2019). It has the highest potential for occurrence along the proposed pipeline where the habitat is intact and has relatively little disturbance. There is minimally suitable habitat and very few records near the existing pipeline, therefore it has a low potential to be present. No suitable habitat is present within the quarry.

Golden eagle

Golden eagle (*Aquila chrysaetos*) is federally protected under the Bald and Golden Eagle Protection Act (BGEPA), recognized as sensitive species by the BLM, and considered a fully protected species by CDFW. They are year-round residents throughout most of their range in the western U.S. In the southwest, they are more common during Winter when eagles that nest in Canada migrate south into the region. They breed from late January through August, mainly during late Winter and early Spring in the California deserts. In the desert, they generally nest in steep, rugged terrain, often on sites with overhanging ledges, cliffs, or large trees that are used as cover. Golden eagles are wide-ranging predators, especially outside of the nesting season, when they have no need to return daily to tend eggs or young at their nests. Foraging habitat consists of open terrain including grasslands, deserts, savanna, and early successional forest and shrubland habitats. They prey primarily on rabbits and rodents, but will take other mammals, birds, reptiles, and some carrion.

Golden eagle home ranges in the Mojave Desert ranged from 1.7 to 1,369 square miles, and averaged 119 square miles (Braham et al. 2015, cited in Aspen 2019). In any given year, eagles may initiate nesting behavior at one nest, without any activity at the other nests. Eagles may complete breeding by laying eggs and raising chicks or may abandon the nest without successfully raising young. In any given year, all or most nests in a territory may be inactive, but eagles may return in future years to nest at previously inactive sites.

Marginally suitable nesting habitat is present within the project area and there is a low potential for nesting. Numerous cliffs were observed within 0.5 miles of the project area and are likely to provide suitable nesting habitat. Suitable foraging habitat is present throughout the project area and there is a high potential for golden eagles to forage throughout.

Burrowing owl

Burrowing owl (*Athene cunicularia*) is a CDFW Species of Special Concern and recognized as sensitive by the BLM. It inhabits arid lands throughout much of the western U.S. and southern interior of western Canada (Poulin et al., 2011, cited in Aspen 2019). In this portion of its range, some owls are migratory, while some are year-round residents. Burrowing owls prefer flat, open annual or perennial grassland or gentle slopes and spare shrub or tree cover. However, they are routinely found in desert shrub communities, including those that are present in the project area. Burrowing owls are unique among the North American owls in that they nest and roost in abandoned burrows, especially those created by ground squirrels, kit fox, desert tortoise, and other wildlife. Burrowing owls have a strong affinity for previously occupied nesting and wintering habitats. Burrowing owls often return to burrows used in previous years, especially if they were successful at reproducing there in previous years (Gervais et al. 2008, cited in Aspen 2019). The breeding season in southern California generally occurs from February to August with peak breeding activity from April through July (Poulin et al. 2011, cited in Aspen 2019).

A single burrowing owl was observed during surveys of the project area in October 2014. Given the timing of the survey and that the owl was unpaired, this was likely a dispersing or wintering individual. Subsequent surveys of the project area conducted during the breeding season did not detect any burrowing owls. However, suitable burrowing owl nesting habitat and foraging habitat is present throughout the project area. This species is considered to have moderate potential to nest in the project area.

Bats

Five special-status bat species recognized as sensitive by the BLM have at least a moderate potential to forage over the project area: California leaf-nosed bat (*Macrotus californicus*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), spotted bat (*Euderma maculatum*), and Western mastiff bat (*Eumops perotis californicus*). Pocketed free-tailed bat (*Nyctinomops femorosaccus*) also has at least a moderate potential to be present but is not recognized by the BLM as sensitive but is recognized as a CDFW Species of Special Concern. The pallid bat, Western mastiff bat, and California leaf-nosed bat forage in open areas over grasslands, agricultural areas, and other shrublands and roost in a variety of habitats including buildings, rock crevices, and caves. Townsend's big-eared bat roosts primarily in caves and abandoned mines (Harvey et. al. 2011, cited in Aspen 2019). The spotted bat forages on moths in the desert during winter months and roosts in deep crevices in cliffs (CDFW 2018, cited in Aspen 2019). The gypsum cliffs and other cliffs and outcrops immediately adjacent to the quarry provide suitable roosting habitat for most of these species. In addition, the entire project site provides suitable foraging habitat for these bats.

Other Special-status Wildlife

Loggerhead shrike

The loggerhead shrike (*Lanius ludovicianus*) is a CDFW Species of Special Concern. It is a widespread species in the United States and throughout California. It prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. It most often occurs in open canopied forest and woodland habitats. It nests in well-concealed microsites in densely foliaged trees or shrubs (Miller 1931; Bent 1950, cited in Aspen 2019). It feeds on large insects, but will also take small birds, mammals, amphibians, reptiles, fish, carrion, and various invertebrates. Loggerhead

shrikes often impale their prey on thorns, barbed wire, or other sharp objects. Loggerhead shrike was present within the quarry during nesting season and likely nested there. It has a high potential to be present along the pipeline alignments.

Black-tailed gnatcatcher

The black-tailed gnatcatcher (*Polioptila melanura*) is recognized as a watch list species by CDFW. It is a small songbird that nests in desert shrublands, typically in areas with thickets of mesquites, palo verdes, or acacias. They occur from the deserts of southern California east through Texas and south into Mexico. Black-tailed gnatcatchers were observed nesting within the quarry during surveys in the spring of 2016. They were nesting in habitat mapped as catclaw acacia thorn scrub. Suitable nesting habitat is present throughout the project area with the highest potential for occurrence within the quarry and along the proposed pipeline.

American badger

American badger (*Taxidea taxus*) is a CDFW Species of Special Concern. Badger natural history is summarized by Brehme et al. (2012, cited in Aspen 2019). They were once widespread throughout open grassland habitats of California. They are now uncommon, permanent residents throughout most of the State. They are found in open shrubland, forest, and herbaceous habitats with friable soils. In the southwest, badgers are typically associated with creosote bush and sagebrush shrublands. Badgers are fossorial, digging large burrows in dry, friable soils and use multiple dens and cover burrows within their home range. Badgers move among burrows daily, although they can use a den for a few days at a time. Badger home range sizes are dependent upon prey availability and other habitat characteristics. In general, home ranges are several hundred acres in size. They feed mainly on small mammals, especially ground squirrels, pocket gophers, rats, mice, and chipmunks. Badgers also prey on birds, eggs, reptiles, invertebrates, and carrions. The diet shifts seasonally and yearly depending upon prey availability.

The gypsum outcrops and the alluvial areas of the planned quarry expansion areas provide unsuitable or poorly suitable habitat for digging and burrowing (the gypsum outcrops consist of bedrock overlain by relatively thin layers of weathered, clay-like gypsum material; the alluvium has very high rock content).

The two pipeline routes provide suitable burrowing substrates, although their proximity to roads, OHV activity, and the narrow-gauge rail line may dissuade badgers from using those areas. No American badger or its sign was observed during the surveys. Suitable foraging habitat is present throughout the project site and badgers have a moderate to high potential to occur occasionally, but relatively low probability of denning in the project site.

Desert kit fox

Desert kit fox (*Vulpes macrotis arsipus*) is protected under Title 14, Section 460, California Code of Regulations, as well as the California Fish and Game Code (Sections 4000-4012), which defines kit fox as a protected furbearing mammal. Both regulations prohibit the take of the species. Desert kit fox is an uncommon to rare permanent resident of arid regions of southern California. Kit fox occur in annual grasslands, or grassy open, arid stages of vegetation dominated by scattered herbaceous species. Kit fox preys on rabbits, ground squirrels, kangaroo rats, and various species of insects, lizards, and birds (Zeiner et al. 1990, cited in Aspen 2019). Desert kit fox is primarily nocturnal, and

inhabits open, flat areas with patchy shrubs. Friable soils are necessary for the construction of dens, which are used throughout the year for cover, thermoregulation, water conservation, and pup rearing.

No kit fox or kit fox sign was observed during the surveys. As described above for American badger, suitable foraging habitat is present throughout the project site and kit foxes have a moderate to high potential to occur occasionally, but relatively low probability of denning in the project site.

Prairie falcon

Prairie falcon (*Falco mexicanus*) is a watch list species in California. It breeds throughout much of arid western North America. They prey on a variety of small mammals, birds, reptiles, and some large insects. They nest almost exclusively on ledges of cliffs and rock escarpments or, occasionally, in stick nests built on the ledges by ravens or other raptors. There are a few regional breeding records (e.g., at Anza-Borrego Desert State Park [Unitt 1984, cited in Aspen 2019]) and nesting prairie falcons may forage over very wide ranges (Johnsgard 1990, cited in Aspen 2019). Almost all prairie falcon sightings in the region are made during winter or migration seasons. Suitable nesting habitat is present in the project area, and they have a moderate potential to utilize the habitat. They are likely to occasionally forage within the project site.

Other Raptors

Several special-status birds of prey are found seasonally in the region, especially during winter and migration: sharp-shinned hawk (*Accipiter striatus*), ferruginous hawk (*Buteo regalis*), northern harrier (*Circus cyaneus*), and merlin (*Falco columbarius*). Suitable winter or migratory season foraging habitat for these raptors is widely available throughout the region. These species, if present, may forage within the project area but would not nest because of a lack of suitable habitat.

Native birds

Most birds, including their nestlings and eggs, are protected under the California Fish and Game Code Sections 3503, 3503.5, and 3513, and the federal Migratory Bird Treaty Act. Most of these species have no other special conservation status. Fifteen bird species have been recorded on the site during field surveys (see Appendix D-1). Suitable foraging and nesting habitat for protected bird species, as well as “stopover” habitat for migratory songbirds, is found throughout the project area (Aspen 2019).

Aquatic Jurisdictional Resources

The Quarry is located in an elongated valley along an unnamed wash and on the lower hillsides of the northeastern Fish Creek Mountains. The alluvial wash slopes at a gradient of about 2 percent generally toward the northwest. The slopes of the Fish Creek Mountains to the northeast and Split Mountain to the southwest drain into this wash, via unnamed washes and small washlets, and by sheet flow. Surface runoff drains to the north across the alluvial fan into Fish Creek Wash, through a system of braided tributaries across the bajada to San Felipe Creek and San Sebastian Marsh, and then to the Salton Sea. The alluvial wash has a series of braided channels that evidently are scoured and redirected by infrequent flash flooding. In some areas, the channels are deeply incised to bedrock.

The jurisdictional delineation (Hernandez 2016) determined that a total of 139 acres of non-wetland waters of the state are present within the Quarry expansion area.

Well No. 3 Site and Pipeline

The proposed pipeline alignment crosses open desert shrubland on the alluvial slope and immediately adjacent to slopes northward from the Quarry, and along the desert bajada to the proposed new well site.

The pipeline alignment supports common desert wildlife species and is expected to support other species not observed during the surveys, such as those identified in the Quarry expansion areas. The area is also expected to support flat-tailed horned lizard (*Phrynosoma mcallii*) and Colorado desert fringe-toed lizard (*Uma notata*), with suitable windblown sand habitat present for the species.

According to the 2019 SEIS, there are no jurisdictional wetlands present within the proposed pipeline alignment. However, there are a few drainage courses along the alignment that would likely meet criteria as state jurisdictional ephemeral stream channels, subject to permitting under Section 16013 of the Fish and Game Code, and possibly as waters of the US subject to permitting under Section 404 of the Federal Clean Water Act (Imperial County 2019).

Viking Ranch Restoration Site

The following discussion is based primarily on the Habitat Mitigation and Monitoring Plan (HMMP; Dudek 2021; Appendix D-4) prepared for the project which identifies two offsite mitigation sites to offset anticipated impacts to non-wetland waters of the state including the Viking Ranch Restoration Site (Viking Ranch site). The HMMP provides a summary of existing conditions at the Viking Ranch site and provides guidelines for compensatory mitigation design, installation, maintenance, and monitoring.

Vegetation

Dominant vegetation habitat within the Viking Ranch Restoration Site is desert saltbush scrub, disturbed habitat, and Sonoran creosote bush scrub. The existing vegetation is highly disturbed due to the site's previous use as an orchard and consists of a mixture of sparse, scattered, patchy, or remnant vegetation. At the time of the biological survey, tree chippings were compiled into windrows or spread evenly as groundcover. Tree stumps and larger branches were observed on site. Windblown sand and sediment had covered tree chippings in some areas, especially the northwest section.

Four native vegetation communities and two land cover types were mapped by Dudek biologists within the site. These vegetation communities and land cover types are described in Table 4.2-1, "Vegetation Communities and Land Cover Types within the Viking Ranch Restoration Site," and the following text. Their spatial distributions are presented in Figure 2-4, "Old Kane Springs Road Preservation Site." As shown, the dominant vegetation types are disturbed habitat, Sonoran creosote bush scrub, and desert saltbush scrub.

Table 4.2-1
Vegetation Communities and Land Cover Types within the Viking Ranch Restoration Site

Vegetation Class	Vegetation Type	Total (Acres)
Disturbed and Developed Areas	Disturbed Habitat	49.0
	Orchards and Vineyards	1.9
Disturbed and Developed Areas Subtotal		**50.9**
Scrub and Chaparral	Sonoran Creosote Bush Scrub[1]	53.2
	Sonoran Wash Scrub[1]	1.4

Vegetation Class	Vegetation Type	Total (Acres)
	Desert Saltbrush Scrub[1]	35.0
	Scrub and Chaparral Subtotal	**89.6**
Riparian and Bottomland Habitat	Mesquite Bosque[1]	19.5
	Riparian and Bottomland Habitat Subtotal	**19.5**
	Total[2]	**160**

Source: Oberbauer et al. 2008, cited in Dudek 2021
Notes:
1. Considered special status by the County (2010)
2. Totals may not sum due to rounding.

Disturbed Habitats

Disturbed habitats are areas that have been physically disturbed and are no longer recognizable as a native or naturalized vegetation association (Oberbauer et al. 2008, cited by Dudek 2021). These areas may continue to retain soil substrate. If vegetation is present, it is almost entirely composed of nonnative vegetation, such as ornamentals or ruderal exotic species.

Disturbed habitat was identified by Dudek biologists primarily in the eastern portion of the Viking Ranch site and is characterized by the disturbed soils and lines of wood chip mulch and the predominance of Russian-thistle (*Salsola paulsenii, S. tragus*) with some Mediterranean schismus (*Schismus barbatus*). There is no significant shrub cover, but occasional patches of plicate tiquilia (*Tiquilia plicata*) and desert dicoria (*Dicoria canescens*) are present in some areas (Dudek 2021).

Orchards and Vineyards

Orchards and vineyards are usually artificially irrigated and dominated by one (or sometimes several) non-native tree or shrub species. Understory growth of orchards and vineyards often include short grasses and other herbaceous plants between the rows of trees or vines (Oberbauer et al. 2008, cited in Dudek 2021). Although orchards and vineyards are of limited value to most native plants and animals, they can provide nesting and perching sites for several bird species.

On the Viking Ranch site, orchards and vineyards are mapped along the southern boundary in the eastern portion where a window of horsetail trees (*Casuarina equisetifolia*) has been planted. The edges of the orchard in the eastern portion of the site include giant reed (*Arundo donax*), saltcedar (*Tamarix ramosissima*) and honey mesquite (*Prosopis glandulosa var. torreyana*) (Dudek 2021).

Sonoran Creosote Bush Scrub

Sonoran creosote bush scrub is an upland vegetation type that is dominated by creosote bush (*Larrea tridentata*) and may include white bur-sage (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), and ocotillo (*Fouquieria splendens ssp. splendens*). Shrubs are generally widely spaced; the ground layer is generally dominated by bare ground with seasonal ephemeral herbs (Oberbauer et al. 2008, cited by Dudek 2021).

Sonoran creosote scrub dominates the southwestern portion of the Viking Ranch site and also occurs in the northeastern and northwestern corners. The Sonoran creosote scrub on site is dominated by creosote and includes the following associated species: four-wing saltbush (*Atriplex canescens*), desert dicoria, and white bur-sage. The understory is dominated by sparse Mediterranean schismus, but some areas include cryptantha (*Cryptantha spp.*). Overall, the community is sparse with less

than 15 percent of total vegetative cover. Disturbance of this community is evident with tree chippings patchily distributed throughout (Dudek 2021).

Sonoran Wash Scrub

Sonoran wash scrub is a desert wash vegetation community located in the drier parts of desert streams. This community is generally dominated or co-dominated by leafy burrobush (*Ambrosia monogyra*), desert-lavender (*Condea emoryi*), and/or chuperosa (*Justicia californica*). Other associated species include catclaw acacia (*Senegalia greggii*), desert willow (*Chilopsis linearis ssp. arcuata*), dalea (*Psorothamnus spp.*), ironwood (*Olneya tesota*), and/or mesquite (*Prosopis glandulosa*) (Oberbauer et al. 2008, cited by Dudek 2021).

Sonoran wash scrub occurs in a wash in the northeastern corner of the Viking Ranch site. According to Dudek biologists (2021), this community is co-dominated on the site by desert dicoria and creosote bush with smoke tree (*Psorothamnus spinosus*). Other species with less cover include desert willow, leafy burrobush, many-fruit saltbush (*Atriplex polycarpa*), and plicate tiquilia. Overall, vegetation density is relatively low with less than 10 percent cover. The community is disturbed with evidence of tree chippings in clumps throughout (Dudek 2021).

Desert Saltbush Scrub

Desert saltbush scrub is typically strongly dominated by a single saltbush (*Atriplex spp.*) species with some succulent species. This community occurs in areas with high alkalinity and/or salinity (Oberbauer et al. 2008, cited by Dudek 2021).

Desert saltbush scrub occurs in the northwestern and southeastern portions of the project site. On site, this community is generally dominated by many-fruit saltbush. Associated species include creosote bush, desert dicoria, smoke tree, honey mesquite, arrow weed (*Pluchea sericea*), barbwire Russian-thistle (*Salsola paulsenii*), white bur-sage, cryptantha, and four-wing saltbush. In the southern portion of the site, this open community is codominated by big saltbush (*Atriplex lentiformis*), many-fruit saltbush, and desert-holly (*Atriplex hymenelytra*) and moderately disturbed by Russian-thistle, Mediterranean schismus, and mustard (*Sisymbrium spp.*). There is also evidence of past orchard use within the desert saltbush scrub on site (i.e., soil disturbance and tree chippings). Overall, the community is sparse with low cover of shrubs.

Mesquite Bosque

Mesquite bosque is a drought-deciduous streamside thorn forest dominated by mesquite with scattered saltbush and open understories dominated by annual and perennial grasses. This community is generally maintained by frequent flooding or fire (Oberbauer et al. 2008). On site, mesquite bosque occurs in a swath that extends from the northwestern quadrant to the southeastern corner of the site. This community on site is generally dominated by mesquite and many-fruit saltbush. Some smoke tree, tamarisk (*Tamarix spp.*), creosote, and desert willow are also present at low cover. The understory generally consists of scattered Mediterranean schismus. Overall, the community is relatively open with less than approximately 20 percent vegetation cover. Much of the mesquite bosque is mapped within the floodplain on site.

Wildlife

A general biological survey and habitat assessment for sensitive species was conducted on the Viking Ranch site by Dudek biologists on October 17, 2019. Fifteen species of wildlife were observed during the survey. The results of the habitat assessment are summarized below. Additional information on the existing wildlife species on the Viking Ranch site are provided in Appendix H of Appendix D-4.

No special-status amphibians or reptiles were observed or have high potential to occur on the Viking Ranch site. Flat-tailed horned lizard (*Phrynosoma mcallii*; FTHL) has a low potential to occur based on the status of the habitat.

Two special-status birds were observed within the Viking Ranch site, black-tailed gnatcatcher (*Polioptila melanura*) and loggerhead shrike (*Lanius ludovicianus*). Additionally, Swainson's hawk has a high potential to forage within the Viking Ranch site. However, there is insufficient nesting habitat present.

One special-status mammal was observed within the Viking Ranch site, San Diego black-tailed jack. The site contains an open and disturbed area, which this species prefers. No other special-status mammals have high potential to occur in the Viking Ranch site. Peninsular bighorn sheep (Ovis Canadensis nelson; PBS) habitat (i.e., areas classified by USFWS as Essential Habitat) occurs adjacent to the Viking Ranch site boundaries and has a similar composition of dominant plant species. However, the potential PBS foraging habitat within the Viking Ranch site is considered degraded and low quality (Dudek 2021).

Aquatic Jurisdictional Resources

A jurisdictional wetland delineation was conducted in 2016 to determine the presence and extent of jurisdictional aquatic features on the Viking Ranch site (Dudek 2021; see Appendix E of Appendix D-4).

Pursuant to the federal Clean Water Act, ACOE and RWQCB, jurisdictional areas include those supporting all three wetlands criteria described in the ACOE manual: hydric soils, hydrology, and hydrophytic vegetation. Areas regulated by the RWQCB are generally coincident with the ACOE but can also include waters of the state that may be regulated, pursuant to the state Porter Cologne Act.

A predominance of hydrophytic vegetation, associated with a stream channel, was used to delineate CDFW-regulated riparian areas. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979, cited in Dudek 2021).

Features that convey or hold water are regulated by multiple agencies. Federal, state, and local agencies have different definitions and terminology for these types of features. Water-dependent resources regulated by ACOE, RWQCB, CDFW, and the County are collectively referred to as jurisdictional aquatic resources herein. Terminology used in this document to distinguish each jurisdictional aquatic resource according to the agency that regulates the resource is as follows:

- ACOE and RWQCB: "Wetland" and "non-wetland waters." Wetland waters of the United States and non-wetland waters of the United States are subject to regulation by ACOE and RWQCB, pursuant to the Clean Water Act. Within the mitigation site, ACOE waters of the United States, and RWQCB waters of the United States overlap, and therefore are combined under one term: "non-wetland waters".

- CDFW: "Riparian areas" and "streambeds." Lakes, rivers, and streambeds, including any associated riparian habitat, are subject to regulation by CDFW, pursuant to the California Fish and Game Code. Within the mitigation site, CDFW streambeds are synonymous with ACOE and RWQCB non-wetland waters.

San Diego County's Resource Protection Ordinance (RPO) (County of San Diego 2012) identifies environmental resources, including wetlands, present within the County, and provides measures to preserve these resources. The RPO defines wetlands as lands that have one or more of the following attributes: (1) lands that periodically support a predominance of hydrophytes (plants whose habitat is water or very wet places); (2) lands in which the substratum is predominantly undrained hydric soil; or (3) lands where an ephemeral or perennial stream is present and whose substratum is predominantly non soil, and where such lands contribute substantially to the biological functions or values of wetlands in the drainage system. County-regulated wetlands would be identified where a predominance of hydrophytic vegetation is associated with a stream channel.

Results of the jurisdictional delineation for the Viking Ranch site are shown in Table 4.2-2, "Viking Ranch Restoration Site Jurisdictional Aquatic Resources." There are approximately 53.12 acres of RWQCB jurisdictional non-wetland waters present within a braided channel, ephemeral channels, and floodplain on the Viking Ranch site. However, the condition of these jurisdictional areas remains highly modified from the historic agricultural use including remnant windrows of chipped trees and topographic modifications that alter the normal braided water flows across the Viking Ranch site.

Table 4.2-2
Viking Ranch Restoration Site Jurisdictional Aquatic Resources

General Vegetation Community/Land Cover Category	Vegetation Type	Jurisdictional Resource Type			Acres[1]
		Braided Channel	***Ephemeral Channel***	***Floodplain***	
Disturbed or Developed Areas	Disturbed Habitat	-	0.04	-	0.04
	Orchards and Vineyard	-	0.44	-	0.44
Disturbed or Developed Areas Subtotal		**-**	**0.48**	**-**	**0.48**
Riparian and Bottomland Habitat	Mesquite Bosque	0.23	-	14.92	15.15
Riparian and Bottomland Habitat Subtotal		**0.23**	**-**	**14.92**	**15.15**
Scrub and Chaparral	Desert Saltbush	0.10	0.04	-	0.14
	Sonoran Creosote Bush Scrub	0.09	0.02	35.89	36.00
	Sonoran Wash Scrub	1.35	-	-	1.35
Scrub and Chaparral Subtotal		**1.54**	**0.06**	**35.89**	**37.49**
Total RWQCB Non-Wetland Waters and CDFW Streambeds[1]		**1.77**	**0.54**	**50.81**	**53.12**

Source: Oberbauer et al. 2008, cited in Aspen 2019
Notes:
1. Totals may not sum due to rounding.

Old Kane Springs Road Preservation Site

The following discussion is based on the HMMP (Dudek 2021; Appendix D-4) for the off-site mitigation sites, including the Old Kane Springs Road Preservation Site (Old Kane Springs site).

Vegetation

Two native vegetation communities were mapped by Dudek biologists within the Old Kane Springs site: (1) Sonoran mixed woody scrub, and (2) desert dry wash woodland. These vegetation communities are described below and summarized in Table 4.2-3, "Vegetation Communities within the Old Kane Springs Road Preservation Site." Their spatial distributions are presented in Figure 2-2c, "Site Location—Old Kane Springs Road Preservation Site." These vegetation communities follow the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008, cited in Dudek 2021).

Table 4.2-3
Vegetation Communities within the Old Kane Springs Road Preservation Site

Vegetation Class	Vegetation Type	Total (Acres)
Scrub and Chaparral	Sonoran Mixed Woody Scrub[1]	50.55
Riparian and Bottomland Habitat	Desert Dry Wash Woodland[1]	60.08
	Total[2]	**119.63**

Source: Oberbauer et al. 2008, cited by Dudek 2021
Notes:
1. Considered special status by the County (2010)
2. Totals may not sum due to rounding.

Sonoran Mixed Woody Scrub

Sonoran Mixed Woody Scrub is described as a Colorado desert community with mixed woody species occurring on well-drained slopes and alluvial fans, usually at the base of mountains. The three most characteristic species of this community also dominate this vegetation community on site: creosote bush, white bursage and ocotillo (Oberbauer et al. 2008, cited in Dudek 2021). This community occurs outside of the well-defined alluvial fans/drainages on the site.

Desert Dry Wash Woodland

Desert Dry Wash Woodland is described as an open to dense, drought-deciduous riparian scrub woodland 30-60 feet tall that is typically dominated by ironwood, desert willow) or blue palo verde (*Parkinsonia florida*). It occurs in sandy, gravelly washes and arroyos of the lower Mojave and Colorado deserts. These washes typically have braided channels that are substantially rearranged with every surface flow event (Oberbauer et al. 2008, cited in Dudek 2021).

On site, this community is dominated by ironwood and occupies the main alluvial fan/wash in the center of the site. Scattered creosote bush shrubs occur within this community, along with white bursage (Dudek 2021).

Wildlife

A general biological survey and habitat assessment for sensitive species was conducted on the Old Kane Springs site on September 1, 2021, by Dudek biologists (see Appendix D-4). Additional information on the existing wildlife species on the Old Kane Springs site are provided in Appendix M of Appendix D-4.

Seven species of wildlife were observed during the biological survey of the Old Kane Springs site. Two species of birds were observed including bushtit (*Psaltriparus minimus*), and mourning dove (*Zenaida macroura*). One invertebrate species, dainty sulphur (*Nathalis iole*) and two reptile species, sidewinder (*Crotalus cerastes*) and tiger whiptail (*Aspidoscelis tigris*) were also observed. In addition, two mammals

were recorded on site including desert kangaroo rat (*Dipodomys deserti*) and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). No amphibian species were recorded during the surveys.

No special-status amphibians, reptiles, or birds were observed within the Old Kane Springs site or have high potential to occur on the site. Flat-tailed horned lizard (*Phrynosoma mcallii*; FTHL) has a moderate potential to occur based on the habitat present at the site.

One special-status mammal was observed within the Old Kane Springs site, San Diego black-tailed jack. The site contains an open and disturbed area, which this species prefers. No other special-status mammals have high potential to occur on the Old Kane Springs site. Peninsular bighorn sheep (*Ovis Canadensis nelson*; PBS) habitat (i.e., areas classified by USFWS as Essential Habitat) occurs adjacent to the Old Kane Springs site boundaries. The composition of dominant plant species is similar to adjacent habitat.

Aquatic Jurisdictional Resources

A jurisdictional wetland delineation was conducted for the Old Kane Springs Road site to determine the presence and extent of jurisdictional aquatic features on the project site (Dudek 2021; see Appendix E of Appendix D-4). During the jurisdictional delineation survey, the site was walked by Dudek biologists and evaluated for evidence of fluvial indicators such as drainage swales, mud cracks, drift, wracking, cut banks, and sediment transportation and sorting. The extent of potential jurisdictional aquatic resources was determined by mapping the areas with fluvial characteristics and topography showing evidence of consistent flow patterns and hydrologic connectivity (Dudek 2021).

Since no hydrophytic vegetation and/or associated wetlands were present on the Viking Ranch site, streambed and non-wetland waters mapping was the focus of the delineation. These features, hereafter referred to simply as “non-wetland waters,” were delineated from bank to bank, using the top of the bank as the boundaries of the channel (Dudek 2021).

Non-wetland Waters of the State

Overall, the site landscape drains water in an easterly direction, mainly through a large alluvial fan/wash consisting of numerous braided low-flow channels within the desert dry wash woodland vegetation community. This wash was mapped from bank to bank to include all low-flow channels within its banks as one large non-wetland water. Additionally, several smaller non-wetland waters flowing through the upland Sonoran mixed woody scrub were mapped adjacent to or connecting to the wash; these features had well-defined banks (albeit smaller and less pronounced than those associated with the larger wash) and stood out from the surrounding upland vegetation community. All aquatic features on the Viking Ranch site deemed to be potentially jurisdictional by Dudek biologists are shown on Figure 2-4.

Non-wetland waters on site are ephemeral meaning they only flow during storm events. These features were mapped because they had evidence of flow and hydrology indicators, such as bed and bank, drift deposits, sediment sorting, and/or mud cracks. These features are classified as non-wetland waters and are likely regulated by RWQCB and CDFW as waters of the state (Dudek 2021).

Swales

Several potential swale features without well-defined banks may present on site; these include areas of occasional surface sheet flow with slight topographic depressions and occasional, but often inconsistent, fluvial indicators that may not be subject to regulation by any of the agencies. These features were not mapped under the scope of this delineation but may be considered jurisdictional upon agency review; they can be added to the map using aerial signatures at a later date if needed.

Results of the jurisdictional delineation are summarized in Table 4.2-4, "Jurisdictional Resources within the Old Kane Springs Road Preservation Site," and on Figure 2-5, "Plaster City Quarry Plan." There are approximately 60.99 acres of RWQCB-jurisdictional non-wetland waters present both inside and outside of alluvial fan/wash and outside of alluvial fan wash.

Table 4.2-4
Jurisdictional Resources within the Old Kane Springs Road Preservation Site

Type	Jurisdiction	Acres
Non-Wetland Waters of the State (Within Alluvial Fan/Wash)	CDFW and RWQB	59.76
Non-Wetland Waters of the State (Outside of Alluvial Fan/Wash)	CDFW and RWQB	1.23
Total ACOE/RWQB Non-Wetland Waters and CDFW Streambeds[1]		**60.99**

Source: Dudek 2021
Notes:
1. Totals may not sum due to rounding

4.2.2 Regulatory Setting

4.2.2.1 Federal

Federal Endangered Species Act

The FESA (16 USC 1531-1544) provides protection for federally listed endangered and threatened species and their habitats. An "endangered" species is a species in danger of extinction throughout all or a significant portion of its range. A "threatened" species is one that is likely to become endangered in the foreseeable future throughout all or a significant portion of its range. Other special-status species include proposed species and species of concern. Proposed species are those that have been officially proposed (in the *Federal Register*) for listing as threatened or endangered. Species of concern are species for which not enough scientific information has been gathered to support a listing proposal, but still may be appropriate for listing in the future after further study. A delisted species is one whose population has reached its recovery goal and is no longer in jeopardy. The USFWS administers the FESA. A project may obtain permission to take federally listed species in one of two ways: (1) a Section 10 Habitat Conservation Plan (HCP) issued to a private party; or (2) a Section 7 Biological Opinion (BO) from the USFWS or the National Oceanic and Atmospheric Administration (NOAA) issued to another federal agency that funds or permits an action (such as the USACE issuance of a permit under CWA Section 404). Under either section of the ESA, adverse impacts to federally listed species must be avoided, minimized, or mitigated to the satisfaction of the USFWS and/or NOAA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC 668-668D, 54 Stat. 250) prohibits the take, possession, sale, or transport of bald eagles and golden eagles and their parts, eggs, or nests without a permit issued by the USFWS.

Migratory Bird Treaty Act

Raptors (birds of prey), passerine birds, and other migratory avian species are protected by a number of state and federal laws. The Migratory Bird Treaty Act (16 USC 703-712) establishes special protection for migratory birds by regulating hunting or trade in migratory birds. Furthermore, this Act prohibits anyone to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Section 10.13, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR Part 21). The definition of "take" includes any disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young), and such activity is potentially punishable by fines and/or imprisonment.

Clean Water Act (Section 404/401 Jurisdiction)

The USACE regulates discharge of dredged or fill material into waters of the United States under Section 404 of the federal CWA (33 USC 1251–1376). "Discharge of fill material" is defined as the addition of fill material into waters of the United States, including, but not limited to, the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines (33 CFR Section 323.2[f]). In addition, Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and state water quality standards.

Waters of the United States include a range of wet environments such as lakes, rivers, streams (including some intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. The USACE typically considers USGS 7.5-minute quadrangle map "blue line" drainages to be jurisdictional waters. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of water is present. Methods for delineating wetlands and nontidal waters are described below.

- Wetlands are defined 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" (33 CFR Section 328.3[b]). Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.
- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (33 CFR Section 328.4[c][1]). The ordinary high water mark is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical characteristics such as 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" (33 CFR Section 328.3[e]). The Clean Water Act regulations were just revised in June 2020, and may be revised again in the next 1-2 years.

4.2.2.2 State

California Endangered Species Act

Similar to the ESA, the CESA (California Fish and Game Code Sections 2050–2116), along with the Native Plant Protection Act (Fish and Game Code Sections 1900–1913), authorizes the California Fish and Game Commission to designate, protect, and regulate the taking of special-status species in California. CESA defines "endangered" as those species which are "in serious danger of becoming extinct throughout all, or a significant portion, of its range...." (Fish and Game Code Section 2062). Species State-listed as threatened are those not presently threatened with extinction, but which are "likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts...." (Fish and Game Code Section 2067).

Section 2080 of the Fish and Game Code prohibits the taking of State-listed plants and animals. Any projects that may adversely affect species that are State listed as threatened or endangered or candidate species must formally consult with CDFW. CDFW can issue incidental take permits under Section 2081 of CESA. The County's approval of the project does not eliminate the applicant's obligation to comply with Fish and Game Code Section 2080. In other words, compliance with CESA does not automatically occur based on the County's approvals or the completion of CEQA. Before and during implementation of the project, consultation with CDFW is required to ensure that project implementation does not result in unauthorized "take" of a State-listed species.

CDFW Species of Concern

In addition to species formally listed under the ESA and CESA, species of special concern receive consideration by CDFW and local lead agencies during the CEQA process. Species that may be considered for review are included on a list of species of special concern, developed by CDFW. It tracks species in California whose breeding populations in California may be decreasing or face local extirpation. To avoid the future need to list these species as endangered or threatened, CDFW recommends consideration of these species, which do not as yet have any legal status, during analysis of the impacts of projects.

Lake or Streambed Alteration

Under Section 1602 of the California Fish and Game Code, a private party must notify CDFW if a project will "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or 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." If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures to protect those resources. If these measures are agreeable to the party, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

Executive Order W-59-93

California Executive Order W-59-93 (Order), signed by Governor Pete Wilson in 1993, along with implementing regulations and a draft wetlands policy, prescribes an overall state goal of no net loss of wetlands. The Order states the following three objectives for the State of California's comprehensive wetlands policy:

1. To ensure no overall net loss and long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.
2. To reduce procedural complexity in the administration of State and Federal wetlands conservation programs.
3. To encourage partnerships to make restoration, landowner incentive programs, and cooperative planning efforts the primary focus on wetlands conversation.

The Order directs that all agencies of the state shall conduct their activities consistent with their existing authorities, in accordance with these three objectives.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) [Section 13000 et seq.]) was enacted to establish a regulatory program to protect water quality and beneficial uses of all waters of the State of California. It created the State Water Resources Control Board (SWRCB) and nine RWQCBs to plan, implement, manage, and enforce water quality protection and management. The RWQCBs are empowered by the Porter-Cologne Water Quality Control Act to require compliance with State and local water quality standards. The project site is located within the SFBRWQCB and is regulated by the SFBRWQCB. The National Pollutant Discharge Elimination System (NPDES) permitting program is administered by the SWRCB. To obtain a NPDES permit under the General Permit for stormwater, applicants must prepare and submit a notice of intent with the SWRCB and development of a stormwater pollution prevention plan (SWPPP) and monitoring program that incorporates applicable BMPs.

401 Water Quality Certification and Wetlands Program

The 401 Water Quality Certification and Wetlands Program is responsible for regulating discharges of dredged or fill material to waters of the state. The SWRCB and the RWQCBs have the authority to regulate these discharges under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne), described above.

State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State

On April 2, 2019, the State Water Board adopted the State Wetland Definition and Procedures for the Discharge of Dredged or Fill Material to Waters of the State (Procedures). The Procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a feature that meets the wetland definition is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. The Procedures became effective May 28, 2020. Applicants proposing to discharge dredged or fill material into waters of the state are required to comply with the Procedures unless an exclusion applies, or the discharge qualifies for coverage under a General Order.

On December 18, 2020, the Sacramento Superior Court issued a decision that prohibited the State Water Resources Control Board ("SWRCB") from implementing California's new wetlands and "waters of the state" protection program, and limited SWRCB's application of the regulatory program to only waters already protected under the federal Clean Water Act.

Waste Discharge Requirements Program

Waste discharges that can be exempted from the California Code of Regulations (CCR) requirements are issued waste discharge requirements (WDRs) by the Water Boards and are regulated by the State Water Board WDR Program. Typical discharge types include domestic or municipal wastewater, and industrial wastewater. State regulations addressing the treatment, storage, processing, or disposal of waste are contained in Title 27, CCR, Section 20005 et seq. (hereafter Title 27). Discharges that qualify for exemption from Title 27 must be consistent with the exemptions provided in Title 27 Section 20090.

CEQA Guidelines

CEQA Guidelines Section 15065 requires a mandatory finding of significance for projects that have the potential to substantially degrade or reduce the habitat of a fish or wildlife species, and to fully disclose and mitigate impacts to special-status resources. Although threatened and endangered species are protected by specific federal and State statutes, described above, the CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria for the region or locality.

4.2.2.3 Local

Imperial County General Plan

The goals, objectives, and policies in the *Imperial County General Plan* are intended to inform decision makers, the general public, public agencies, and those doing business in the County of the County's position on land use-related issues and to provide guidance for day-to-day decision-making. The following objectives and policies contained within the *Imperial County General Plan Conservation Element* pertain to biological resources and the proposed project:

Conservation and Open Space Element

Goal 1: Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value.

Objective 1.4: Ensure the conservation and management of the County's natural and cultural resources.

Objective 1.6: Promote the conservation of ecological sites and preservation of cultural resource sites through scientific investigation and public education.

Goal 2: The County will integrate programmatic strategies for the conservation of critical habitats to manage their integrity, function, productivity, and long-term viability.

Objective 2.4: Use the CEQA and NEPA process to identify, conserve and restore sensitive vegetation and wildlife resources.

Water Element

Goal 2: Protection of Surface Waters. Long-term viability of the Salton Sea, Colorado River, and other surface waters in the County will be protected for sustaining wildlife and a broad range of ecological communities.

Objective 2.2: A balanced ecology associated with the riparian and ruderal biological communities important as breeding and foraging habitats for native and migratory birds and animals occurring within the County.

Objective 2.3: Preservation of riparian and ruderal habitats as important biological filters as breeding and foraging habitats for native and migratory birds and animals.

San Diego County General Plan

The goals and policies of the *San Diego County General Plan* provide direction to future growth and development in the county. The following goals and policies from the *San Diego County General Plan Conservation Element* relate to biological resources and apply to proposed actions at the Viking Ranch Restoration Site and Old Kane Springs Road Preservation Site, located in unincorporated San Diego County.

Conservation and Open Space Element

Goal COS-1: Inter-Connected Preserve System. A regionally managed, inter-connected preserve system that embodies the regional biological diversity of San Diego County.

COS-1.3: Management. Monitor, manage, and maintain the regional preserve system facilitating the survival of native species and the preservation of healthy populations of rare, threatened, or endangered species.

COS-1.9: Invasive Species. Require new development adjacent to biological preserves to use non-invasive plants in landscaping. Encourage the removal of invasive plants within preserves.

Goal COS-3: Protection and Enhancement of Wetlands. Wetlands that are restored and enhanced and protected from adverse impacts.

COS-3.1: Wetland Protection. Require development to preserve existing natural wetland areas and associated transitional riparian and upland buffers and retain opportunities for enhancement.

COS-3.2: Minimize Impacts of Development. Require development projects to:

- Mitigate any unavoidable losses of wetlands, including its habitat functions and values; and
- Protect wetlands, including vernal pools, from a variety of discharges and activities, such as dredging or adding fill materials, exposure to pollutants such as nutrients, hydromodification, land and vegetation clearing, and the introduction of invasive species.

4.2.3 Significance Criteria and Analysis Methodology

4.2.3.1 Significance Criteria

2008 EIR/EIS Significance Criteria

The 2008 EIR/EIS evaluated the project's biological resources impacts using the following significance criteria:

The project would have a significant impact on vegetation if it would result in disturbance that would lead to:

- A substantial reduction in the population of a special-status species;
- A substantial reduction in habitat plant species and vegetative cover;
- Removal of any wetland/riparian habitat; or
- Loss of adequate water supply to wetland or riparian habitat.

The project would have a significant impact on wildlife if it would result in disturbance that would lead to:

- A substantial reduction in the population of a special status species;
- A substantial reduction in habitat for a special status species;
- Removal of any wetland/riparian habitat through direct removal, filling, hydrological interruption or other means;
- Substantial interference with the movement of wildlife species or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, BLM Wildlife Management Plan, or other local, state or regional habitat conservation plan or recovery plan.

CEQA Appendix G Significance Criteria

Based on Appendix G of the CEQA Guidelines, the proposed project would have a significant impact to biological resources if it would:

a) have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
b) have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG (now CDFW) or USFWS;
c) have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
d) interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
e) conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

f) conflict with the provisions of any adopted habitat conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.2.3.2 Analysis Methodology

The biological resources that were identified and analyzed in the 2008 EIR/EIS were updated using information from recent literature reviews and field surveys conducted in support of the 2019 SEIS. Aspen Environmental Group (2019; Appendix D-1) reviewed available literature to identify special-status plants, plant communities and wildlife known in the vicinity of the Quarry, Well No. 3 site, and associated pipeline alignment. The CNDDB was reviewed for the presence of special status species in the areas of the project components.

Biological field surveys were conducted in October 2014, April and October 2016, and March and April 2017, by biologists with appropriate experience related to the special-status wildlife and plant species present in the project area. Surveys were conducted throughout the proposed Quarry expansion phases, well site, and pipeline alignment following the Survey Protocols for Special Status Plants developed by BLM California State Office specifically for projects subject to BLM policy, NEPA, and the ESA.

The analysis of potential project impacts to biological resources on the Viking Ranch Restoration Site and the Old Kane Springs Road Preservation Site is based on the *Draft Habitat Mitigation and Monitoring Plan* (Dudek 2021; Appendix D-4) which summarizes the findings of the general biological surveys, habitat assessments, and jurisdictional wetland delineations conducted on the mitigation sites.

4.2.4 Project Impacts and Mitigation Measures

4.2.4.1 2008 EIR/EIS Impact Analysis

Under the 2008 EIR/EIS, impacts to biological resources were determined to be less than significant with mitigation or less than significant.

Impacts to Plant Species

The 2008 EIR/EIS concluded that, based on habitat and geographic and elevational ranges, no listed threatened or endangered plant species would be affected at the Quarry, at Well No. 3, or along the pipeline alignment. In addition, large tracts of similar vegetation and habitat are protected in the adjacent Anza Borrego Desert State Park to the west and BLM-managed wilderness land to the east. Finally, under SMARA, a revegetation plan must be prepared and implemented as part of a reclamation plan for an operating quarry. Revegetation efforts would use local seeds and plants and salvaged topsoil from the site. The revegetation plan required under SMARA would act as mitigation for any potentially significant impacts by revegetating disturbed areas of the Quarry with native plants. For these reasons, the 2008 EIR/EIS concluded that the potential for the Quarry expansion and development of Well No. 3 and the associated pipeline to result in the loss of special status plant species or substantial loss of desert shrubland habitat would be less than significant. Mitigation Measures 3.5-1a and 3.5-1b were provided in the 2008 EIR/EIS to ensure implementation of the revegetation plan for the Quarry.

> ***Mitigation Measure 3.5-1a:*** *Revegetation: Consistent with the California Surface Mining and Reclamation Act (SMARA), USG shall implement the revegetation plan. In general, revegetation should be designed to restore habitat and cover for wildlife use in conformance with SMARA.*

Revegetation should be concurrent with closure of individual Quarry areas; wherever ongoing Quarry operation may eliminate access to closed upper Quarry benches, those benches should be revegetated while access is still available.

Mitigation Measure 3.5-1b: *Phasing of Quarry development and closure: Wherever possible, USG shall begin revegetation of Quarry areas to restore native habitat values concurrently or in advance of opening new Quarry areas.*

Impacts to Wildlife Species

The 2008 EIR/EIS found that Quarry expansion and well/pipeline development could impact multiple special-status wildlife species including migratory birds, peninsular bighorn sheep, and the barefoot banded gecko. The 2008 EIR/EIS includes the following mitigation measures to reduce potential impacts from Quarry expansion to the special-status wildlife species:

Mitigation Measure 3.5-1c: *Migratory birds: In order to avoid potentially fatal impacts on birds protected under the Migratory Bird Treaty Act and the California Fish and Game Code, USG shall survey the area prior to grading and brush removal of previously undisturbed habitat.*

Mitigation Measure 3.5-1d: *Peninsular bighorn sheep: USG, in coordination with the BLM, shall initiate formal consultation with the US Fish and Wildlife Service under Section 7 of the Federal Endangered Species Act and implement the terms and conditions of the incidental take statement authorizing the project. The consultation process will result in the development of a Biological Opinion by the U.S. Fish and Wildlife Service (USFWS) that will: (1) provide a statement about whether the proposed project is "likely or not likely to jeopardize" the continued existence of the species, or result in the adverse modification of critical habitat; (2) provide an incidental take statement that authorizes the project; and (3) identifies mandatory reasonable and prudent measures to minimize incidental take, along with terms and conditions that implement them.*

Mining shall be conducted only as approved in the Plan of Operation and the Mine Reclamation Plan. Reclamation shall be conducted concurrently with mining and it shall be initiated within each phase as soon as is feasible. Reclamation shall include slope contouring and revegetation with native plant species as specified in the Reclamation Plan. USG shall instruct its employees and other visitors to the mine to avoid peninsular bighorn sheep. Access to undisturbed lands by humans on foot shall be restricted, and usually would include only biologists and mining personnel. USG shall establish a training program, including new-employee orientation and annual refresher, to educate employees regarding bighorn sheep and the importance of avoidance. USG shall not allow domestic animals (cattle, sheep, donkeys, dogs, etc.) onto the mine site or any lands under USG control. Training for mine employees shall include instructions to report observations of domestic animals to the quarry's environmental manager. Upon receiving any such reports, the environmental manager shall contact the appropriate authorities for removal of domestic animals.

Mitigation Measure 3.5-1e: *Barefoot banded gecko: Suitable habitat occurs throughout much of the Quarry area. Prior to expanding existing quarries or developing new quarries, focused barefoot banded gecko surveys shall be conducted to determine whether the species is present or absent from any proposed new disturbance areas. Surveys would be carried out in cooperation with the CDFG and field biologists would be required to hold Memoranda of Understanding with the CDFG*

to search for this species. If the species is present, then consultation with CDFG under Section 2081 of CESA to "take" barefoot banded gecko must be completed prior to land disturbance.

Regarding the development of Well No. 3 and the association pipeline, the 2008 EIR/EIS found that, with the exception of the flat-tailed horned lizard, impacts to all other special-status wildlife species were found to be less than significant; the flat-tailed horned lizard was observed basking on the rails of the narrow-gauge line. The BLM and other cooperating agencies have implemented a Flat-tailed Horned Lizard Rangewide Management Strategy (2003 Revision) that would minimize adverse impacts and mitigate for residual impacts throughout the flat-tailed horned lizard's geographic range. The 2008 EIR/EIS includes the following mitigation measure to address potential impacts to the Flattailed Horned Lizard:

Mitigation Measure 3.5-2: *USG comply with the Flat-tailed Horned Lizard Rangewide Management Strategy, as revised, Standard Mitigation Measures when constructing Quarry Well #3 and the Quarry pipelines.*

Impacts to Fish Species

The 2008 EIR/EIS also evaluated the potential for the Quarry expansion to interfere with surface flows and groundwater recharge and thereby adversely affect discharge in San Felipe Creek, and the potential for operation of Well No. 3 to adversely affect the discharge of San Felipe Creek Spring and Fish Creek Spring. San Felipe Creek, San Felipe Creek Spring, and the Fish Creek Spring support the habitat for a population of desert pupfish (*Cyprinodon mascularius*), an endangered species. The Quarry hydrologic evaluation estimated that the Quarry expansion area (845 acres) accounts for 0.05 percent of the total volume attributed to precipitation within the pupfish's drainage area. The evaluation estimated the drawdown in the springs due to the operation of Well No. 3 would be several thousandths of a foot (approximately 1 millimeter) and therefore would have a less than significant impact on desert pupfish.

Based on the limited contribution of runoff from the Quarry to San Felipe Creek, the 2008 EIR/EIS concluded that, even if activities in the new Quarry areas were to prevent all rainfall from either recharging the groundwater basin or contributing to surface flows, the impact on surface water and groundwater would be negligible compared with other watershed processes and are not likely to have meaningful adverse impacts on pupfish. The Well No. 3 hydrologic evaluation noted that, prior to 1984, flow from San Felipe Creek Spring and Fish Creek Spring only occurred intermittently. Since 1984, however, flow from these two springs had occurred year-round. Water-quality data and the timing of the change in flow from intermittent to year-round indicate that the discharges at San Felipe Creek Spring and Fish Creek Spring were due to increased rates of irrigation to the west. Excess irrigation water percolates to the shallow aquifer and raises the water table. Both San Felipe Creek Spring and the Fish Creek Spring support the habitat for a population of Desert pupfish. The evaluation estimated the drawdown in the springs due to the operation of Well No. 3 would be several thousandths of a foot (approximately 1 millimeter) and therefore would have a less than significant impact on desert pupfish. No mitigation was required.

Impacts to Protected Wetlands

The 2008 EIR/EIS evaluated potential impacts to wetlands and other aquatic features as a part of the evaluation of impacts to vegetation. Mitigation Measure 3.5-1f was provided to address potential impacts to streambeds, which may be jurisdictional features.

Mitigation Measure 3.5-1f: *Agency contacts for impacts to streambeds: Prior to any new disturbances on the alluvial wash portion of the project area, USG shall contact the CDFG and the US Army Corps of Engineers to determine whether either agency holds jurisdiction over the wash through Sections 1601-3 of the California Fish and Game Code or Section 404 of the Federal Clean Water Act, respectively.*

4.2.4.2 2019 SEIS Impact Analysis

The 2019 SEIS further evaluated the proposed project under the National Environmental Policy Act (NEPA) and determined that it could result in impacts to peninsular bighorn sheep behavior, desert kit fox and American badger, flat-tailed horned lizard, and nesting birds, including borrowing owls. The following additional mitigation measures were provided in the 2019 SEIS to address these potential impacts:

Mitigation Measure 3.4-5: *Integrated Weed Management Plan. USG will prepare and implement an integrated weed management plan to control invasive weeds including tamarisk (Tamarix) and fountain grass (Pennisetum) in cooperation with the BLM and County of Imperial. The plan will include procedures to help minimize the introduction of new weed species, an assessment of the invasive weed species known within the area associated with the Proposed Action, and procedures to control their spread on site and to adjacent offsite areas. This plan will be submitted to the BLM and County of Imperial for review and approval prior to the start of construction and will be implemented for the life of the Proposed Action.*

Mitigation Measure 3.4-6: *Mining Activity Monitoring and Reporting. Prior to the beginning of any Quarry expansion activities, USG will identify a Designated Biologist and may additionally identify one or more Biological Monitors to support the Designated Biologist. The Designated Biologist and Biological Monitors will be subject to the approval of the BLM and USFWS. The Designated Biologist will be in direct contact with BLM and USFWS.*

The Designated Biologist or Biological Monitor will have the authority and responsibility to halt any project activities that are in violation of the conservation and mitigation measures. To avoid and minimize effects to biological resources, the Designated Biologist and/or Biological Monitor will be responsible for the following:

- *The Designated Biologist will notify BLM's Authorized Officer and USFWS at least 14 calendar days before the initiation of Quarry expansion of new ground-disturbing activities.*
- *The Designated Biologist or Biological Monitor will conduct pre-construction clearance surveys and will be on-site during any Quarry expansion activities or other new ground-disturbing activities (e.g., clearing spoils stockpile areas) and will be responsible for ensuring that no Quarry expansion activities are conducted while PBS are within a 0.25-mile radius of the activity.*
- *The Designated Biologist or Biological Monitor will immediately notify BLM's Authorized Officer and USFWS in writing if USG does not comply with any conservation measures including, but not limited to, any actual or anticipated failure to implement conservation measures within the periods specified.*
- *The Designated Biologist or Biological Monitor will visit the Quarry site periodically (no less than once per month) throughout the life of the project to administer the Worker Education*

Awareness Program (WEAP) and ensure compliance with the plans and programs listed below.

- *The Designated Biologist will submit an annual compliance report no later than January 31 of each year to BLM's Authorized Officer throughout the life of the project documenting the implementation of these programs/plans as well as compliance/non-compliance with each conservation measure: (1) Integrated Weed Management Plan; (2) WEAP; (3) Reclamation Plan; (4) Wildlife Mortality Reporting Program; and (5) PBS Monitoring Plan.*

Mitigation Measure 3.4-7: *WEAP. Prior to project approval, USG will develop a WEAP, to be implemented upon final approval by BLM and USFWS. The WEAP will be available in English and Spanish. The WEAP will be presented to all workers on the project site throughout the life of the project. Multiple sessions of the presentation may be given to accommodate training all workers. Wallet-sized cards summarizing the information will be provided to all construction, operations, and maintenance personnel. The WEAP will be approved by the BLM, USFWS, and CDFW, and will include the following: (1) Descriptions of special-status wildlife of the region, including PBS, and including photos and how to identify adult and sub-adult male and female PBS; (2) The biology and status of special-status species of the area, including PBS; (3) A summary of the avoidance and minimization measures and other conservation measures; (4) An explanation of the PBS observation log (see PBS-2), including instruction on correctly filing data; (5) An explanation of the flagging or other marking that designates authorized work areas; and (6) Actions and reporting procedures to be used if any wildlife, including PBS is encountered.*

Mitigation Measure 3.4-8: *Wildlife Impact Avoidance and Minimization Measures. USG will implement the following measures throughout the life of the project (e.g., Plant and Quarry operations).*

- *To the extent feasible, initial site clearing for Quarry expansion, pipeline construction, or other activities (e.g., clearing spoils stockpile areas) will be conducted outside the nesting season (January 1 through August 31) to avoid potential take of nesting birds or eggs.*
- *The Designated Biologist or Biological Monitor will conduct pre-construction clearance surveys no more than seven days prior to initial site clearing for Quarry expansion or pipeline construction. To the extent feasible, special-status wildlife (e.g., reptiles) will be removed from "harm's way" prior to site clearing. If an active bird nest, including active burrowing owl burrows are present, the biologist in consultation with CDFW will mark a suitable buffer area around the nest and project activities will not proceed within the buffer area until the nest is no longer active.*
- *For project activities in windblown sand habitats on pipeline routes, the Designated Biologist or Biological Monitor shall be present in each area of active surface disturbance throughout the work day. The Designated Biologist or Biological Monitor will survey work areas immediately prior to ground-disturbing activities and will examine areas of active surface disturbance periodically (at least hourly when surface temperatures exceed 85º F) for the presence of flat-tailed horned lizard or Colorado Desert fringe-toed lizard. In addition, all potential wildlife hazards (e.g., open pipeline trenches, holes, or other deep excavations)*

shall be inspected for the presence of any wildlife, particularly including the flat-tailed horned lizard or Colorado Desert fringe-toed lizard, prior to backfilling.

- *The Designated Biologist or Biological Monitor will be on-site during any Quarry expansion activities or other new ground-disturbing activities (e.g., clearing spoils stockpile areas) and will be responsible for ensuring that no Quarry expansion activities are conducted while PBS are within a 0.25-mile radius of the activity.*
- *Speed limits along all access roads will not exceed 15 miles per hour.*
- *Avoid or minimize night lighting by using shielded directional lighting pointed downward, thereby avoiding illumination of adjacent natural areas and the night sky.*
- *The boundaries of all areas to be newly disturbed (including Quarry expansion areas, staging areas, access roads, and sites for temporary placement of construction materials and spoils) will be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment will be confined to the flagged areas. The Biological Monitor will be on the site to ensure that no ground-disturbing activities occur outside the staked area during initial Quarry expansion or ground disturbance.*
- *Spoils will be stockpiled only within previously disturbed areas, or areas designated for future disturbance (including spoils areas designated in the PoO).*
- *No potential wildlife entrapments (e.g., trenches, bores) will be left uncovered overnight. Any uncovered pitfalls will be excavated to 3:1 slopes at the ends to provide wildlife escape ramps. Covered pitfalls will be covered completely to prevent access by small mammals or reptiles.*
- *To avoid wildlife entrapment (including birds) all pipes or other construction materials or supplies will be covered or capped in storage or laydown area, and at the end of each work day in construction, Quarrying and processing/handling areas. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches will be left open either temporarily or permanently.*
- *No anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), may be used within the project site, on off-site project facilities and activities, or in support of any other project activities.*
- *Avoid wildlife attractants. All trash and food-related waste shall be placed in self-closing raven-proof containers and removed regularly from the site to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater or floodwater within quarries will be removed to avoid attracting wildlife to the active work areas.*
- *Any injured or dead wildlife encountered during project-related activities shall be reported to the Designated Biologist, Biological Monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the best course of action. For special-status species, the Designated Biologist or Biological Monitor shall notify the BLM, USFWS, and/or CDFW, as appropriate, within 24 hours of the discovery.*

Mitigation Measure 3.4-9: *Burrowing Owl Avoidance. If an active burrowing owl burrow is observed within a work area at any time of year, the Designated Biologist or Biological Monitor, in coordination with BLM, will designate and flag an appropriate buffer area around the burrow where project activities will not be permitted. The buffer area will be based on the nature of project activity and burrowing owl activity (i.e., nesting vs. wintering). The Designated Biologist or Biological Monitor will continue to monitor the site until it is confirmed that the burrowing owl(s) is no longer present. If avoidance of quarrying or pipeline construction within the buffer area is infeasible, Burrowing Owls may be excluded from an active wintering season burrow in coordination with CDFW and in accordance with the CDFW's* Staff Report on Burrowing Owl Mitigation *(March 2012), including provision of replacement burrows prior to the exclusion.*

Mitigation Measure 3.4-10: *Critical Habitat. To minimize impacts to PBS designated critical habitat, USG will conduct 1:1 on-site reclamation as specified in the Mining and Reclamation Plan for all project disturbance areas. Additionally, USG will acquire or set aside an area of designated critical habitat away from the Quarry's operations for long-term wildlife habitat conservation, to minimize the loss of designated critical habitat within the Quarry. The habitat acquisition measure will be applicable for public lands directly affected by the Proposed Action. The acquired lands will consist of native desert vegetation within designated PBS critical habitat. Acquisition lands may include claim areas that are not disturbed by the mining project. Any lands proposed for acquisition to minimize the loss of critical habitat will be subject to review and approval by the BLM and Wildlife Agencies.*

Mitigation Measure 3.4-11: *PBS Monitoring and Reporting. USG will support the CDFW PBS monitoring and reporting program within the federal action area by funding the purchase of radio collars and the capture of ten (10) PBS in the Fish Creek and Vallecito Mountains Ewe Group areas, to provide location monitoring data over a ten-year period. The funding amount will be $157,115 (cost provided by CDFW), to be transferred to the CDFW program via a means agreed up by USG, BLM, and CDFW.*

Mitigation Measure 3.4-12: *PBS Avoidance and Minimization. USG will implement the following measures throughout the life of the project.*

- *New ground-disturbing activities (i.e., initial Quarry development, Quarry expansion, clearing for spoils deposition, or road construction in previously undisturbed areas) in designated critical habitat will not occur within PBS lambing season (January 1 through June 30) as defined in the Recovery Plan, except with prior approval by the Wildlife Agencies.*
- *The Designated Biologist or Biological Monitor will be on-site during any Quarry expansion activities or other new ground-disturbing activities and will walk the perimeter of the Quarry expansion area and view surrounding habitat with binoculars, stopping work if PBS are within a 0.25-mile radius of the activity.*
- *If a PBS enters an active work area, all heavy equipment operations will be halted until it leaves. Quarry staff may not approach the animal. If the animal appears to be injured or sick, USG will immediately notify USFWS and BLM.*
- *Fencing installed anywhere within the Quarry area will be standard temporary construction fencing, silt fencing, or chain-link fence at least 7 feet tall. Any proposed permanent fencing*

design will be submitted for BLM and USFWS review and approval to confirm that the fence design is not likely to pose a threat to PBS.

Mitigation Measure 3.4-13. *Future Quarry Phasing Notification and Review. USG will notify the BLM, CDFW, and USFWS 90 days prior to initiating future mining activities in the four phases nearest to the highest PBS occurrence and habitat connectivity areas (phases 6Bp, 7Bp, 8, and 9). Upon notification, the agencies will coordinate with USG to review PBS occurrence and activity in the vicinity obtained during the intervening years, as well as relevant documentation of Nelson's bighorn sheep behavior near other mining operations. PBS avoidance and minimization measures may be revised as needed to conform to new information.*

4.2.4.3 Substantial Project Changes

Project Revisions

The proposed Quarry expansion, and the proposed Well No. 3 and associated pipeline, are substantially in the same location and same configuration as the features that were evaluated in the 2008 EIR/EIS and 2019 SEIS. Therefore, any minor revisions would not create a new or increase a significant impact related to biological resources. However, the restoration of the Viking Ranch site and preservation of the Old Kane Springs Road site are proposed in response to mitigation required by the 2019 SEIS, and these are new actions under the proposed project.

Changed Circumstances

Since the 2008 EIR/EIS was prepared, there have been changes to applicable regulations, plans or policies/management goals that affect biological resource management. In 2009, the USFWS published the final designation of critical habitat for peninsular bighorn sheep, replacing the original critical habitat designation published in 2001. The planned Quarry expansion area is located within designated critical habitat. The footprint of the existing Quarry (as of 2009) was excluded from critical habitat.

New Information

An updated Jurisdictional Delineation (Hernandez Environmental Services 2016), updated Biological Resources Technical Report (Aspen Environmental Group 2019), and Update on Groundwater Conditions Memorandum (Todd Groundwater 2019) were completed for the USG Expansion/Modernization Project as part of the 2019 SEIS. The Biological Resources Technical Report reflects the additional data gathered by biological field surveys conducted in October 2014, April and October 2016, and March and April 2017, by biologists with appropriate experience related to the special-status plant and wildlife species of the area. The report indicates that Quarry expansion and development of Well No. 3 and the associated pipeline could result in impacts to peninsular bighorn sheep behavior, desert kit fox and American badger, flat-tailed horned lizard, and nesting birds, including borrowing owls. Avoidance and minimization measures were recommended to address potential impacts to these species. These measures include the recommendation that USG acquire or set aside an area of designated critical habitat away from the Quarry's operations for long term wildlife habitat conservation in order to minimize the loss of designated critical habitat within the Quarry. The report notes that the acquisition of compensation habitat will be subject to review and approval by the BLM and wildlife agencies (e.g., CDFW). This compensation habitat recommendation was included as Mitigation Measure 3.4-10 in the 2019 SEIS.

The Jurisdictional Delineation identified a total 325.79 acres of unnamed streambeds within the Quarry area and found that the expansion of quarrying activities would result in impacts to approximately 134.08 acres of CDFW, USACE, and RWQCB jurisdictional drainages. The Jurisdictional Delineation noted that Well No. 3 and the water supply pipeline would result in filling of all ephemeral streambeds and washes within the waterline/powerline area, and that these activities would result in impacts to 0.21 acres of CDFW, USACE, and RWQCB jurisdictional drainages. No wetland habitat was identified to occur at the Quarry, Well No. 3, or pipeline alignment. Little to no vegetation was observed to occur within any of the drainages evaluated. The Jurisdictional Delineation recommended avoidance and minimization measures to address potential impacts to wildlife, vegetation, and habitat that could occur during the disturbance of drainages during project construction. An Update on Groundwater Conditions memorandum conducted an analysis that indicates that current Quarry operations are not the cause of the recent decline in flows at San Felipe Creek. The memorandum notes that no changes have occurred in the local groundwater basin that alter the findings in the 2008 EIR/EIS.

Significance Determination

Based on project revisions, changed circumstances, and new information that may create a new or increased significant impact, the County has amplified and augmented the analysis contained in the 2008 EIR/EIS. This evaluation is provided in the following impact analysis.

4.2.4.4 Subsequent Environmental Analysis

Impact 4.2-1: The Project Could Have Substantial Adverse Effects on Special-Status Plant Species or Plant Communities

Quarry, Well No. 3, and Associated Pipeline

The Biological Technical Memorandum (Aspen 2019; Appendix D-1) presents the findings of new biological field surveys conducted for the Quarry site and expansion area, well site, and associated pipeline alignment in 2014, 2016, and 2017.

General Vegetation Impacts

According to Aspen (2019), seven vegetation and land cover types were mapped within the area of the proposed Quarry expansion and well/pipeline development. Vegetation, cover types, and acreages of each vegetation and cover type within this area are shown in Appendix L of Appendix D-1. The anticipated effects of the proposed project on plant species that were discussed in the 2008 EIR/EIS and the required mitigation measures have not changed. Quarry phasing and on-site reclamation as specified in the site's approved reclamation plan would minimize the overall effects on vegetation and reduce them over time. Potential vegetation effects were further addressed by 2019 SEIS Mitigation Measure 3.4-10 which requires PBS critical habitat conservation.

Project activities could result in the spread of invasive weeds or to the introduction of new weed species in the area which could degrade habitat for special-status plants. SEIS Mitigation Measure 3.4-5 would require preparation and implementation of an Integrated Weed Management Plan to prevent or control the spread of invasive weeds.

Impacts to Special-Status Plant Species

According to Aspen (2019; Appendix D-1), no state or federally listed plants were observed during the surveys or have potential to be present in the Quarry expansion area. One BLM Sensitive Plant, Orcutt's woody aster (*Xylorhiza orcuttii*) may have moderate potential to occur due to the presence of gypsum soils, but it was not observed during protocol surveys and is not expected. No other BLM Sensitive Plants have potential to occur. Several special-status plants with a CRPR of 2B or 4 (CRPR definitions are found in Appendix L of Appendix D-1) were observed. While these species are not protected by state or federal policy, their occurrences are tracked by the CNDDB. Wiggins' croton (*Croton wigginsii*) is a state-listed special-status plant that occurs primarily at the Algodones Dunes area about 50 miles east of the Quarry. It has been reported near the Plaster City Plant but not near the Quarry. The Quarry expansion component of the project may affect occurrences of Thurber's pilostyles (*Pilostyles thurberi*), brown turbans (*Malperia tenuis*), Coulter's lyrepod (*Lyrocarpa coulteri*), and annual rock-nettle (*Eucnide rupestris*) as described in Appendix L of Appendix D-1. These species are widely distributed regionally, their conservation status does not preclude disturbing them, there is extensive undisturbed and protected habitat in the local mountains (including wilderness areas and State Park lands), and the project's effect would be confined to the local individuals impacted. Although no mitigation for special-status plant species is required, implementation of SEIS Mitigation Measure

This would also conserve habitat for multiple other plant and wildlife species.

Level of Significance Before Mitigation: Potentially significant.

Mitigation Measures: *Implement the following existing mitigation measures (see Section 4.2.4 for the full text of each measure):*

- *2008 EIR/EIS:*
  - *MM 3.5-1a (Revegetation)*
  - *MM 3.5-1b (Concurrent Reclamation)*
- *2019 SEIS:*
  - *MM 3.4-5 (Integrated Weed Management Plan)*
  - *MM 3.4-10 (PBS Critical Habitat Conservation)*

Level of Significance After Mitigation: Less than significant.

Viking Ranch Restoration Site

Proposed restoration activities on the Viking Ranch site could adversely affect multiple vegetation communities that are considered special status by the County of San Diego (2010). As shown in Table 4.2-1, above, the Viking Ranch site contains approximately 53.2 acres of Sonoran Creosote Bush Scrub, 1.4 acres of Sonoran Wash Scrub, 35.0 acres of Desert Saltbush Scrub, and 19.5 acres of Mesquite Bosque. Each of these vegetation communities is considered special status by the County of San Diego (Dudek 2021).

Restoration activities could result in temporary impacts to vegetation communities. However, the Mitigation Work Plan for the Viking Ranch site outlined in the HMMP (Dudek 2021; Appendix D-4) includes numerous measures that would be implemented during restoration activities to minimize impacts to native vegetation including temporary fencing to protect areas outside of the disturbance area, implementation of interim weed

control measures, and biological monitoring and worker training. Revegetation would be implemented using a native seed mix to ensure re-establishment of native plant species in graded areas. Once completed, the restored Viking Ranch site would exhibit more natural hydrologic conditions. Reestablishment of braided stream flow patterns connected with adjacent properties would better support desert plant communities compared to existing conditions. Restoration activities would be carried out in accordance with the HMMP and under supervision of the project biologist in consultation with USFWS and CDFW.

As noted above, four of the vegetation communities identified on the site are identified by the San Diego County RPO as "sensitive habitat lands" which are lands that either (1) include populations of sensitive species or (2) contain unique vegetation communities. The RPO prohibits grading, grubbing, clearing and any other use damaging to sensitive habitat lands. Exceptions can be made when all feasible measures necessary to protect and preserve the sensitive habitat lands are required as a condition of permit approval and where mitigation provides an equal or greater benefit to the affected species. As described above the HMMP provides measures to protect site vegetation and require revegetation of graded areas with a native seed mix. Once completed, restoration would have an overall beneficial effect on the sensitive habitat lands on the Viking Ranch site. Therefore, the project would be consistent with the requirements for sensitive habitat lands contained in the County RPO and no mitigation would be required.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Old Kane Springs Road Preservation Site

There are no proposed physical activities on the Old Kane Springs Road Preservation Site. Thus, no impacts to vegetation or special status plant species are anticipated and no mitigation is required.

Level of Significance: No impact.

Mitigation Measures: None required.

Impact 4.2-2: The Project Could Have Substantial Adverse Effects on Special-Status Wildlife Species

Quarry, Well No. 3 Site, and Associated Pipeline

The Biological Technical Memorandum (Aspen 2019; Appendix D-1) presents the findings of new biological field surveys conducted for the Quarry site and expansion area, well site, and associated pipeline alignment in 2014, 2016, and 2017.

General Wildlife Effects

Most wildlife would vacate the area to avoid moving equipment, and equipment operators would avoid clearly visible wildlife (such as large mammals). However, quarrying or well/pipeline construction could cause injury or mortality in small mammals and reptiles, particularly during initial grading or site clearing work. Food or water could attract wildlife or feral dogs into the work area, putting wildlife at risk. Wildlife could be struck by vehicles or become trapped in trenches or materials (e.g., pipes) stored onsite.

Level of Significance Before Mitigation: Potentially significant.

Mitigation Measures: *Implement the following existing mitigation measures (see Section 4.2.4 for the full text of each measure):*

- *2008 EIR/EIS:*
  - *MM 3.5-1d (Peninsular Bighorn Sheep)*
- *2019 SEIS:*
  - *MM 3.4-6 (Mining Activity Monitoring and Reporting)*
  - *MM 3.4-7 (Worker Education Awareness Program)*
  - *MM 3.4-8 (Wildlife Impact Avoidance and Minimization Measures)*

Level of Significance After Mitigation: Less than significant.

Special-Status Wildlife

The proposed project could directly or indirectly affect special-status wildlife through injury or mortality or through habitat loss or degradation. With implementation of the mitigation measures provided here, the project is not expected to significantly impact Peninsular bighorn sheep, desert kit fox, America badger, barefoot banded gecko, nesting birds (including burrowing owl) or other special-status wildlife. The planned quarry expansion areas are within designated PBS critical habitat, and the project would directly affect critical habitat, although the planned expansion areas show little evidence of PBS usage.

Initial site clearing activities could cause take of special-status reptile (e.g., flat-tailed horned lizard), bird (e.g., burrowing owl), or mammal (e.g., American badger) species if the animals or their active nests or dens are present during the clearing. However, mitigation measures identified below would avoid or minimize these effects. A hydrology analysis indicates that the project would not affect off-site desert pupfish habitat (Bookman-Edmonston 2002a, 2002b, cited in Aspen 2019).

Pre-construction clearance surveys and clearly delineated work areas are required by SEIS Mitigation Measure 3.4-6 to minimize or avoid direct impacts of special status species. In addition, habitat effects could be offset through any habitat compensation that may result from federal ESA consultation with the USFWS (SEIS Mitigation Measure 3.4-10 and 3.4-13). Note that any habitat compensation for PBS may also provide suitable nesting or foraging habitat for one or more other special-status species of the area, depending on specific habitat characteristics. Potential impacts are described further for each special-status species in the following paragraphs.

Peninsular Bighorn Sheep

PBS is federally listed as endangered, state listed as threatened, and designated as a “fully protected animal” by the California Fish and Game Code. PBS is recognized as genetically isolated from other populations located farther to the north and east.

Potential project impacts to PBS are categorized below, into habitat impacts, potential for injury or mortality, disruption of behavior, interruption of access to foraging areas, reproduction and lambing activities, and habitat fragmentation and connectivity.

The project would affect suitable and occupied PBS habitat located adjacent to the existing disturbance area and would occur in phases over the 73-year mining authorization (80-year estimate

for mining and final reclamation). In general, mining will proceed from currently active quarry areas in the north toward future phases in the south. Site-specific mining will depend on multiple factors such as gypsum characteristics in various parts of the quarry, blending needs for production, and market conditions. This total habitat effect is diminished because (1) quarry areas would be reclaimed after completion of mining in each area, so that the previously mined areas would be under reclamation as new areas are developed and mined; (2) former quarry areas, even without reclamation, can serve several habitat values for PBS, including escape terrain, sheltering, and bedding; (3) the habitat value of upland gypsum outcrops appears to be relatively low, based on PBS location data (Figure 4.2-4), probably due to minimal forage availability and crusted clay surface; and (4) excluding the gypsum outcrops, habitat (e.g., topography and vegetation) in the planned quarry expansion area is similar to habitat throughout Recovery Region 8 (USFWS 2000b, cited in Aspen 2019); there are no known special habitat resources such as surface water sources or lambing areas within the active or planned quarry expansion areas.

Future quarrying would directly affect two habitat types: upland gypsum outcrops and alluvial wash. The upland gypsum outcrops appear to have minimal habitat value, based on vegetation, topography, soil conditions, and PBS location data. The alluvial wash habitat likely supports higher-quality PBS forage, although it is mostly not adjacent to escape terrain due to presence of gypsum outcrops located between the alluvial wash and the upslope escape terrain. PBS locations indicate only infrequent occurrence in the alluvial wash areas. Mining activities would remove forage plants and other habitat components from the alluvial mining areas, and would significantly alter the outcrop quarry areas, possibly creating steep slopes and benches that may serve as escape terrain (Bleich et al. 2009, cited in Aspen 2019). The total area of planned disturbance to the alluvial wash is approximately 400 acres, mapped primarily as creosote bush scrub, creosote bush – white bursage scrub, catclaw acacia thorn scrub, and smoketree woodland. Upon completion of mining, each below-grade quarry area will be reclaimed to a condition suitable for use as foraging.

The new pipeline construction and pipeline replacement components of the project are not expected to affect PBS habitat.

The potential PBS direct habitat impacts would be minimized, offset, or reduced over time through implementation of the following measures (see Section 4.2.4 for the full text of each measure):

- 2008 EIR/EIS:
  - MM 3.5-1d (Peninsular Bighorn Sheep)
- 2019 SEIS:
  - MM 3.4-5 (Interim Weed Management Plan)
  - MM 3.4-10 (Peninsular Bighorn Sheep Habitat Mitigation)

Mining and reclamation have little potential for causing direct injury or mortality to PBS. There exists a possibility of transportation accidents (truck and train) as well as blasting accidents. Truck and train traffic and blasting have occurred on the site since 1921 and these activities are visible to PBS from sufficient distances to allow avoidance by PBS. Given the apparent avoidance of active quarry areas by PBS (Figure 4.2-4), the probability of injury or death is small. In addition, if the project were to attract or introduce domestic livestock or feral dogs to the site, those animals could either transmit

livestock diseases to PBS, or prey on PBS. The potential for injury or mortality would be minimized or avoided through implementation of the following measures (see Section 4.2.4 for the full text of each measure):

- 2008 EIR/EIS:
  - MM 3.5-1d (Peninsular Bighorn Sheep)
- 2019 SEIS:
  - MM 3.4-6 (Mining and Construction Activity Monitoring and Reporting)
  - MM 3.4-7 (Worker Education Awareness Program)
  - MM 3.4-8 (Wildlife Impact Avoidance and Minimization Measures (including 15 mph speed limit)
  - MM 3.4-11 (Peninsular Bighorn Sheep Monitoring and Reporting
  - MM 3.4-12 (Peninsular Bighorn Sheep Avoidance and Minimization Measures

Human presence, lighting, dust, construction noise, blasting, noise and vibrations from heavy equipment, may affect PBS behavior in the quarry vicinity. Quarry noise or disturbance impacts may cause PBS to avoid upland habitat adjacent to the planned mining areas that PBS currently use as escape terrain, foraging, or movement among local ewe groups. A number of studies have been conducted to evaluate bighorn sheep responses to human activities (e.g., Hicks and Elder 1979; Keller and Bender 2007; Papouchis et al. 2001, all cited in Aspen 2019) and generally conclude that bighorn sheep increase their distance to humans, especially when they are approached, but the effects of disturbance are temporary. Additionally, PBS appear to acclimate to ongoing activities such as mining (Bleich, 2009 and references cited therein, cited in Aspen 2019) and fluctuating levels of mining activity, including blasting, did not appear to affect Nelson's bighorn sheep in the Panamint Mountains (Oehler et al. 2005; Bleich et al. 2009, cited in Aspen 2019).

Urban Crossroads (2018, cited in Aspen 2019) prepared a study of quarrying noise at the USG Plaster City Quarry, consisting of long-term (one-hour) measurements from several locations in the existing and planned quarry areas, short-duration noise levels within short distances of quarrying equipment, and short-duration measurement of blasting noise. Urban Crossroads recorded operational levels ranging from 30.8 dBA 3 near the southern end of the planned quarry expansion (about 2 miles from the current activity) to 47.7 dBA in the vicinity of ongoing operations where background noise sources include electrical equipment, people talking, truck engines starting, truck movements, and truck horns sounding for safety purposes. These correspond to faint (below 40 dBA) or moderately loud (above 40 dBA) levels. Short-duration measurement of equipment noise, such as truck pass-by, truck unloading, and crusher activity ranged from 67.7 dBA to 88.2 dBA at 50-foot distances, corresponding to loud or very noisy levels. Blasting measured over a 1-second duration registered 128.7 dBZ 4 at a distance of 425 feet, corresponding to 134.9 dBZ at a standard 50-foot distance. The most likely behavioral response by PBS will be to temporarily avoid active quarrying or materials processing areas, including nearby undisturbed habitat. PBS location data (Figure 4.2-4) include many data points in the immediate vicinity of the active quarry area, consistent with literature reports indicating acclimation to quarrying activities including blasting. Implementation of the proposed Quarry expansion, quarry production and quarrying activities may increase. The Urban Crossroads analysis indicates only a minimal increase in overall noise levels from increased quarry

production. Consistent with the behavior of Nelson's bighorn sheep as quarry production increased and decreased in the Panamint Mountains (Oehler et al. 2005; Bleich et al. 2009, cited in Aspen 2019), the level of overall disturbance to PBS is not expected to change.

The proposed well and pipeline construction is unlikely to affect PBS behavior due to the location along the existing narrow-gauge rail line, where PBS occurrence is rare. If PBS are in the vicinity during construction, then the construction activities would likely affect PBS behavior as described above for quarry activities.

The potential to disrupt PBS behavior would be minimized primarily through implementation of the following measures (see Section 4.2.4 for the full text of each measure):

- 2008 EIR/EIS:
  - MM 3.5-1d (Peninsular Bighorn Sheep)
- 2019 SEIS:
  - MM 3.4-6 (Mining Activity Monitoring and Reporting)
  - MM 3.4-7 (Worker Education Awareness Program)
  - MM 3.4-8 (Wildlife Impact Avoidance and Minimization Measures)
  - MM 3.4-11 (Peninsular Bighorn Sheep Monitoring and Reporting)
  - MM 3.4-12 (Peninsular Bighorn Sheep Avoidance and Minimization Measures)

Mining and reclamation will disrupt portions of the site for at least 80 years, causing habitat loss, disturbance, and potential behavioral effects described above. Mining-related disturbance may cause PBS to avoid accessing foraging habitat within the alluvial wash, if the disturbance is located between regularly-used slope habitat and the alluvial foraging area. Nonetheless, extensive upland and alluvial habitats are available in the surrounding area. The potential extent of interrupted access to foraging areas in the vicinity of the quarry cannot be quantified.

Proposed well and pipeline construction are not expected to affect PBS access for foraging habitat.

The potential to interrupt PBS access to foraging habitat would be minimized primarily through implementation of the following measures (see Section 4.2.4 for the full text of each measure):

- 2008 EIR/EIS:
  - MM 3.5-1d (Peninsular Bighorn Sheep)
- 2019 SEIS:
  - MM 3.4-6 (Mining Activity Monitoring and Reporting)
  - MM 3.4-7 (Worker Education Awareness Program)
  - MM 3.4-8 (Wildlife Impact Avoidance and Minimization Measures)
  - MM 3.4-11 (Peninsular Bighorn Sheep Monitoring and Reporting)
  - MM 3.4-12 (Peninsular Bighorn Sheep Avoidance and Minimization Measures)

Peninsular bighorn sheep lambs and yearlings have been observed in the Fish Creek Mountains east of the quarry. Based on data indicating year-round PBS occupancy, lambing activity (i.e., birth

and nursing) presumably occur in the Fish Creek Mountains. GPS location data suggest the most likely lambing area is the north-south trending canyon east of the quarry. Future quarry phases 6Bp, 7Bp, 8, and 9 are nearest to the presumed lambing habitat. Although there are no expected impacts to reproduction and lambing activities, the project includes a requirement that new ground-disturbing activities (i.e., initial quarry development) and blasting may not take place during lambing season (Jan 1- May 30), except with the approval of USFWS and CDFW. This requirement is identified in 2019 SEIS Mitigation Measure 3.4-12 (Peninsular Bighorn Sheep Avoidance and Minimization Measures).

Continuing and expanded quarry operations would tend to dissuade most terrestrial animals, including PBS, from crossing the active quarry areas. Future mining in the southern end of the planned quarry expansion areas (Phases 8 and 9) is near a habitat linkage between occupied habitat to the east and west of the planned quarry expansion area. This linkage is about 4,000 feet wide. Based on location data (Figure 4.2-3), PBS regularly use habitat immediately adjacent to the active quarrying areas (Phases 1A, 1B, S1, S2, and S3). Based on these activity patterns, PBS are expected to continue to occupy the upland slopes south of Phases 8 and 9. Quarry areas undergoing reclamation would be accessible to PBS, although their localized behavioral response to the previously active quarry areas is unknown. Nelson's bighorn sheep populations in other areas regularly use inactive quarries for routine activities (Bleich, 2009; San Bernardino National Forest, 2014 and citations therein, all cited in Aspen 2019). Throughout the life of the project, surrounding undeveloped open space would continue to provide access to PBS throughout nearly all of the habitat currently in use by PBS.

Proposed well and pipeline construction are not expected to affect biological connectivity for PBS. Construction activities may temporarily dissuade terrestrial animals from using the area. But surrounding undeveloped open space would continue to provide adequate travel routes around these sites.

The potential to affect biological connectivity would be minimized primarily through implementation of the following measures (see Section 4.2.4 for the full text of each measure):

- 2008 EIR/EIS:
  - MM 3.5-1d (Peninsular Bighorn Sheep)
- 2019 SEIS:
  - MM 3.4-8 (Wildlife Impact Avoidance and Minimization Measures)
  - MM 3.4-11 (Peninsular Bighorn Sheep Monitoring and Reporting)
  - MM 3.4-12 (Peninsular Bighorn Sheep Avoidance and Minimization Measures)

In conclusion, the proposed project has the potential to adversely affect PBS through habitat modification, direct injury and mortality, inhibiting, disruption of behavior, interruption of access to foraging areas, and habitat fragmentation. However, implementation of the mitigation measures provided in both the 2008 EIR/EIS and the 2019 SEIS would reduce all potential impacts to PBS to a level that is less than significant.

Level of Significance Before Mitigation: Potentially significant.

Mitigation Measures: *Implement the following existing mitigation measures (see Section 4.2.4 for the full text of each measure):*

- *2008 EIR/EIS:*
  - *MM 3.5-1d (Peninsular Bighorn Sheep)*
- *2019 SEIS:*
  - *MM 3.4-5 (Interim Weed Management Plan)*
  - *MM 3.4-6 (Mining Activity Monitoring and Reporting)*
  - *MM 3.4-7 (Worker Education Awareness Program)*
  - *MM 3.4-8 (Wildlife Impact Avoidance and Minimization Measures)*
  - *MM 3.4-10 (Peninsular Bighorn Sheep Habitat Mitigation)*
  - *MM 3.4-11 (Peninsular Bighorn Sheep Monitoring and Reporting*
  - *MM 3.4-12 (Peninsular Bighorn Sheep Avoidance and Minimization Measures*

Implement the following newly proposed mitigation measure:

Mitigation Measure 4.2-2a: *Minimize Temporary Use Areas: During pipeline construction the need for temporary use areas would be minimized by using the USG private parcels on either end of the alignment for staging and equipment and material storage. Materials would be transported to the project areas as needed for immediate use.*

Level of Significance After Mitigation: Less than significant.

Desert Pupfish

The project would not directly affect suitable aquatic habitat for desert pupfish. Desert pupfish occurs at San Sebastian Marsh, which is lower in the Fish Creek watershed, about 7 miles northeast of the nearest USG facilities. Potential effects of the project on desert pupfish, if any, would be indirect impacts to surface water availability in off-site desert pupfish habitat. Groundwater extraction was identified as a threat in the desert pupfish listing (USFWS 1986, cited in Aspen 2019) and in the recovery plan (USFWS 1993, cited in Aspen 2019). It is still considered a threat; especially at occurrences outside California (USFWS 2010, cited in Aspen 2019). The potential link between groundwater extraction and off-site aquatic habitat availability to desert pupfish depends on the rate or volume of extraction and groundwater passage within the affected basin or basins. Reduced groundwater level at a given well location could lead to reduced surface water at a spring or seep, depending on the amount of draw-down and the hydrologic link between the well site and the aquatic habitat. Hydrologic studies prepared by Bookman-Edmonson (2002a; 2002b, cited in Aspen 2019) and Dudek (2018; Appendix D-1) address the Quarry and well site, indicating that neither component of the project would affect occupied pupfish habitat. These studies are described in the following paragraphs.

Hydrologists preparing the analysis have concluded that no impacts would occur to basin water supplies or to San Felipe Creek from project implementation. The analysis shows a drainage area contributing to the San Felipe Creek of 965,388 acres with a volume calculated on annual average precipitation of 583,883 acre-feet of water. The Quarry, including the planned expansion area,

contributes 396 acre-feet of water to the basin (0.07 percent by volume). This surface drainage would continue uninterrupted with all drainage from the Quarry directed to the wash.

Hydrogeologists also addressed the possible impacts of withdrawing approximately 26 acre-feet per year of well water from the same basin for use at the Quarry. A calculated draw down of the proposed well at maximum capacity would have a draw down at Fish Creek and San Felipe Creek Springs of approximately 1 millimeter. This is a conservative estimate because values produced by the Theis equation are for drawdowns in confined aquifers. However, the aquifer in the well area is unconfined, and drawdowns will be much less than those for a confined aquifer. Pumping 26 acre-feet per year from an unconfined aquifer would not produce drawdowns that are noticeable at distances of 1,000 feet or less.

Additionally, the location of the San Jacinto Fault, a probable groundwater barrier between the well and the Fish Creek and San Felipe Creek springs, would most likely prevent a cone of depression extending beyond the fault. Thus, the extraction of water from proposed Well No. 3 at capacity would not have a detectable impact directly or cumulatively on habitat supporting the desert pupfish.

Additionally, recent significant loss of surface water in the occupied habitat is believed to be linked to seismic activity (Poff 2017, cited in Aspen 2019) or cessation of nearby irrigation due to conversion of agricultural lands to a solar facility (Todd Groundwater 2018, cited in Aspen 2019).

Level of Significance: Less than significant.

Mitigation Measures: None required.

Barefoot Banded Gecko

The barefoot banded gecko is not expected to occur on the site. However, due to its cryptic nature and inaccessible habitats, it may be more widespread than currently understood. If barefoot banded geckos were to occur on a future mining site, potential impacts would be similar to those described for general wildlife (above), especially the potential for injury or mortality by vehicle crushing. Most potential impacts would be minimized through measures identified for general wildlife impacts (above).

Due to its status as a CESA-listed threatened species and a BLM sensitive species, additional mitigation measures were included in the 2008 EIR/EIS and 2019 SEIR. Implementation of these existing mitigation measures would reduce this impact to a less than significant level.

Level of Significance Before Mitigation: Potentially significant.

Mitigation Measures: *Implement the following existing mitigation measures (see Section 4.2.4 for the full text of each measure):*

- *2008 EIR/EIS:*
  - *MM 3.5-1d (Peninsular Bighorn Sheep)*
  - *MM 3.5-1e (Barefoot banded gecko)*

- *2019 SEIS:*
  - *MM 3.4-5 (Interim Weed Management Plan)*
  - *MM 3.4-6 (Mining Activity Monitoring and Reporting)*
  - *MM 3.4-7 (Worker Education Awareness Program)*
  - *MM 3.4-8 (Wildlife Impact Avoidance and Minimization Measures)*

Implement new Mitigation Measure 4.2-2a, see above.

Level of Significance After Mitigation: Less than significant.

Flat-tailed horned lizard
A suitable habitat for flat-tailed horned lizard is present along several parts of the proposed pipeline alignment. Potential impacts would be similar to those described for general wildlife (above), especially the potential for injury or mortality by vehicle crushing. Although not state or federally listed, an interagency management strategy and conservation agreement for the flat-tailed homed lizard was established in 1997 and remains in place (Flat-tailed Horned Lizard Interagency Coordinating Committee, 2003). To minimize potential impacts to flat-tailed horned lizard, Mitigation Measure 3.5-2 was included in the 2008 Final EIR/EIS, and an additional recommended measure (routine inspection of wildlife hazards such as open trenches) was incorporated into 2019 SEIS Mitigation Measure 3.4-8 to further minimize impacts to FTHL. The full text of the measures may be found in Section 4.2.4.

Level of Significance Before Mitigation: Potentially significant

Mitigation Measures: *Implement the following existing mitigation measures (see Section 4.2.4 for the full text of each measure):*

- *2008 EIR/EIS:*
  - *MM 3.5-1e (Barefoot banded gecko)*
- *2019 SEIS:*
  - *MM 3.4-8 (Wildlife Impact Avoidance and Minimization Measures)*

Level of Significance After Mitigation: Less than significant

Special-Status Bats
Several special-status bats could forage over the site or possibly roost in rock crevices within planned quarry expansion areas. Impacts to foraging habitat would be minimal and would be mitigated through measures identified above under Vegetation and Habitat Impacts. Potential impacts to roosts could cause injury or mortality to special-status bats. This potential impact would be avoided or minimized through Mitigation Measure 3.4-8 (Wildlife Impact Avoidance and Minimization Measures).

Level of Significance Before Mitigation: Potentially significant.

Mitigation Measures: *Implement the following existing mitigation measures (see Section 4.2.4 for the full text of each measure):*

- *2019 SEIS:*
  - *MM 3.4-8 (Wildlife Impact Avoidance and Minimization Measures)*

Level of Significance After Mitigation: Less than significant.

Desert Kit Fox and American Badger
Both species could use the Quarry or pipeline alignment, although they were not observed during field surveys. Potential direct impacts to American badger and desert kit fox include mechanical crushing of individuals or burrows by vehicles and construction equipment, habitat loss, and noise and disturbance to surrounding habitat. Mitigation measures identified under general wildlife impacts would reduce this impact to a less than significant level.

Level of Significance Before Mitigation: Potentially significant.

Mitigation Measures: *Implement the following existing mitigation measure (see Section 4.2.4 for the full text of each measure:*

- *2008 EIR/EIS:*
  - *MM 3.5-1d (Peninsular Bighorn Sheep)*
- *2019 SEIS:*
  - *MM 3.4-6 (Mining Activity Monitoring and Reporting)*
  - *MM 3.4-7 (Worker Education Awareness Program)*
  - *MM 3.4-8 (Wildlife Impact Avoidance and Minimization Measures)*

Implement new Mitigation Measure 4.2-2a, see above.

Level of Significance After Mitigation: Less than significant.

Nesting Birds Including Burrowing Owl
There are no listed threatened or endangered bird species with moderate or higher potential to occur on the project site and no listed birds were observed during biological surveys. However, the entire project site and surrounding area provide suitable nesting habitat for numerous resident and migratory bird species. Native birds are protected under the California Fish and Game Code and federal Migratory Bird Treaty Act.

Most adult birds would flee from equipment during initial vegetation clearing; however, eggs and nestlings would be vulnerable to project construction activities that may disrupt nesting behavior or damage nests, birds, or eggs. These potential impacts can be minimized or avoided through scheduling initial site disturbance outside the nesting season, as is required by 2019 SEIS Mitigation Measure 3.4-8.

In addition, certain bird species can become entrapped in vertical or horizontal open pipes with diameters from 1 to 10 inches. Cavity-nesting species such as Say's phoebes, owls, woodpeckers,

kestrels, and ash-throated flycatchers are particularly vulnerable. Several avoidance and minimization measures, as well as preconstruction clearance surveys and clearly delineated work areas would be required by 2019 SEIS Mitigation Measure 3.4-8.

One special-status bird species, the burrowing owl, is unlikely to flee the site during construction, due to its characteristic behavior of taking cover in burrows. Burrowing owls inhabit burrows year-round; therefore, avoidance requires pre-construction surveys and avoidance measures for occupied burrows at any time of year. Implementation of 2019 SEIS Mitigation Measure 3.4-9 would reduce impacts to burrowing owl to a level that is less than significant.

Mitigation measures identified under general wildlife impacts above, in combination with the existing measures listed below, would reduce potential impacts to nesting birds, including burrowing owl, to a less than significant level.

Level of Significance Before Mitigation: Potentially significant.

Mitigation Measures: *Implement the following existing mitigation measure (see Section 4.2.4 for the full text of each measure):*

- *2008 EIR/EIS:*
  - *MM 3.5-1c (Migratory Birds)*
  - *MM 3.5-1d (Peninsular Bighorn Sheep)*
- *2019 SEIS:*
  - *MM 3.4-6 (Mining Activity Monitoring and Reporting)*
  - *MM 3.4-7 (Worker Education Awareness Program)*
  - *MM 3.4-8 (Wildlife Impact Avoidance and Minimization Measures)*
  - *MM 3.4-9 (Burrowing Owl)*

Implement new Mitigation Measure 4.2-2a, see above.

Level of Significance After Mitigation: Less than significant.

Viking Ranch Restoration Site

As described previously, there is moderate potential for two special-status bird species to occur on the Viking Ranch site, black-tailed gnatcatcher and loggerhead shrike. In addition, there is suitable foraging habitat present on the site for Swainson's hawk. Implementation of Mitigation Measure 4.2-2b provided below would reduce potential impacts to special-status bird species on the Viking Ranch site by limiting vegetation clearing activities to outside the nesting season (between September 1 and March 1) or requiring a preconstruction nesting bird survey and avoidance measures.

Additionally, one special-status mammal species, San Diego black-tailed jack, was also observed on the Viking Ranch site. There is a suitable habitat for this species present on the site. Implementation of Mitigation Measure 4.2-3 provided below would reduce potential impacts to

The project could have beneficial impacts for FTHL and PBS as restoration activities are anticipated to improve habitat quality and increase the likelihood of occurrence of these species on the Viking Ranch site.

Level of Significance Before Mitigation: Potentially significant.

Mitigation Measures: *Implement the following newly proposed mitigation measure:*

Mitigation Measure 4.2-2b: *Wildlife Avoidance and Minimization Measures—Viking Ranch Restoration Site)*

To avoid impacts to common and special-status wildlife on the Viking Ranch Restoration site, the following measures shall be implemented during restoration activities:

- *The clearing of vegetation and other initial site disturbance shall occur outside of the bird nesting season. Grading shall take place between September 1 and March 1. If grading must occur during the nesting season, a qualified wildlife biologist and biological monitor shall conduct a nesting bird survey prior to clearing work. If an active nest is found it shall be protected in place with a work-free buffer with a radius determined by the biologist in consultation with the CDFW.*
- *Preconstruction surveys for San Diego black-tailed jack and/or active burrows shall be conducted by a qualified biologist prior to initiating restoration activities on the site. If any individuals are observed in a burrow or shelter form, they will be allowed to leave the area on their own accord. Once the burrow is determined clear of rabbits, a qualified biologist shall collapse the burrow or shelter form.*
- *Speed limits on all access roads shall not exceed 15 miles per hour.*
- *Avoid or minimize night lighting by using shielded directional lighting pointed downward, thereby avoiding illumination of adjacent natural areas and the night sky.*
- *The boundaries of all areas to be newly disturbed (including areas proposed for clearing and grading, access roads, staging and equipment storage areas) shall be delineated with stakes and flagging prior to disturbance. All disturbances, vehicles, and equipment shall be confined to the flagged area. The biological monitor shall be onsite to ensure that no ground disturbing activities occur outside of the flagged area during vegetation clearing, grading, or other ground disturbing activities.*
- *No potential wildlife entrapments (e.g., trenches, bores) will be left uncovered overnight.*
- *To avoid wildlife entrapment all pipes and other construction materials and supplies shall be covered or capped in storage areas, and at the end of each workday. No pipes or tubing of sizes or inside diameters ranging from 1 to 10 inches will be left open either temporarily or permanently.*
- *To avoid wildlife attractants, all trash and food-related waste shall be placed in self-closing raven-proof containers and removed regularly from the site to prevent overflow. Workers shall not feed wildlife. Water applied to dirt roads and construction areas for dust abatement shall use the minimal amount needed to meet safety and air quality standards to prevent the formation of puddles, which could attract wildlife. Pooled rainwater shall be avoided or removed to avoid attracting wildlife.*

- *Any injured or dead wildlife encountered during site restoration or monitoring shall be reported to the project biologist, biological monitor, CDFW, or a CDFW-approved veterinary facility as soon as possible to report the observation and determine the best course of action. For special-status species, the project biologist or biological monitor shall notify the USFWS and/or CDFW as appropriate, within 24 hours of the discovery.*

Level of Significance After Mitigation: Less than significant.

Old Kane Springs Road Preservation Site

There are no proposed physical activities on the Old Kane Springs Road Preservation Site. Thus, no impacts to wildlife are anticipated and no mitigation is required.

Level of Significance: No impact.

Mitigation Measures: None required.

Impact 4.2-3: The Project Could Have Substantial Adverse Effects on State or Federally Protected Wetlands

Quarry, Well No. 3 Site and Pipeline Alignment

The 2008 EIR/EIS determined that Quarry expansion activities would impact existing streambeds which could be under the jurisdiction of CDFG through Sections 1601-3 of the California Fish and Game Code or the US Army Corps of Engineers through Section 404 of the Federal Clean Water Act. Mitigation Measure 3.4-13 was provided requiring USG to contact and consult with these agencies prior to disturbing streambeds within the Quarry expansion areas to determine jurisdiction and regulatory requirements.

The 2019 SEIS included an updated jurisdictional delineation for the project site which identified 139 acres of waters of the US within the expected disturbance area of the proposed Quarry expansion and well/pipeline development. The SEIS included mitigation to offset impacts by restoring, enhancing, and preserving aquatic resources at a property where aquatic functions are similar to the impacts functions. In response, USG proposes to mitigate impacts at a 1.92:1 mitigation-to-impact ratio, for a total of 267.3 acres of rehabilitation, enhancement, and preservation of aquatic resources. The proposed compensatory mitigation consists of the restoration and enhancement of the Viking Ranch site and the preservation of the Old Kane Springs site, as described and analyzed herein.

Implementation of this mitigation would fully mitigate the project's impacts to protected wetlands within the project site and no further mitigation is required. The potential environmental effects of implementing this mitigation are addressed throughout this SEIR.

Level of Significance Before Mitigation: Potentially significant.

Mitigation Measures: *Implement the following existing mitigation measures (see Section 4.2.4 for the full text of each measure):*

- *2008 EIR/EIS:*
  - *MM 3.5-1f (Agency Contacts for Impacts to Streambeds)*

- *2019 SEIS:*
  - *MM 3.4-13 (Future Quarry Phasing Notification and Review)*

Level of Significance After Mitigation: Less than significant.

Viking Ranch Restoration Site

A jurisdictional wetland delineation was completed for the Viking Ranch site that identified floodplain areas, ephemeral channels, and braided channels on the site, as shown on Figure 2-4. A total of 53.12 acres of jurisdictional waters were identified on the Viking Ranch site. The project proposes to restore the natural hydrologic functioning of these wetlands as mitigation for the anticipated loss of wetlands within the Quarry expansion area and well site. Restoration would occur in accordance with the HMMP (Appendix D-4) to the satisfaction of the USFWS. The HMMP provides ecological performance standards and ongoing monitoring requirements to ensure successful restoration of the site. Therefore, the project would have a less than significant impact on the protected wetlands present on the Viking Ranch site.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Old Kane Springs Road Preservation Site

There are no proposed physical activities on the Old Kane Springs Road Preservation Site. Thus, no impacts to protected wetlands are anticipated and no mitigation is required.

Level of Significance: No impact.

Mitigation Measures: None required.

Impact 4.2-4: The Project Would Not Interfere Substantially with Native Wildlife Movement or Impede Nursery Site Use

The proposed project could affect local wildlife movement patterns at the Quarry. Quarrying and construction operations would tend to dissuade most terrestrial animals from crossing the areas due to the removal of vegetation and soil that would otherwise provide food, shade, and burrowing substrate. Direct impacts, including noise, traffic, and nighttime lighting could also tend to reduce wildlife dispersal across the project site. However, the undeveloped, open space surrounding the Quarry expansion areas would continue to provide travel routes around the existing and proposed Quarry operations, and the short-term nature of pipeline construction would have only a temporary and minimal effect on local wildlife movement. Because the wildlife movement could continue around the Quarry expansion areas, and the pipeline impacts on wildlife movement would be short term, the overall effect on wildlife movement would be minimal. This effect can be further reduced by implementing the avoidance and minimization measures identified in 2019 SEIS Mitigation Measure 3.4-8.

Restoration activities at the Viking Ranch site would be temporary with minimal effect on local wildlife movement. No fencing or other barriers to movement would be erected on or around the site. Long-term the site would be preserved as open space allowing for continued use of the site by resident or migratory species.

Similarly, the proposed preservation of the Old Kane Springs Road site would ensure continued availability of the site for use by resident and migratory species.

No nursery sites were identified during biological surveys of the project site and off-site mitigation sites. As noted in Impact 4.2-3, the project site is not expected to be used for PBS lambing activity; however, 2019 SEIS Mitigation Measure 3.4-12 requires that new ground-disturbing activities (i.e., initial quarry development) and blasting may not take place during lambing season (January 1 through May 30), except with the approval of USFWS and CDFW. Furthermore, 2019 SEIS Mitigation Measure 3.4-8 requires preconstruction surveys and avoidance measures for active bird nests.

Implementation of the existing mitigation measures discussed here would reduce potential impacts to wildlife movement and nursery sites on the project site. No impacts to wildlife movement or nursery sites would occur.

Level of Significance Before Mitigation: Potentially significant.

Mitigation Measures: *Implement the following existing mitigation measures (see Section 4.2.4 for the full text of each measure):*

- *2019 SEIS:*
  - *MM 3.4-8 (Wildlife Impacts Avoidance and Minimization Measures)*
  - *MM 3.4-12 (PBS Avoidance and Minimization Measures)*

Level of Significance After Mitigation: Less than significant

Impact 4.2-5: The Project Would Not Conflict with Any Local Policies or Ordinances Protecting Biological Resources or with Any Adopted Habitat Conservation Plan or Natural Community Conservation Plan

Quarry, Well No. 3 Site and Pipeline Alignment

The Quarry, Well No. 3 site and pipeline alignment are located in Imperial County and are under the jurisdiction of the Imperial County Land Use Ordinance and General Plan. As demonstrated in Table 4.7-1, "Project Consistency with Local Planning Documents," the proposed project would be consistent with the applicable policies of the Imperial County General Plan including those of the Conservation and Open Space Element. In addition, the project would be consistent with the Imperial County Zoning Ordinance and Surface Mining and Reclamation Ordinance.

The Flat-tailed Horned Lizard Rangewide Management Strategy provides guidance for the conservation and management of sufficient habitat to maintain extant populations of flat-tailed horned lizards in five management areas – four in California and one in Arizona. The West Mesa Management Area (see Figure 1 of Appendix D-1) is located east of the project site. A segment of the Plaster City narrow gauge railroad crosses the management area; however, this segment is not within the project site. Mitigation provided in the 2008 EIR/EIS (MM 3.5-2) and in the 2019 SEIS (MM 3.4-8) would minimize potential impacts to FTHL at the well site and within the pipeline alignment. These measures require project compliance with the management strategy and provide avoidance measures during construction activities. Implementation of these measures

would reduce potential impacts to FTHL to a level that is less than significant and ensure compliance with the FTHL Rangewide Management Strategy.

The project site is not within or adjacent to any adopted or proposed habitat conservation plans or natural community conservation plans (CDFW 2019).

Off-Site Mitigation Sites

The Viking Ranch and Old Kane Springs sites are located in eastern San Diego County and are subject to the San Diego County Code and General Plan. As demonstrated in Table 4.7-1, the proposed project would be consistent with the applicable policies of the San Diego County General Plan.

There are three adopted conservation plans west of the mitigation sites: (1) San Diego County Multiple Species Conservation Plan (MSCP); (2) San Diego North County MSCP; and (3) San Diego Gas and Electric Subregional NCCP/HCP. Both mitigation sites are located outside the boundaries of these conservation plans (CDFW 2019).

The proposed preservation and restoration activities at the off-site mitigation sites would not conflict with any local policies protecting biological resources.

Level of Significance Before Mitigation: Potentially significant.

Mitigation Measures: *Implement the following existing mitigation measures (see Section 4.2.4 for the full text of each measure):*

- *2008 EIR/EIS:*
  - *MM 3.5-2 (Flat-tailed Horned Lizard Rangewide Management Strategy)*
- *2019 SEIS:*
  - *MM 3.4-8 (Wildlife Impacts Avoidance and Minimization Measures)*

Level of Significance After Mitigation: Less than significant