3.10 BIOLOGICAL RESOURCES

3.10.1 AFFECTED ENVIRONMENT

Gold mining activities that consisted of dredging alluvial deposits occurred on the project site from historic times through 1962. The dredging operations significantly altered the natural landscape of the site by creating massive piles of tailings that cover extensive portions of the site. These piles resulted in the creation of basins in between tailings that filled with water because of their low-lying locations on the landscape and because of mining-related manipulation of the site's surface water and groundwater supplies. Further alterations to the natural landscape occurred when the site was used for development and testing of rocket engines. In recent years, large portions of the project site have been used mainly for grazing of livestock (horses and cattle).

Reconnaissance-level surveys of the project site were conducted by EDAW biologists on December 13, 2004, and January 12 and 13, 2005. These surveys consisted of walking meandering transects throughout the project site. The purpose of the surveys was to characterize and map biological resources present on the project site in sufficient detail to support a determination of overall habitat quality. To provide a thorough characterization of the habitat types present, data were collected at 35 representative sampling points at the project site. Each habitat type present at the project site, as determined using aerial photographs, included at least one sampling point. At each sampling point the biologists surveyed an area within an approximately 100-foot radius of the point.

The following protocol-level biological resource surveys have been conducted at the project site and were used as sources of information for this document:

- *Jurisdictional Delineation, Rio del Oro Property, Sacramento County, CA* (Gibson and Skordal 1999);
- *Wetland Delineation for Rio del Oro, Sacramento County, CA* (ECORP 2004a);
- *Elderberry Survey, Rio del Oro Property, Sacramento County, CA* (Gibson and Skordal 2000a);
- *Listed Vernal Pool Branchiopods Wet Season Surveys* (Gibson and Skordal 2000b, 2001);
- *Rio del Oro, Rancho Cordova, California—Rare Plant Survey, Sacramento County, CA* (ECORP 2003); and
- *Tree Inventory for Rio del Oro Project, Sacramento County, CA* (Sierra Nevada Arborists 2003).

VEGETATION

The landscape on the northern half of the project site is characterized by linear rows of dredge tailings interspersed with excavated basins. The tailings are sparsely vegetated with ruderal plant species that are also associated with the annual grassland vegetation on the project site. The basins are characterized by a variety of riparian plant communities including coyote brush scrub, willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, oak woodland, and cottonwood–willow riparian forest. The remainder of the project site is characterized by annual grassland habitat interspersed with vernal pools and seasonal wetlands. Morrison Creek, a seasonal drainage, traverses the southern half of the project site in an east-to-west direction. The project site also contains several roads and developed areas as well as the White Rock Dump site.

Although the riparian vegetation associations described in this document are referred to as riparian habitat, they occur in isolated basins between tailings and are not associated with drainages characterized by a bed and bank. These riparian habitat types have evolved in response to the unique physical characteristics created on the project site by the historical dredging activities. Riparian vegetation throughout much of the project site is characterized by trees and shrubs that are old and senescent (i.e., in the growth phase in which the plant proceeds from full maturity to death), with little regeneration occurring. It appears that hydrologic conditions that allowed riparian vegetation to originally establish within the basins have changed and no longer support regeneration. A review of U.S. Geological Survey (USGS) topographic maps of the area revealed that some water features that were present approximately 20 years ago no longer exist.

More than 1,500 trees with a diameter at breast height (dbh) of 6 inches or greater have been documented on the project site (Sierra Nevada Arborists 2003); most of these are located on the northern half of the project site. The southern portion of the project site is characterized by a mosaic of annual grassland vegetation, interspersed with vernal pools and seasonal wetlands. Seasonal drainages, including Morrison Creek, also traverse this plant community.

Plant communities found on the project site are described below and depicted in Exhibit 3.10-1. Plant community nomenclature and descriptions are based on Holland (1986) with some modifications to reflect local variation. Vernal pools and other wetlands are discussed in the "Sensitive Biological Resources" section below.

Annual Grassland

Annual grassland covers approximately 1,975 acres, half the project site, and is the most extensive plant community on the site. Annual grassland is found on the unmined portions of the site; it also characterizes the understory of the riparian communities. Annual grassland on the project site is characterized by a dense cover of nonnative grasses and forbs: ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), Italian thistle (*Carduus pycnocephalus*), yellow starthistle (*Centaurea solstitialis*), dovefoot geranium (*Geranium molle*), medusa head (*Taeniatherum caput-medusae*), rose clover (*Trifolium hirtum*), and vetch (*Vicia* spp.). Ruderal annual grassland is found on the remnant soils of the tailing piles, where plant cover is sparse and yellow starthistle, an invasive weed, is common. Annual grassland outside of the mounds of tailings supports some native forbs such as California poppy (*Eschscholzia californica*) and narrow tarplant (*Holocarpha virgata*). In areas between tailing mounds, the annual grassland plant community frequently includes a high percentage of blessed milk thistle (*Silybum marianum*).

Coyote Brush Scrub

Approximately 23 acres of coyote brush scrub occur on the project site. This community is found between some of the smaller tailing mounds that are more widely spaced, such as those located in the northeastern quadrant of the project site. It also occurs as patchy thickets in the mixed riparian scrub understory. This is a medium-height shrub community dominated by coyote brush (*Baccharis pilularis*), with scattered Fremont cottonwood trees (*Populus fremontii*) and willow shrubs (*Salix* sp.). The annual grassland understory is less dense in this community because of the dense shrub cover.

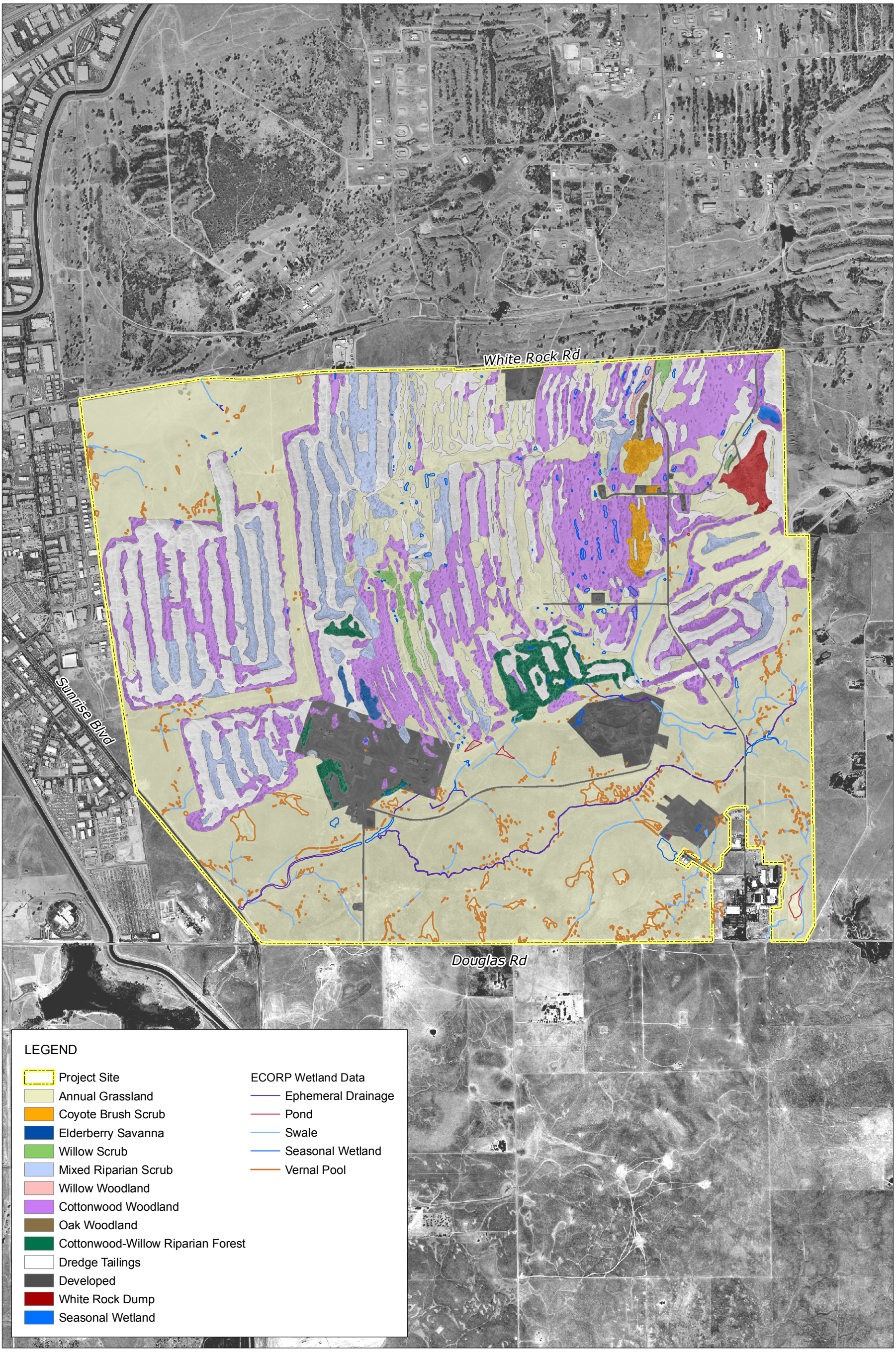
Willow Scrub

Areas of willow scrub vegetation totaling approximately 16 acres occur in basins at the foot of tailing mounds at scattered locations on the project site. This plant community is characterized by relatively dense stands (at least 50% cover) of willow with occasional cottonwood trees. No other trees or shrubs exist in this community. Areas delineated as willow scrub habitat typically consist of even-aged shrubs of arroyo willow (*Salix lasiolepis*). This community consists almost exclusively of willows of similar size and shape, and willow regeneration is generally lacking because the hydrology required for such regeneration appears to be absent; as a result, structural diversity within this habitat type is low.

Mixed Riparian Scrub

Mixed riparian scrub is common in the basins interspersed on the northern half of the site. Approximately 190 acres of this habitat type are present on the project site. Mixed riparian scrub consists of an open tree canopy characterized by Fremont cottonwood and moderate to dense shrub cover (15%–45%) characterized by willows and coyote brush.

Scattered interior live oak (*Quercus wislizenii*) and walnut trees, as well as elderberry shrubs, often exist in this vegetation type. Structural diversity within this habitat type is good because of the variety of shrub sizes and shapes, and the fact that distribution patterns vary from dense shrub thickets to more open stands of shrubs. Although the diversity of plant species within this habitat type is greater than that within most of the habitat types



Source: EDAW 2005, Sacramento County 2002, ECORP Consulting 2004(b)

Habitat Types at the Rio del Oro Project Site

EXHIBIT 3.10-1

Rio del Oro Specific Plan Project DEIR/DEIS
City of Rancho Cordova and USACE

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at the project site, it is much lower than the diversity of typical mixed riparian habitats that are associated with streams, and an overall lack of tree and shrub regeneration was observed. The hydrologic conditions typically required for regeneration of riparian tree and shrub species appear to be absent.

Elderberry Savanna

Two small basin areas occupying approximately 16 acres in the southwest quadrant of the project site are dominated by elderberry savanna. This plant community is characterized by open stands of elderberry (*Sambucus mexicana*) with an understory of annual grassland. Few living elderberry shrubs remain in these areas and a high percentage of these are senescent, which may indicate a reduction in the shallow groundwater needed to promote growth and propagation of elderberry shrubs. No elderberry regeneration was observed. Total shrub cover in the elderberry savanna on-site is very low (2%–5%) and total tree cover is less than 1%. The majority of the elderberry shrubs observed in this community are dead. A few scattered cottonwood trees exist along the edges of this vegetation community.

Willow Woodland

A single area approximately 4 acres in size that is dominated by willow woodland is located between tailing mounds near White Rock Road in the northeast quadrant of the project site. This plant community is characterized by open stands of willow trees and shrubs; interior live-oak trees exist along the edges of the basin. Structural diversity is moderate because of the varying sizes and shapes of willows, but there are no really large trees (oaks on-site average 25 feet in height and 9 inches dbh) or dense shrub thickets in this area. Willows appear to be healthy and regenerating well in this habitat. Two large pools of water were observed in this habitat type during the time that surveys were conducted for the *Rio del Oro Habitat Assessment* (EDAW 2005) (Appendix E of this draft environmental impact report/draft environmental impact statement [DEIR/DEIS]) and were identified as seasonal wetlands during the wetland delineation that was verified by the U.S. Army Corps of Engineers (USACE) in 2004 (ECORP 2004a).

Cottonwood Woodland

Cottonwood woodland, dominated by Fremont cottonwood, is the most common plant community in the basins between the mounds of tailings. Approximately 597 acres of mostly open cottonwood woodland are present on the project site. A sparse subcanopy consisting primarily of arroyo willow is often found, but it generally does not constitute more than 5% canopy cover. Dense cover, consisting of annual grasses and forbs in the understory, downed trees, and dead tree snags, is a common component of this community. In basins between tall, closely spaced tailing mounds such as those in the western half of the project site, the cottonwood trees and willows that exist in the area are distributed mostly along the basin edges, while open grassland is found on the basin floors. In the eastern half of the project site, where the tailing mounds are lower and more widely spaced, cottonwood trees are distributed more randomly. Structural diversity within this habitat type is low to moderate depending on whether willow shrubs exist in the area. Some seasonal wetlands were mapped within this habitat type, particularly in the eastern half of the project site, during the wetland delineation that was verified by USACE in 2004 (ECORP 2004a), but the hydrology that initially allowed cottonwood woodland to establish here was observed to be absent. Cottonwood trees throughout the cottonwood woodland on the project site appear old and senescent and no cottonwood regeneration was observed in any of this habitat.

Oak Woodland

Oak woodland on the project site is restricted to a 3-acre area located between tailing mounds near White Rock Road in the northeast quadrant. This plant community is characterized by an open tree canopy that consists of interior live oak with scattered foothill pine (*Pinus sabiniana*). The dense shrub layer is dominated by coyote brush with scattered willow and elderberry. A total of 47 oak trees greater than 6 inches dbh have been documented on the project site (Sierra Nevada Arborists 2003). Structural diversity in the oak woodland

community is good because of the variety of species and tree and shrub sizes; however, because of the relative lack of larger diameter trees, the oak woodland on-site would not provide suitable nesting habitat for raptors.

Cottonwood–Willow Riparian Forest

Based on vegetation association, there are approximately 57 acres of cottonwood–willow riparian forest on the project site, primarily among tailing mounds in the southeast quadrant. Three smaller occurrences of this community type are present on the project site, two of which are located within fenced and developed areas that were used previously for rocket testing. The cottonwood–willow riparian forest on the project site is characterized by a dense canopy of Fremont cottonwood trees up to 60 feet tall and willow shrubs and trees up to 15 feet tall. Willow species present include arroyo willow, Pacific willow (*Salix lucida* ssp. *lasiandra*), and sandbar willow (*S. exigua*). Trees and shrubs are well distributed across the basins and the annual grassland understory is less dense because of the dense shrub and tree layers (tree cover averages 35%–40% and shrub cover averages 40%–50%). Areas supporting this plant community appear to be generally wetter than most of the other basins on-site and receive runoff from at least two seasonal drainages. Several areas of pooled water were observed in this community type by EDAW biologists in January 2005. The wet conditions of the site that created this vegetation association in the first place appear to be extant (i.e., still exist, have not been destroyed), and the cottonwood–willow riparian forest in the southeast quadrant would be expected to have a better chance of long-term survival than vegetation associations in other basins on the project site that appear drier.

WILDLIFE

The project site supports an abundant and diverse fauna. This large and mostly contiguous block of open space, dominated by natural plant communities, is particularly important to native grassland wildlife species. The project site provides habitat for both resident breeding and migratory raptors that prefer large tracks of open grassland for foraging. The fragmented and disturbed scrub and woodland communities are attractive to many of the common wildlife species in Sacramento County, as well as a few special-status wildlife species, which are discussed separately below under “Sensitive Biological Resources.”

A few of the many common wildlife species expected to occur on the project site include red-tailed hawk (*Buteo jamaicensis*), coyote (*Canis latrans*), black-tailed hare (*Lepus californicus*), savannah sparrow (*Passerculus sandwichensis*), gopher snake (*Pituophis melanoleucus*), Say’s phoebe (*Sayornis phoebe*), western fence lizard (*Sceloporus occidentalis*), western meadowlark (*Sturnella neglecta*), and western kingbird (*Tyrannus verticalis*).

SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources addressed in this section include those that are afforded special protection through the California Environmental Quality Act (CEQA), the California Fish and Game Code (including but not limited to the California Endangered Species Act [CESA]), federal Endangered Species Act (ESA), Clean Water Act (CWA), Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and the *Rancho Cordova General Plan* (City General Plan) (City of Rancho Cordova 2006).

Special-Status Species

Special-status species are defined as species that are legally protected or otherwise considered sensitive by federal, state, or local resource agencies. Special-status species are species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- species officially listed by the State of California or the federal government as endangered, threatened, or rare;
- candidates for state or federal listing as endangered, threatened, or rare;

- taxa (i.e., taxonomic categories or groups) that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the State CEQA Guidelines;
- species identified by the California Department of Fish and Game (DFG) as Species of Special Concern;
- species afforded protection under local planning documents; and
- taxa considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California." The CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS Inventory) (CNPS 2005) includes five lists for categorizing plant species of concern, which are summarized as follows:
    - List 1A—Plants presumed to be extinct in California
    - List 1B—Plants that are rare, threatened, or endangered in California and elsewhere
    - List 2—Plants that are rare, threatened, or endangered in California but more common elsewhere
    - List 3—Plants about which more information is needed (a review list)
    - List 4—Plants of limited distribution (a watch list)

Plant inventories prepared by CNPS provide one source of substantial evidence that is used by lead agencies to determine what plants meet the definition of endangered, rare, or threatened species, as described in Section 15380 of the State CEQA Guidelines. For purposes of this document, the relevant inventories are List 1B (plants that are rare, threatened, or endangered in California and elsewhere) and List 2 (plants that are rare, threatened, or endangered in California but more common elsewhere). All plants listed in the CNPS Inventory (CNPS 2005) are considered "special plants" by DFG. The term "special plants" is a broad term used by DFG to refer to all of the plant taxa inventoried by the California Natural Diversity Database (CNDDB), regardless of their legal or protection status. Notation as a List 1B or 2 plant species does not automatically qualify the species as endangered, rare, or threatened within the definition of State CEQA Guidelines Section 15380. Rather, CNPS designations are considered along with other available information about the status, threats, and population condition of plant species to determine whether a species warrants evaluation as an endangered, rare, or threatened species under CEQA. Other sources include consultation with biologists from federal, state responsible, and state trustee agencies with jurisdiction over natural resources of the project site and area; published and unpublished research; field survey records; local and regional plans adopted for the conservation of species (such as habitat conservation plans or natural community conservation plans), other CEQA or National Environmental Policy Act (NEPA) documents; or other relevant information. Plants on Lists 1A, 1B, and 2 of the CNPS Inventory may qualify for listing, and DFG recommends—and local governments may require—that these species be addressed in CEQA projects. However, a plant species need not be in the CNPS Inventory to be considered a rare, threatened, or endangered species under CEQA.

Tables 3.10-1 and 3.10-2 below provide lists of special-status species known to occur or with potential to occur on the project site. This list was developed through a review of biological studies previously conducted on the project site and in the vicinity and observations made during field surveys conducted for this project. The CNDDB (2005) and CNPS database (CNPS 2005) were also reviewed for specific information on previously documented occurrences of special-status species in the Carmichael and Buffalo Creek USGS quadrangles. A number of special-status species have been documented elsewhere in Sacramento County but are not addressed in this DEIR/DEIS. These include species that occurred historically but are considered to be extirpated from the county; species that are restricted to higher elevations (i.e., foothill locations) in the county; and species that are restricted to habitats that are not present on the project site.

Special-status Plants

Based on review of the CNDDB and CNPS database searches, previously prepared biological reports for the project, and field surveys conducted by EDAW, it was determined that the project site supports suitable habitat for dwarf downingia, Tuolumne button-celery, Bogg's Lake hedge hyssop, Northern California black walnut,

Table 3.10-1 Special-Status Plant Species Known to Occur or with Potential to Occur on the Project Site					
Species	Status[1]			Habitat and Blooming Period	Potential for Occurrence
	USFWS	DFG	CNPS		
PLANTS					
Dwarf downingia *Downingia pusilla*	--	--	2	Mesic sites in valley and foothill grassland, vernal pools. Blooms March–May	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).
Tuolumne button-celery *Eryngium pinnatisectum*	--	--	1B	Mesic sites in cismontane woodland and lower montane coniferous forest, vernal pools. Blooms June–August	Unlikely to occur; suitable habitat is present, but the project site is lower than the species' known elevation range, and it was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).
Bogg's Lake hedge hyssop *Gratiola heterosepala*	--	E	1B	Marshes and swamps, vernal pools. Blooms April–August	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003). There is a known population approximately 3 miles from the project site.
Northern California black walnut *Juglans hindsii*	--	--	1B	Riparian scrub, riparian woodland. Blooms April–May	Known to occur; walnut trees were identified at the project site during the tree survey in 2003 (Sierra Nevada Arborists 2003); likely to be hybrids between *Juglans hindsii* and *J. regia.*
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	--	--	1B	Mesic valley and foothill grassland. Blooms March–May	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP y2003).
Greene's legenere *Legenere limosa*	--	--	1B	Vernal pools. Blooms April–June	Known to occur; three populations were documented on the project site during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).
Pincushion navarretia *Navarretia meyersii* ssp. *Meyersii*	--	--	1B	Vernal pools. Blooms in May	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).
Slender Orcutt grass *Orcuttia tenuis*	T	E	1B	Vernal pools. Blooms May–October	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).

Table 3.10-1
Special-Status Plant Species Known to Occur or with Potential to Occur on the Project Site

Species	Status [1]			Habitat and Blooming Period	Potential for Occurrence
	USFWS	DFG	CNPS		
Sacramento Orcutt grass *Orcuttia viscida*	E	E	1B	Vernal pools. Blooms April–July	Unlikely to occur; suitable habitat is present in vernal pools and swales, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).
Sanford's arrowhead *Sagittaria sanfordii*	--	--	1B	Shallow freshwater marshes and swamps. Blooms May–October	Unlikely to occur; suitable habitat may be present in seasonal wetlands and ponds, but this species was not found during special-status plant surveys conducted at the project site in 2003 (ECORP 2003).

Notes: CESA = California Endangered Species Act; CNPS = California Native Plant Society; DFG = California Department of Fish and Game; ESA = Endangered Species Act; USFWS = U.S. Fish and Wildlife Service

[1] Legal Status Definitions

U.S. Fish and Wildlife Service:
E Endangered (legally protected)
T Threatened (legally protected)

California Department of Fish and Game:
T Threatened (legally protected)
E Endangered

California Native Plant Society Categories:
1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)
2 Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

Sources: ECORP 2003, CNDDB 2004, CNPS 2004, data compiled by EDAW in 2005

Table 3.10-2
Special-Status Wildlife Species Known to Occur or with Potential to Occur on the Project Site

Species	Listing Status [1]		Habitat	Potential for Occurrence
	Federal	State		
BIRDS				
Cooper's hawk *Accipiter cooperii*	--	SC	Forages in a variety of woodland and forest habitats	Likely to occur September to April but not expected to nest on-site
Sharp-shinned hawk *Accipiter striatus*	--	SC	Forages in woodlands; nests in dense coniferous and riparian forest	Likely to occur September to April but not expected to nest on-site
Tricolored blackbird *Agelaius tricolor*	--	SC	Forages in agricultural land and grasslands; nests in marshes and other areas that support cattails or dense thickets	Likely to occur year-round; suitable habitat present on-site
Short-eared owl *Asio flammeus*	--	SC	Forages and nests in grasslands and other open habitats	Likely to occur September to April; suitable habitat present on-site
Western burrowing owl *Athene cunicularia hypugea*	--	SC	Forages and nests in grasslands, agricultural land, and open woodlands	Likely to occur year-round; suitable habitat present on-site

Table 3.10-2 Special-Status Wildlife Species Known to Occur or with Potential to Occur on the Project Site				
Species	Listing Status [1]		Habitat	Potential for Occurrence
	Federal	State		
Ferruginous hawk *Buteo regalis*	--	SC	Forages in grasslands, agricultural fields, and other open habitats; does not nest in California	Known to occur September to April; identified on-site during special-status wildlife surveys by EDAW biologists January 24, 2005
Swainson's hawk *Buteo swainsoni*	--	T	Forages in grasslands and agricultural land; nests in riparian and isolated trees	Likely to occur March to October; suitable nesting and foraging habitat present
Northern harrier *Circus cyaneus*	--	SC	Forages and nests in grasslands, marshes, and agricultural areas	Likely to occur year-round; suitable habitat present on-site
White-tailed kite *Elanus leucurus*	--	FP	Forages in grasslands and agricultural fields; nests in riparian zones, oak woodlands, and isolated trees	Known to occur year-round; identified on-site during special-status wildlife surveys by EDAW biologists January 12, 2005
Merlin *Falco columbarius*	--	SC	Forages in a variety of open habitats; does not nest in California	Likely to occur September to April; suitable foraging habitat present on-site
Prairie falcon *Falco mexicanus*	--	SC	Forages in grasslands and other dry, open habitats; nests on cliffs	Known to occur September to April; identified on-site by EDAW biologists January 24, 2005
Loggerhead shrike *Lanius ludovicianus*	--	SC	Forages and nests in grasslands, shrublands, and open woodlands	Likely to occur year-round; suitable habitat present on-site
MAMMALS				
American badger *Taxidea taxus*	--	SC	Drier open shrub, forest, and herbaceous habitats with friable soils	Could occur year-round; suitable habitat present on-site
AMPHIBIANS AND REPTILES				
California tiger salamander *Ambystoma californiense*	T	SC	Vernal pools and other seasonal ponds in valley and foothill grasslands	Unlikely to occur; suitable habitat present on-site but outside of species' known range (USFWS 2004)
Northwestern pond turtle *Clemmys marmorata marmorata*	--	SC	Freshwater marsh, ponds, lakes, and rivers	Unlikely to occur; no suitable habitat present on-site
Western spadefoot toad *Scaphiopus hammondii*	--	SC	Vernal pools and other seasonal ponds in valley and foothill grasslands	Likely to occur year-round; suitable habitat present on-site
Giant garter snake *Thamnophis gigas*	T	T	Freshwater marsh, sloughs, and slow-moving rivers	Unlikely to occur; no suitable habitat present on-site

Table 3.10-2 Special-Status Wildlife Species Known to Occur or with Potential to Occur on the Project Site				
Species	Listing Status [1]		Habitat	Potential for Occurrence
	Federal	State		
INVERTEBRATES				
Conservancy fairy shrimp *Branchinecta conservatio*	E	--	Large vernal pools in valley grasslands	Likely to occur; suitable habitat present on-site; within species range but not documented on-site during focused surveys (Gibson and Skordal 2000b, 2001)
Longhorn fairy shrimp *Branchinecta longiantenna*	E	--	Grassland vernal pools; endemic to the eastern margin of the Central Coast mountains in California	Unlikely to occur; outside of species' known range
Vernal pool fairy shrimp *Branchinecta lynchi*	T	--	Vernal pools in valley and foothill grasslands	Known to occur; suitable habitat present; documented on-site during focused surveys (Gibson and Skordal 2000b, 2001)
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T	--	Elderberry bushes below 3,000 feet in elevation	Likely to occur; suitable habitat present and beetle exit holes identified on-site during focused surveys (Gibson and Skordal 2000a)
Vernal pool tadpole shrimp *Lepidurus packardi*	E	--	Vernal pools in valley and foothill grasslands	Known to occur; suitable habitat present; documented on-site during focused surveys (Gibson and Skordal 2000b)

[1] Legal Status Definitions

Federal:
E Endangered (legally protected)
T Threatened (legally protected)

State:
T Threatened (legally protected)
SC Species of Special Concern (no formal protection)
FP Fully Protected (legally protected)

Sources: Gibson and Skordal 2000a, 2000b, 2001; CNDDB 2004; USFWS 2004; data compiled by EDAW in 2005; Hansen, pers. comm, 2005

Ahart's dwarf rush, Greene's legenere, pincushion navarretia, slender Orcutt grass, Sacramento Orcutt grass, and Sanford's arrowhead. Brief descriptions of these species and their potential to occur at the project site are provided in Table 3.10-1.

Protocol-level special-status plant surveys of the project site were conducted on behalf of the applicant by ECORP during spring 2003. These surveys were conducted in accordance with the U.S. Fish and Wildlife Service's (USFWS's) *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*, as well as the guidelines contained in CNPS's *Inventory of Rare and Endangered Plants of California, Sixth Edition*. The results of protocol-level special-status plant surveys are typically considered valid by the resource agencies for a period of approximately 5 years, given that circumstances of the site can be assumed to remain largely unchanged during this amount of time.

During the protocol-level special-status plant surveys, ECORP biologists identified three populations of Greene's legenere (*Legenere limosa*) on the project site. Occurrences of Greene's legenere have also been documented in

the CNDDB for the project site. No other special-status plant species occurrences were identified on the project site during the ECORP survey or via searches of the CNDDB and CNPS databases. Bogg's Lake hedge hyssop, Ahart's dwarf rush, slender Orcutt grass, Sacramento Orcutt grass, and Sanford's arrowhead have all been documented within 3 miles of the project site. These species are associated with vernal pools, seasonal wetlands, or freshwater marshes. Despite known occurrences off-site in the project vicinity and the presence of suitable habitat on-site, these species are not expected to occur on this project site at this time because they were not detected during a special-status protocol-level plant survey conducted during the appropriate blooming periods (ECORP 2003).

A tree survey conducted by Sierra Nevada Arborists (2003) identified Northern California black walnut, a CNPS List 1B species, at the project site. Although there are accounts of this species at the project site, native Northern California black walnut is believed to be extirpated from Sacramento County (CNPS 2001), and any specimens that have been identified may be hybrids between Northern California black walnut and another walnut species, such as English walnut (*Juglans regia*), Eastern black walnut (*Juglans nigra*), or Arizona walnut (*Juglans major*) (Kirk 2003, CNPS 1978). Specimens observed on the project site do not appear to be the species *Juglans hindsii* because they are branched from the base giving the trees a shrub-like appearance. *Juglans hindsii* does not typically form branches less than 9 feet above ground level (CNPS 1978). Only two native populations of *Juglans hindsii* are still in existence (in Napa and Contra Costa counties), but the species has become widely naturalized in riparian areas throughout the Central Valley (Kirk 2003, CNPS 2001). Before 1850, black walnut was reported only from along the Sacramento River near Walnut Grove, Wooden Valley in Napa County, and in the Moraga area of Walnut Creek (Kirk 2003). In the 1860s settlers introduced Eastern black walnut and English walnut and began grafting these species onto the rootstocks of Northern California black walnuts by 1900. Hybrid species of *J. hindsii* are hardier than the native stock and genetic research suggests that naturalized populations of *J. hindsii* have a hybridized heritage and are not genetically pure *J. hindsii* (Kirk 2003).

Special-status Wildlife

Based on review of the results of a search of DFG's CNDDB, prior biological surveys conducted for the project site, and the reconnaissance-level survey conducted by EDAW, a list of special-status wildlife species with the potential to occur in the project area was compiled and is presented in Table 3.10-2. Several special-status wildlife species were identified on the project site during surveys performed by Gibson and Skordal and EDAW as noted in Table 3.10-2. On behalf of the project applicant(s), Gibson and Skordal conducted surveys of listed vernal pool branchiopods on an approximately 1,800-acre portion of the approximately 3,828-acre project site during the wet seasons of 2000 and 2001 (Gibson and Skordal 2000b, 2001). The southern portion, including the grassland surrounding Morrison Creek, and the extreme eastern portion of the project site were not included in the surveys. Federally listed branchiopod species identified during the 2000 survey included vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*). Vernal pool fairy shrimp were identified in one seasonal depression and vernal pool tadpole shrimp were documented in three seasonal depressions and two seasonal ponds. California linderiella (*Linderiella occidentalis*), a federal species of concern, was also observed during the survey, documented from 83 of the survey pools including seasonal depressions, riparian wetlands, and pond habitats. Vernal pool fairy shrimp and California linderiella were again identified during the 2001 survey. The former was identified in only one seasonal depression while the latter was widespread in the survey area. The survey wetlands supporting vernal pool fairy shrimp and vernal pool tadpole shrimp are located in open grassland habitat adjacent to, but not within, the tailing piles (Gibson and Skordal 2000b).

An elderberry survey of the entire project site was also completed by Gibson and Skordal (2000a). Of the 329 elderberry plants documented, 41 contained beetle exit holes, suggesting that valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB), a federally threatened species, exists on the project site. USFWS released a 5-year status review for VELB on October 2, 2006 (USFWS 2006) determining that this species is likely no longer in danger of extinction, and recommended that the species be delisted and removed from ESA protection. This recommendation is not a guarantee that the species will be delisted. Formal changes in the

classification of listed species requires a separate USFWS rulemaking process distinct from the 5-year review. If VELB are removed from the ESA list, it will likely be more than two years before this decision is finalized.

EDAW wildlife biologists identified three additional special-status species on the project site during reconnaissance-level surveys conducted in support of this analysis. A white-tailed kite (*Elanus leucurus*), a federal species of concern and DFG fully protected species, was observed foraging in annual grassland near the center of the project site. A ferruginous hawk (*Buteo regalis*) and prairie falcon (*Falco mexicanus*), both federal and California species of concern, were observed in the southern portion of the site, in the vicinity of the proposed wetland preserve.

Special-status wildlife occurrences documented in the CNDDB within a 3-mile radius of the project site, plotted onto an aerial photograph, are shown in Exhibit 3.10-2. Based on CNDDB data, 17 special-status wildlife species in addition to those identified during surveys were evaluated for their potential to occur on the project site.

The project site provides suitable habitat for numerous special-status birds. Potentially suitable nesting and foraging habitat for Swainson's hawk, a species that is state listed as threatened, is present on the project site. Swainson's hawks nest in riparian and isolated trees and forage in grasslands and agricultural lands. Cooper's hawk, sharp-shinned hawk, tricolored blackbird, short-eared owl, and merlin could all potentially occur on the project site in the winter, as suitable foraging habitat is present. All of these species are California species of concern, and tricolored blackbird is also a federal species of concern. Cooper's hawk has been documented within 3 miles of the project site (Exhibit 3.10-2) (CNDDB 2004). Although tricolored blackbird is known to nest in this region of Sacramento County, no suitable nesting habitat is present on the project site for this species, which typically nests in marsh habitat or blackberry thickets. Grasslands and open woodlands on the project site provide suitable year-round habitat for western burrowing owl, northern harrier, and loggerhead shrike. Northern harrier is a California species of concern. Western burrowing owl and loggerhead shrike are both federal and California species of concern. Although no burrows, burrowing owls, or signs of burrowing owls were observed during reconnaissance surveys, this species is identified in several locations within 3 miles of the project site in the CNDDB and could move onto the project site before project implementation.

American badger, a California species of concern, prefers open grassland habitats with friable soils, and an occurrence slightly south of the project site is identified in the CNDDB (Exhibit 3.10-2). Because there is suitable habitat for American badger on the project site, this species has the potential to occur on the site.

California tiger salamander was recently federally listed as threatened throughout its range (USFWS 2004). This species uses vernal pools and other seasonal ponds for reproduction, and seemingly suitable habitat of this type is present on the project site. However, few burrows or crevices have been identified on the project site that would provide suitable habitat for tiger salamander. In addition, this species is only known to occupy the southern edge of Sacramento County, south of the Cosumnes River (USFWS 2004). Because some of the essential habitat requirements for the species are scarce on the project site, such as underground refuge (crevices and burrows), and the project site appears to be outside of the species range, California tiger salamander is not expected to occur on the project site.

Western spadefoot toad is a federal and California species of concern also associated with vernal pools and other seasonal ponds. Multiple occurrences of western spadefoot toad south of the project site fall within the 3-mile radius shown in Exhibit 3.10-2. Given the presence of suitable habitat on the project site and the proximity of known occurrences of western spadefoot toad, this species is likely to occur on the project site.

Northwestern pond turtle is a federal and California species of concern. Northwestern pond turtle could occur around Mather Lake, southwest of the project site, and is documented north of the site within 3 miles (Exhibit 3.10-2). However, there is no suitable aquatic habitat within the project boundary and pond turtles are unlikely to nest there.

Giant garter snake is federally and state listed as threatened. Giant garter snake is not expected to occur because adequate emergent vegetation required for foraging habitat is lacking on the project site and the wetlands on the project site are likely to dry up before the start of the species' active season (May 1–September 30). The nearest potentially suitable habitat for giant garter snake is Mather Lake, which is located approximately 0.5 mile downstream of the project site.

The seasonal wetland depressions, riparian wetlands, vernal pools, and seasonal ponds on the project site could support vernal pool crustaceans that were not identified during the branchiopod surveys. It is important to note that these surveys did not cover the entire project site (Gibson and Skordal 2000b, 2001). The existing wetland areas provide suitable habitat for federally endangered conservancy fairy shrimp and midvalley fairy shrimp, a federal species of concern. Midvalley fairy shrimp are documented in the CNDDB as occurring near Mather Lake, slightly southwest of the project site and farther southwest of that point (Exhibit 3.10-2). Although longhorn fairy shrimp, a federally endangered species, was a target species of the branchiopod surveys (Gibson and Skordal 2000b, 2001), it is unlikely to occur on the project site because it is endemic to the eastern margin of the Central Coast mountains in California and has not been documented in Sacramento County (Eriksen and Belk 1999).

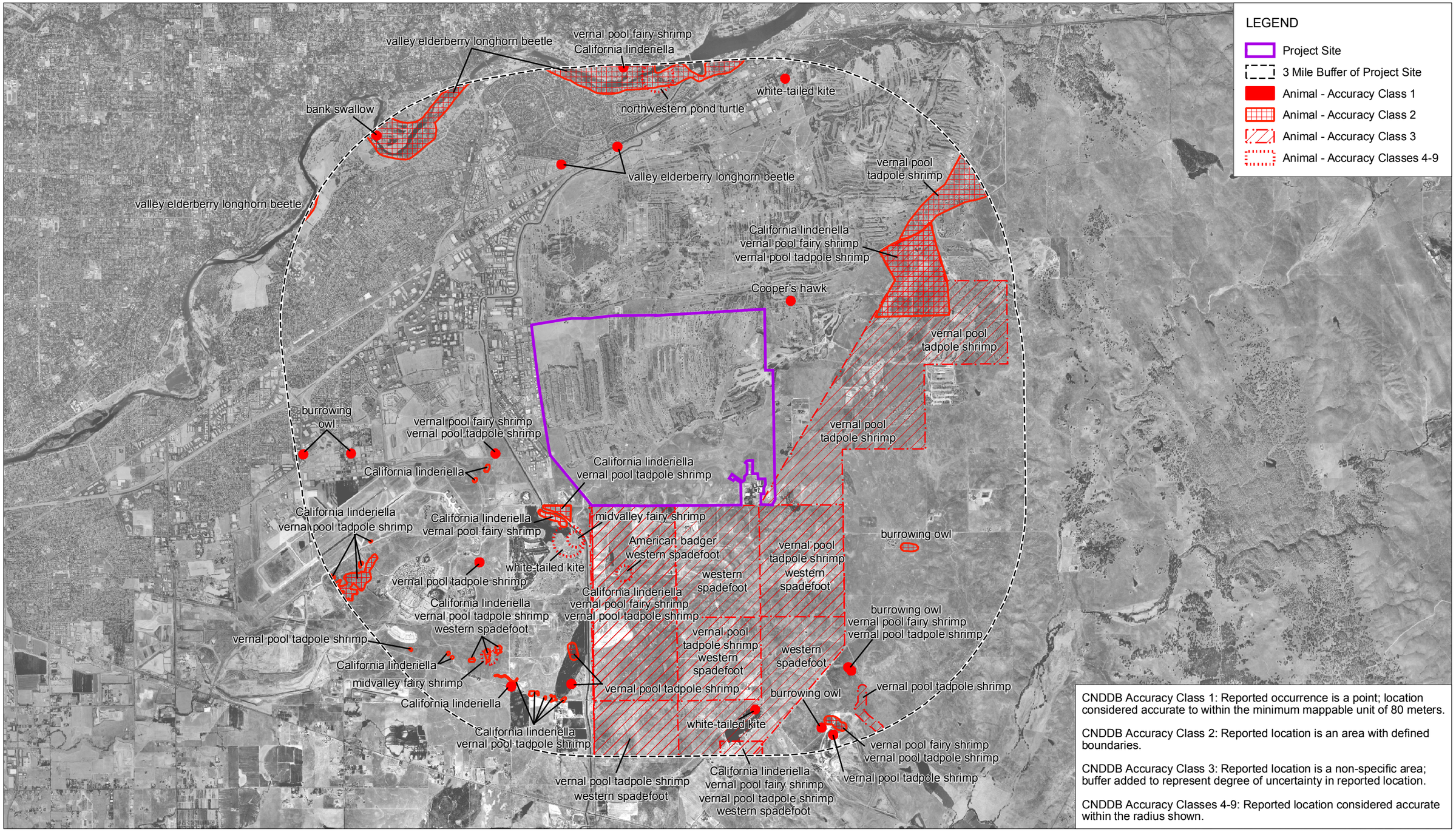
Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, Section 404 of the federal Clean Water Act (CWA), and the Porter-Cologne Act, as discussed under "Regulatory Framework" below. Sensitive natural habitat may be of special concern to these agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species. Many of these communities are tracked in DFG's CNDDB, a statewide inventory of the locations and conditions of the state's rarest plant and animal taxa and vegetation types. Habitat types on the project site that would be considered sensitive by regulatory agencies include willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, cottonwood–willow riparian forest, vernal pools, seasonal wetland swales, and seasonal wetlands. In addition, the City requires mitigation for oak trees larger than 6 inches or greater dbh or multitrunk native oaks or native trees of 10 inches or greater dbh that have been determined to be in good health (refer to Mitigation Measure 3.10-3).

Wetlands and Other Waters of the United States

A wetland delineation conducted by ECORP in June 2004 and verified by USACE in September 2004 identified a total of 56.632 acres of waters of the United States, including wetlands, on the project site. The site also contains 12.946 acres of wetland habitats, which USACE determined to be nonnavigable, isolated, and intrastate waters with no apparent interstate commerce connection (nonjurisdictional). Although these wetland habitats are not subject to USACE jurisdiction under Section 404 of the CWA, they are considered "waters of the state" under California's Porter-Cologne Act, and as such are subject to regulation by the Central Valley Regional Water Quality Control Board (RWQCB).

Wetlands on the project site that are subject to USACE jurisdiction include vernal pools, ponds, seasonal wetland swales, and seasonal wetlands. Other waters of the United States identified on the project site consist of seasonal drainages, including Morrison Creek. While these drainages have been described as ephemeral drainages in the wetland delineation and previous reports and maps, the term "seasonal drainages" is used in this analysis to account for the fact that data on the typical flow periods for Morrison Creek and other drainages is not available at this time and it is, therefore, not known whether these drainages would best be classified as ephemeral or intermittent drainages. The locations of wetlands and other waters of the United States, as mapped by ECORP, have been included in Exhibit 3.10-1. The vast majority of the vernal pools and seasonal wetland swales and all of the seasonal drainages are concentrated within the annual grassland habitat in the southern portion of the project site,



Source: CNDDB 2004, Sacramento County 2002

CNDDB Special-Status Wildlife Occurrences within 3 miles of Rio del Oro Project Site

EXHIBIT 3.10-2

Rio del Oro Specific Plan Project DEIR/DEIS
City of Rancho Cordova and USACE

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where approximately 507 acres of habitat are designated as wetland preserve as part of the Proposed Project and High Density Alternatives. The areas designated as wetland preserve under the Proposed Project, High Density, and Impact Minimization Alternatives are depicted in Exhibits 2-4, 2-16, and 2-17, respectively.

Nonjurisdictional wetlands, including vernal pools, seasonal wetland swales, and seasonal wetlands, occur in scattered locations throughout the northern portion of the project site.

3.10.2 REGULATORY FRAMEWORK

Biological resources in California are protected and/or regulated by a variety of federal and state laws and policies. In addition, in many parts of California, there are local or regional habitat and species conservation planning efforts in which a project applicant may participate. Key regulatory and conservation planning issues applicable to the project and alternatives under consideration are discussed below.

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Federal Endangered Species Act

USFWS and the National Marine Fisheries Service (NMFS) have authority over projects that may result in take of a species listed as threatened or endangered under ESA (i.e., a federally listed species). In general, persons subject to ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take. If a project would result in take of a federally listed species, either an incidental-take permit, under Section 10(a) of ESA, or a federal interagency consultation, under Section 7 of ESA, is required before the take can occur. Such a permit typically requires various types of mitigation to compensate for or minimize the take.

Section 404 of the Clean Water Act

Section 404 of the federal CWA establishes a requirement for a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into "waters of the United States," including wetlands. Fill material means material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land; or changing the bottom elevation of any portion of a water of the United States. Examples of fill material include but are not limited to rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and material used to create any structure or infrastructure in waters of the United States. Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; tributaries to any of these waters; and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Many surface waters and wetlands in California meet the criteria for waters of the United States, including intermittent streams and seasonal lakes and wetlands.

Under Section 404 of the CWA, USACE regulates and issues permits for activities that involve the discharge of dredged or fill materials into waters of the United States. Fill of less than one-half acre of nontidal waters of the United States for residential, commercial, or institutional development projects can generally be authorized under USACE's nationwide permit (NWP) program, provided that the project satisfies the terms and conditions of the particular NWP. Fills that do not qualify for a NWP or regional general permit require an individual permit.

Before USACE can issue a permit, it must determine that the project is in compliance with CWA Section 404(b)(1), for which EPA has issued guidelines for assessing project alternatives. The Section 404(b)(1) guidelines specifically require that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences" (Code of Federal Regulations [CFR] Title 40, Section 230.10[a] [40 CFR 230.10(a)]). Based on this provision, the applicant is required in every case to evaluate opportunities for use of nonaquatic areas and other aquatic sites that would result in less adverse impact on the aquatic ecosystem. A permit cannot be issued, therefore, in circumstances where a less environmentally damaging practicable alternative for the proposed discharge exists. An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose determined by USACE. If it is otherwise a practicable alternative, an area not presently owned by the project applicant(s) that could reasonably be obtained, used, expanded, or managed to fulfill the basic purpose of the proposed activity may be considered.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. The current list of species protected by the MBTA can be found in 50 CFR 10.13. The list includes nearly all birds native to the United States. Loss of nonnative species, such as house sparrows, European starlings, and rock pigeons, is not covered by this statute.

Executive Order 11990: Protection of Wetlands

Executive Order 11990 established the protection of wetlands and riparian systems as the official policy of the federal government. It requires all federal agencies to consider wetland protection as an important part of their policies and take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.

Executive Order 11312: Invasive Species

Executive Order 11312 directs all federal agencies to prevent and control introductions of invasive nonnative species in a cost-effective and environmentally sound manner to minimize their economic, ecological, and human health impacts. Executive Order 11312 established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The Invasive Species Council and Advisory Committee oversee and facilitate implementation of the Executive Order, including preparation of a National Invasive Species Management Plan.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

California Endangered Species Act

Pursuant to CESA and Section 2081 of the California Fish and Game Code, a permit from DFG is required for projects that could result in the take of a state-listed threatened or endangered species (i.e., species listed under CESA), except that plants may be taken without a permit pursuant to the terms of the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.).

Section 1602 of the California Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by DFG under Section 1602 of the California Fish and Game Code. Under Section 1602, it is unlawful for any person to substantially divert or obstruct the

natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by DFG, or use any material from the streambeds, without first notifying DFG of such activity and obtaining a final agreement authorizing such activity. “Stream” is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. DFG’s jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A DFG Streambed Alteration Agreement must be obtained for any project that would result in an impact on a river, stream, or lake.

Section 401 Water Quality Certification/Porter-Cologne Water Quality Control Act

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the state’s water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the nine RWQCBs (regional boards). Each of the nine RWQCBs must prepare and periodically update basin plans for water quality control in accordance with the Porter-Cologne Act. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. Under the Porter-Cologne Act, wetlands and drainages that are considered waters of the United States by USACE are often classified as waters of the state as well.

More recently, the appropriate RWQCB has also generally taken jurisdiction over “waters of the state” that are not subject to USACE jurisdiction under the federal CWA, in cases where USACE has determined that certain features do not fall under its jurisdiction. Mitigation requiring no net loss of wetlands functions and values of waters of the state is typically required.

California Fish and Game Code Section 3503.5 (Protection of Raptors)

Section 3503.5 of the California Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders Falconiformes and Strigiformes), including their nests or eggs. Typical violations include destruction of active raptor nests as a result of tree removal and failure of nesting attempts, resulting in loss of eggs and/or young, because of disturbance of nesting pairs by nearby human activity.

California Department of Fish and Game Species Designations

DFG maintains an informal list of species called “species of special concern.” These are broadly defined as plant and wildlife species that are of concern to DFG because of population declines and restricted distributions, and/or because they are associated with habitats that are declining in California. These species are inventoried in the CNDDB regardless of their legal status. Impacts on species of special concern may be considered significant.

California Native Plant Society Species Designations

CNPS is a statewide nonprofit organization that seeks to increase understanding of California’s native flora and to preserve this rich resource for future generations. CNPS has developed and maintains lists of plants of special concern in California as described above under “Special-Status Species.” CNPS listed species have no formal legal protection, but the values and importance of these lists are widely recognized. CNPS List 1 and 2 species are considered rare plants pursuant to Section 15380 of CEQA, and it is recommended that they be fully considered during preparation of environmental documents relating to CEQA. The Natural Resources Element of the City General Plan also recognizes CNPS listed species as species warranting special status.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS

Rancho Cordova General Plan

Goals and policies of the City General Plan relating to biological resources that the City has found to be applicable to the proposed project and alternatives under consideration are provided in Appendix F.

Proposed South Sacramento County Habitat Conservation Plan

The project site is located within the proposed South Sacramento County Habitat Conservation Plan (SSCHCP) area. The SSCHCP is intended to provide a regional approach to issues related to urban development, habitat conservation, agricultural production, and open-space planning. The SSCHCP would provide strategies to conserve habitat for nine special-status plants and 42 special-status wildlife species. The conservation strategy has four components: conservation (habitat acquisition), restoration, enhancement, and a limited amount of avoidance and minimization. If adopted, it would serve as a multispecies, multihabitat conservation plan addressing the biological impacts of future urban development within the Urban Services Boundary (USB) in the southern portion of the County. The emphasis of the SSCHCP is to secure large, interconnected blocks of habitat that focus on protecting intact subwatersheds while minimizing edge effects and maximizing heterogeneity. Habitat losses within the USB would be offset primarily through the establishment of large preserves outside the USB, but five major vernal pool preserves, including the proposed Rio del Oro preserve, would be established inside the USB as part of the SSCHCP. Habitat mitigation for impacts resulting from a particular project must take place on the same geological formation as the impacted area. As currently conceived, land developers that convert habitat within the USB would pay a defined per-acre fee to mitigate impacts. These fees would be used to protect, restore, maintain, and monitor habitat. The process for developing the SSCHCP was initiated in 1992. The SSCHCP is not scheduled for completion and implementation until sometime after the beginning of 2007.

3.10.3 ENVIRONMENTAL CONSEQUENCES

THRESHOLDS OF SIGNIFICANCE

Appendix G of the State CEQA Guidelines and the provisions under 40 CFR 1508.27, as used under NEPA, define what constitutes a significant biological resources impact. Appendix G of the State CEQA Guidelines further defines what constitutes a significant biological resources impact. A biological resources impact is considered significant if implementation of the proposed project or alternatives under consideration would do any of the following:

- have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by DFG or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by DFG or USFWS;
- have a substantial adverse effect on federally protected waters of the United States, including wetlands, as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption or other means;
- interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;

- conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan;

- substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare, or threatened species; or

- result in a conversion of oak woodland that would have a significant effect on the environment.

ANALYSIS METHODOLOGY

This analysis of impacts on biological resources resulting from implementation of the proposed project and alternatives under consideration is based on data collected during reconnaissance-level field surveys, extensive review of existing documentation that addresses biological resources on or near the project site, geographic information systems (GIS) analysis, and data gathered during meetings with the project applicant(s)' biological resources consultant to discuss specific aspects of the proposed mitigation in detail.

Reconnaissance-level field surveys of the project site were conducted by EDAW biologists on December 13, 2004, and January 12 and 13, 2005. The purpose of these surveys was to characterize and map biological resources present on the project site in sufficient detail to support a determination of overall habitat quality. Data collected during the field surveys was compiled in a technical report (EDAW 2005) and used in the development of the Impact Minimization Alternative for this project.

The following documents were reviewed during preparation of this analysis:

- *Jurisdictional Delineation, Rio del Oro Property, Sacramento County, CA* (Gibson and Skordal 1999);
- *Wetland Delineation for Rio del Oro, Sacramento County, California* (ECORP 2004a);
- *Wetland Resource Assessment for Rio del Oro, Sacramento County, CA* (ECORP 2004b);
- *Updated Wetland Delineation Map for the Rio del Oro Project Site* (ECORP 2004c);
- *Elderberry Survey, Rio del Oro Property, Sacramento County, CA* (Gibson and Skordal 2000a);
- *Listed Vernal Pool Branchiopods Wet Season Surveys* (Gibson and Skordal 2000b, 2001);
- *Rio del Oro, Rancho Cordova, California—Rare Plant Survey, Rio del Oro Property* (ECORP 2003); and
- *Tree Inventory for Rio del Oro Project, Sacramento County, CA* (Sierra Nevada Arborists 2003).

The impact analysis for biological resources was performed at the project level for the entire Rio del Oro Specific Plan area (i.e., project site), because the Section 404 permit process for this project requires a detailed consideration of how the site could ultimately be subdivided. To the degree that subdivision boundaries could be revised in the future, they would need to be compared with the conclusions of this DEIR/DEIS to determine whether impacts have been sufficiently covered.

The project includes the creation of a 507-acre wetland preserve in the southern portion of the project site and the establishment of two open-space preserves that would be used for elderberry mitigation (Exhibit 3.10-3). It also includes the creation of 143 acres of drainage parkways, including 39 acres of stormwater detention basins. The creation of the drainage parkway would entail alteration of the western portion of the current channel of Morrison Creek. Creation of seasonal wetlands and restoration of a limited amount of riparian habitat are proposed as part of the drainage parkway system (ECORP 2005). Although development of the site would occur in distinct phases over time, ultimate buildout of the site would result in retention of little to no existing habitat in its current condition in those portions of the project site slated for urban development. Additionally, the scheduled closure and remediation of White Rock Dump Site No. 1, located within the open-space preserve, would also result in short-term loss of some existing habitat (i.e., elderberry shrubs) (ECORP 2005). It is assumed that the wetland preserve would be created during development Phase 1 and that the mitigation would occur as defined in the

Section 404 permit. Compensatory mitigation would likely be tied to the various phases of development and would be phased in with project implementation.

IMPACT ANALYSIS

Effects that would occur under each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP (No Project). The impacts for each alternative are compared relative to the PP at the end of each impact conclusion (i.e., similar, greater, lesser).

Impacts and Mitigation Measures

To provide a comprehensive approach to the impact analysis and ensure that impacts on resources of concern to more than one agency are discussed together, the impact analysis has been structured to include three broad impact categories: impacts on sensitive habitats, impacts on special-status wildlife, and impacts on special-status plants.

The evaluation of impacts on sensitive habitats incorporates both quantitative and qualitative aspects. Impacts were evaluated by calculating the acreage of each sensitive habitat by land use designation. It is assumed that development in areas that would require grading would result in the elimination of all wetland and other sensitive habitats within that land use designation. Therefore, the only land use designations that would be expected to afford some level of protection for wetland and other sensitive habitats are Wetland Preserve and Open Space/ Preserve (see Exhibit 3.10-3). Sensitive habitats that would be affected by implementation of the Proposed Project Alternative or the High Density Alternative are vernal pool, pond, seasonal wetland and seasonal wetland swale, seasonal drainage, willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, cottonwood–willow riparian forest, and oak woodland. Implementation of the Impact Minimization Alternative would also affect these sensitive habitats, but to a lesser degree than implementation of the Proposed Project Alternative or the High Density Alternative, as discussed below.

Impacts associated with the off-site improvement of infrastructure aspects of the Proposed Project Alternative and all other project alternatives are discussed in Section 3.5, “Utilities and Service Systems,” and have been addressed in previous CEQA documents. Off-site impacts associated with traffic improvements are discussed in Section 3.14, “Traffic and Transportation,” and have been addressed in the environmental document for the City General Plan, prepared separately from this DEIR/DEIS. The City General Plan was adopted on June 26, 2006.

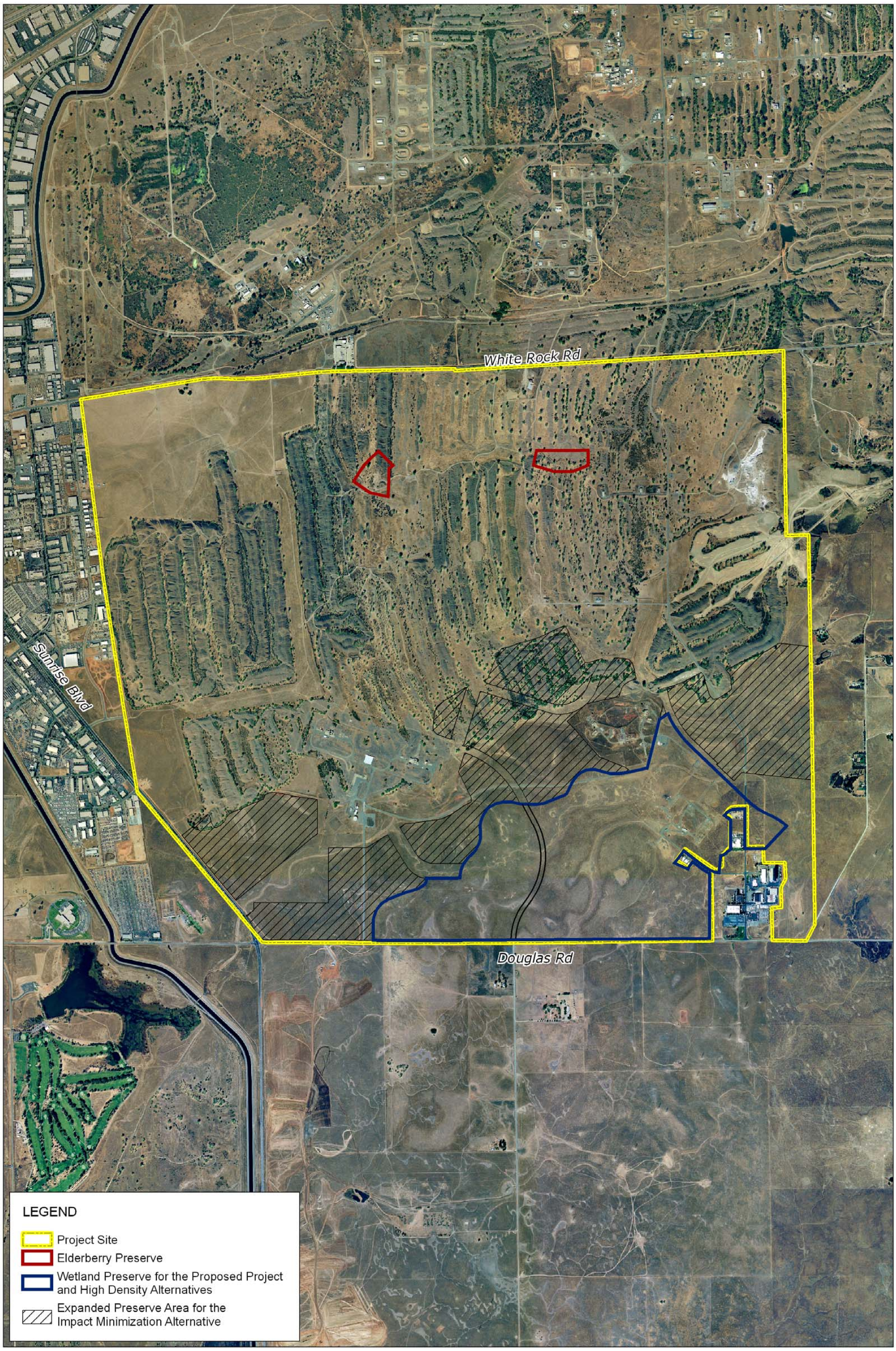
IMPACT 3.10-1

Loss and Degradation of Jurisdictional Wetlands and Other Waters of the United States, and Waters of the State. *Implementation of the project would result in the placement of fill material into jurisdictional waters of the United States, including wetlands subject to USACE jurisdiction under the federal Clean Water Act, and the substantial loss and degradation of nonjurisdictional wetland habitats protected under state and local regulations. Wetlands and other waters of the United States that would be affected by project implementation include vernal pools, seasonal wetland swales, ponds, and seasonal drainages.*

PP, HD

Overall Effects on Jurisdictional Waters of the United States

A total of approximately 30.3 acres of USACE jurisdictional waters of the United States on the project site would be filled, including approximately 17.3 acres of vernal pools, 2.9 acres of pond, 3.5 acres of seasonal wetland swale, 3.1 acres of seasonal wetland, and 3.5 acres of seasonal drainages, including portions of Morrison Creek. In addition, the project would result in indirect impacts on approximately 2.2 acres of vernal pool habitat (assuming that all habitats within 250 feet of development are considered to be affected). The wetland preserve has been configured to minimize the alteration of hydrology to preserved vernal pools by maintaining a 250-foot buffer around existing pools (ECORP 2005).



Source: EDAW 2005, Sacramento County 2002, ECORP Consulting 2004(b)

Proposed Preserves at the Rio del Oro Project Site

EXHIBIT 3.10-3

Rio del Oro Specific Plan Project DEIR/DEIS
City of Rancho Cordova and USACE

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The Proposed Project and High Density Alternatives would also result in the permanent loss of approximately 12.9 acres of nonjurisdictional wetlands, consisting of vernal pools, seasonal wetlands, and seasonal wetland swales. Although these wetlands are not subject to USACE jurisdiction, they are considered sensitive because they provide potential habitat for the federally listed vernal pool fairy shrimp and vernal pool tadpole shrimp and special-status plant species, provide important ecological values and functions, and are considered waters of the state subject to jurisdiction of the Central Valley RWQCB under the Porter-Cologne Act. Most of the wetlands over which USACE has disclaimed jurisdiction are not considered to support listed species (Gibson & Skordal 2000b, 2001). Seasonal wetlands are also protected under the Natural Resources Element of the City General Plan, which requires no net loss of vernal pools and other wetland habitats, acreage, values, and/or functions.

Vernal Pools and Other Wetland Habitats within the Proposed Wetland Preserve

Although a substantial loss of wetlands would occur, a portion of the highest quality and highest density vernal pools and seasonal wetlands, which are located in the southern portion of the project site, would be protected within the proposed 507-acre designated Wetland Preserve. The proposed wetland preserve would connect to the agency-proposed conservation area identified in *A Conceptual-Level Strategy for Avoiding, Minimizing, & Preserving Aquatic Resource Habitat in the Sunrise-Douglas Community Plan Area* (June 2004) adjacent to the east of the project site, just north of the proposed North Douglas Road. There are no other connections to reserves in the region. Vernal pools and other wetland habitat types within the wetland preserve and on adjacent parcels could be adversely affected by the effects of habitat fragmentation and resulting indirect impacts, including those resulting from the proposed construction of 17.9 acres of vernal pools (plus 2 acres for mitigation of vernal pools not under USACE jurisdiction) proposed as part of the project applicant(s)' wetland mitigation and monitoring plan for this project (ECORP 2005). The current version of the project applicant(s)' proposed wetland mitigation and monitoring plan developed by ECORP, which will be subject to USACE approval, is included in Appendix C of this document.

Habitat fragmentation can result when development occurs within larger regions of natural habitat. The effects of habitat fragmentation can extend beyond the boundaries of an area proposed for development. Changes to the hydrologic pattern, including fragmentation of Morrison Creek, under the Proposed Project Alternative or High Density Alternative could adversely affect the wetlands within the wetland preserve and other off-site wetlands by altering hydration periods. Construction of the proposed extension of Jaeger Road (aka Rancho Cordova Parkway) and other roadway improvements could disrupt or eliminate hydrologic connectivity that is important to support vernal pools and the plant and wildlife species that inhabit the pools. The proposed construction design includes measures to reduce interference with the hydrology that sustains vernal pools on-site, including the use of Con Span Bridge Systems (Exhibits 2-7 and 2-8) as natural substrate span crossings over Morrison Creek. These natural substrate span crossings would also provide for wildlife movement and minimize habitat fragmentation.

Mitigation and Monitoring Plan

To reduce adverse effects on the aquatic environment, the project applicant(s) would need to implement a mitigation and monitoring plan approved by USACE, the Central Valley RWQCB, and the City. Each of these agencies would have to review and approve those portions of the mitigation and monitoring plan relevant to wetlands subject to their respective regulatory authorities.

The project applicant(s) would be required to begin construction of the mitigation habitats, in accordance with the approved mitigation and monitoring plan, prior to or concurrent with ground-disturbing activities that would adversely affect wetlands Compensatory mitigation would likely continue to be constructed over time, as the various phases of the project affecting the aquatic environment are approved and move forward and as specified in the approved mitigation and monitoring plan. However, a temporal loss of aquatic functions is still expected to occur, as impacts on aquatic resources in some of the phases could occur before creation of some of the compensatory wetlands and before all of the created mitigation habitats reach their final success criteria and assume their full intended ecological functions.

Following implementation of the mitigation and monitoring plan, long-term ownership of the proposed wetland preserve may be assumed by the City. Management of the preserve would be conducted by a USACE-approved conservation-oriented organization in accordance with a USACE-approved conservation easement and operations and management plan. The project applicant(s) would be required to establish an endowment, or some other financial mechanism that is sufficient to fund management of the preserve in perpetuity.

Once a wetland mitigation and monitoring plan is approved by those agencies with jurisdication over the plan, or portions of the plan (i.e., USACE, the Central Valley RWQCB, City), successful implementation of the plan is expected to compensate for adverse effects on waters of the United States (30.328 acres), natural wetland resources as required by the Natural Resources Element of the City General Plan, and on nonjurisdictional wetlands, as required by the Central Valley RWQCB. As currently proposed, not all of the mitigation is directly in kind (i.e., 1 acre of a certain habitat created for 1 acre of the same type of habitat eliminated). Additionally, the proposed creation of approximately 20 acres of wetlands within the preserve area would provide less than 1:1 acreage replacement of impacted wetlands. To obtain USACE approval, the project applicant(s) would need to revise their mitigation proposal to include the creation or restoration of in-kind aquatic habitats at a sufficient ratio of created to affected aquatic habitat to offset the functions and values of the aquatic environment that would be lost initially and over time as a result of the project. The proposed mitigation ratio would also need to contain an adequate margin of safety to reflect anticipated success rates of created and restored aquatic habitats and to offset temporal loss of habitat functions. Given the substantial amount of wetland loss (approximately 36.8 acres [23.9 acres jurisdictional wetlands and 12.9 acres nonjurisdictional wetlands] of direct impacts and 2.2 acres of indirect impacts), these impacts would remain significant, as they would contribute significantly to the overall loss and alteration of naturally occurring vernal pool habitat in the county.

Consistency with the City General Plan

Implementation of the Proposed Project Alternative or the High Density Alternative could also potentially conflict with the Natural Resources Element of the City General Plan, although the ultimate decision on consistency would lie with the City Council. The City General Plan calls for the protection and preservation of Rancho Cordova's natural wetland resources, including vernal pools and other wetland habitats, by ensuring no net loss of values and functions for special-status species (Policy NR 2.1). Goal NR 3 of the City General Plan calls for protection and preservation of stream corridors in their natural state in developed areas and requires that buffer zones be created and protected adjacent to stream corridors and wetlands. Details pertaining to these specific aspects of the operation and maintenance plan will be determined in close cooperation with USACE and USFWS, the agency charged with protecting listed vernal pool species. An operation and maintenance plan that addresses the requirements established in the policies of the City General Plan is being developed by ECORP on behalf of the project applicant(s) as part of the Section 404 permitting process.

Consistency with the South Sacramento County Habitat Conservation Plan

Project consistency with the SSCHCP is not required under CEQA because the SSCHCP has not been adopted. The SSCHCP is not scheduled for completion and implementation until sometime after the beginning of 2007, and the exact scope and content of the SSCHCP is not known at this time. Therefore, a consistency determination for the project is not appropriate at this time.

If the SSCHCP has been finalized and approved prior to commencement of mitigation pursuant to the mitigation and monitoring plan developed for the project, USACE, the Central Valley RWQCB, and the City may consider (if applicable) modifications to the mitigation and monitoring plan to be consistent with the SSCHCP.

Summary

The loss and degradation of USACE jurisdictional vernal pools and other wetland habitats under either the Proposed Project Alternative or the High Density Alternative constitutes a substantial adverse effect on federally protected waters of the United States, including wetlands, as defined by Section 404 of the CWA. Removal of nonjurisdictional wetlands on the project site under the Proposed Project Alternative or the High Density Alternative constitutes a substantial adverse effect on sensitive natural communities as identified by DFG and on waters of the state subject to Central Valley RWQCB jurisdiction. Even with creation of the wetland preserve and implementation of a USACE-approved wetland mitigation and monitoring plan, this is considered a **direct** and **indirect significant** impact. ***[Similar]***

IM

Impacts on wetlands, waters of the United States, and waters of the state would be considerably less under the Impact Minimization Alternative than under the Proposed Project Alternative or the High Density Alternative because an additional 439.2 acres of grassland habitat that supports vernal pools would be incorporated into the wetland preserve. Approximately 13.5 acres of jurisdictional wetlands would be filled under the Impact Minimization Alternative. That is substantially less than under the Proposed Project Alternative or High Density Alternative, which would directly affect approximately 24 acres of jurisdictional wetlands and 6.5 acres of other waters.

Approximately 13 acres of nonjurisdictional wetlands would still be removed under the Impact Minimization Alternative, which is the same amount as under the Proposed Project and High Density Alternatives. Losses of both jurisdictional wetland and nonjurisdictional wetland acreage under the Impact Minimization Alternative would be compensated through the creation of seasonal wetlands and vernal pools within the wetland preserve. The proposed location and sizes of vernal pools to be created as mitigation would be designed to match the footprints of previously existing wetland features that are visible on historic aerial photographs of the project site. In addition, a total of 30 acres of wetland habitat would be preserved under the Impact Minimization Alternative.

Implementation of USACE-approved wetland mitigation is expected to reduce impacts on both jurisdictional and nonjurisdictional wetlands to a less-than-significant level; therefore, a **direct less-than-significant** impact would occur.

Indirect effects would be similar to those discussed above under the Proposed Project and High Density Alternatives; however, establishment of a larger wetland preserve would create a greater buffer area around some of the wetlands in the preserve, which would reduce but not eliminate disturbance to wetlands. Therefore, the Impact Minimization Alternative would result in **indirect significant** impacts. ***[Lesser]***

NF Implementation of the No Federal Action Alternative would not result in fill of jurisdictional waters of the United States, including wetlands, subject to USACE jurisdiction under the Clean Water Act. Therefore, the No Federal Action Alternative would result in **no direct** impacts on jurisdictional waters of the United States. In contrast, the Proposed Project and High Density Alternatives would result in fill of approximately 30.3 acres of jurisdictional waters of the United States, and the Impact Minimization Alternative would result in fill of approximately 13 acres of jurisdictional waters of the United States. Similar to the Impact Minimization Alternative, the No Federal Action Alternative would preserve a larger proportion of the vernal pool complex within the project site, further minimize the perimeter/area ratio reducing potential edge effects, provide a larger buffer to minimize impacts of adjacent land uses, and preserve a greater portion of upland habitat to support species that utilize both vernal pool and upland habitats and provide ecological services to vernal pool species. Unlike the other alternatives, the No Federal Action Alternative would eliminate the development of roads through the wetland preserve area. Under the Impact Minimization Alternative, however, the overall wetland preserve area would be greater (994.5 acres) than under the No Federal Action Alternative (871.5 acres) because a greater amount of surrounding upland habitat would be added to the preserve area providing a larger buffer area around wetland habitats and providing greater habitat heterogeneity. The total wetland preserve area would be 507 acres under the Proposed Project and High Density Alternatives.

The No Federal Action Alternative could result in **indirect significant** impacts on jurisdictional waters from the discharge of stormwater runoff directly into Morrison Creek and adjacent wetlands, because this alternative does not propose an adequate storm drainage design. As discussed above in Section 2.7.4, “Drainage, Hydrology, and Water Quality,” it might not be possible to construct the necessary drainage facilities in a way that would be practicable and feasible; because of this uncertainty, this indirect impact would remain **significant and unavoidable**.

The No Federal Action Alternative would result in the filling of approximately 12.9 acres of nonjurisdictional wetlands, consisting of vernal pools, seasonal wetlands, and seasonal wetland swales considered waters of the state and subject to Central Valley RWQCB regulation. Implementation of the No Federal Action Alternative constitutes the same **significant impacts** on nonjurisdictional wetlands as the other action alternatives.

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities are proposed to avoid all wetlands and vernal pools.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect USACE jurisdictional wetlands and other waters of the United States or other wetland habitats protected by state and local regulations; thus, **no direct** or **indirect** impacts would occur. ***[Lesser]***

Mitigation Measure 3.10-1a: Secure Clean Water Act Section 404 Permit and Implement All Permit Conditions, and Ensure No Net Loss of Wetlands, Other Waters of the United States, and Associated Functions and Values.

PP, HD, IM Before the approval of grading and improvement plans and before any groundbreaking activity associated with each distinct project phase, the project applicant(s) for each project phase requiring the fill of wetlands or other waters of the United States or waters of the state shall obtain all necessary permits under Sections 401 and 404 of the CWA or the State's Porter-Cologne Act for the respective phase. The project applicant(s) shall commit to replace, restore, or enhance on a "no net loss" basis (in accordance with USACE, the Central Valley RWQCB, and the Natural Resources Element of the City General Plan) the acreage of all wetlands and other waters of the United States subject to USACE jurisdiction and waters of the state subject to RWQCB jurisdiction and the City General Plan that would be removed, lost, and/or degraded with implementation of project plans for that phase. Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to USACE, the Central Valley RWQCB, and the City, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes.

To accomplish this mitigation, the project applicant(s) shall take the following steps:

- As part of the Section 404 permitting process, a draft wetland mitigation and monitoring plan has been developed for the project (Appendix C) by ECORP on behalf of the project applicant(s). Before any ground-disturbing activities that would adversely affect wetlands and before engaging in mitigation activities associated with each phase of development, the project applicant(s) shall submit the draft wetland mitigation and monitoring plan to USACE, the Central Valley RWQCB, and the City for review and approval of those portions of the plan over which they have jurisdiction. Once the mitigation and monitoring plan is approved and implemented, mitigation monitoring will continue for a minimum of 5 years from completion of mitigation, or human intervention (including recontouring and grading), or until the performance standards identified in the approved mitigation and monitoring plan have been met, whichever is longer.

  The plan shall be prepared to the satisfaction of the City, in accordance with the City's Grading and Erosion Control Ordinance, as well as to the satisfaction of those agencies with jurisdiction over all or portions of the plan.

- In conjunction with preparation and implementation of an approved wetland mitigation and monitoring plan, the project applicant(s) shall prepare and submit plans for the creation of jurisdictional waters of the United States, including wetlands, at an adequate mitigation ratio to offset the aquatic functions and values that would be lost at the project site, account for the temporal loss of habitat, and contain an adequate margin of safety to reflect anticipated success. The mitigation and monitoring plans must demonstrate how the aquatic functions and values that would be lost through project implementation will be replaced. The habitat mitigation and monitoring plan for jurisdictional wetland features will need to be consistent with USACE's December 30, 2004, *Habitat Mitigation and Monitoring Proposal Guidelines*. The wetland mitigation and monitoring plan shall also mitigate impacts on vernal pool and seasonal wetland habitat, and shall describe specific method(s) to be implemented to avoid and/or mitigate any off-site project-related impacts. The wetland creation section of the habitat mitigation and monitoring plan shall include the following:

  - target areas for creation;

  - a complete biological assessment of the existing resources in the target areas;

- specific creation and restoration plans for each target area;
- performance standards for success that will illustrate that the compensation ratios are met; and
- a monitoring plan, including schedule and annual-report format.

► For each phase of development, including off-site project-related impacts, the project applicant(s) shall secure the permits and regulatory approvals described below and shall implement all permit conditions. For each respective phase, all permits, regulatory approvals, and permit conditions for effects on wetland habitats shall be secured before implementation of any grading activities within 250 feet of waters of the United States or wetland habitats, including waters of the state, that potentially support federally listed species. The setback may be reduced to a distance approved by the City and USFWS if a wetland avoidance plan is developed and implemented by a qualified biologist. The wetland avoidance plan must be approved by USFWS and the City and shall demonstrate that all direct and indirect impacts on wetlands will be avoided. Project phases in upland areas with no wetlands or waters of the United States within 250 feet, and no overland hydrologic flow patterns, the disturbance of which may affect such waters, may begin construction before these particular permits are obtained. Buffers around wetlands that do not support federally listed species shall be a minimum of 50 feet from the edge of these features in accordance with conditions of the NPDES permit and associated best management practices (BMPs).

- Authorization to place dredged or fill material into waters of the United States shall be secured from USACE through the CWA Section 404 permitting process before any fill is placed in jurisdictional wetlands or other waters of the United States. USACE has determined that the project will require an individual permit. In its final stage and once approved by USACE, the proposed mitigation and monitoring plan for the project is expected to detail proposed wetland restoration, enhancement, and/or replacement activities that would ensure no net loss of aquatic functions and values in the project vicinity. Approval and implementation of the wetland mitigation and monitoring plan shall fully mitigate all impacts on jurisdictional waters of the United States, including jurisdictional wetlands. In addition to USACE approval, approval by the City and the Central Valley RWQCB, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes, will also be required. To satisfy the requirements of the City and the Central Valley RWQCB, mitigation of impacts on nonjurisdictional wetlands beyond the jurisdiction of USACE shall be included in the same mitigation and monitoring plan. All mitigation requirements determined through this process shall be implemented before grading plans are approved. Wetland mitigation must be approved before any impacts on wetlands commence.
- Water quality certification pursuant to Section 401 of the CWA will be required before issuance of a Section 404 permit. Before construction in any areas containing wetland features, the project applicant(s) shall obtain water quality certification for the applicable phase of the project. Any measures required as part of the issuance of water quality certification shall be implemented.

If Section 401 and 404 permit requirements ensure no net loss of all wetland features, including vernal pools, and these requirements are addressed before any ground-disturbing activities, no additional mitigation will be required by the City. Written approval from the City indicating that these requirements fulfill all no-net-loss obligations must be obtained before the approval of grading

or improvement plans or any ground-disturbing activities in any project phase containing wetland features.

Timing: Before the approval of grading or improvement plans or any ground-disturbing activities for any project development phase containing wetland features. The mitigation and monitoring plan must be approved before any impact on wetlands can occur. Mitigation shall be implemented on an ongoing basis throughout and after construction, as required.

Enforcement: U.S. Army Corps of Engineers, Sacramento District; Central Valley Regional Water Quality Control Board; and City of Rancho Cordova Planning Department, as appropriate depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes and in compliance with the City's Grading and Erosion Control Ordinance.

NF — The project applicant(s) for all project phases shall commit to replace, restore, or enhance on a "no net loss" basis (in accordance with the Central Valley RWQCB and the Natural Resources Element of the City General Plan) the acreage of all waters of the state. Waters of the state include all nonjurisdictional wetlands that would be removed, lost, and/or degraded with implementation of project plans for that phase that require permitting from the resource agencies. Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to the Central Valley RWQCB and the City.

NP — No mitigation measures are required.

Mitigation Measure 3.10-1b: Include in Drainage Plans All Wetlands that Remain On-Site.

PP, HD, IM, NF — To minimize indirect effects on water quality and wetland hydrology, the project applicant(s) of each project phase shall include drainage plans in their improvement plans and shall submit the drainage plans to the City Public Works Department for review and approval. Before approval of these improvement plans, the project applicant(s) for all project phases shall commit to implement all measures in their drainage plans to avoid and minimize erosion and runoff into Morrison Creek and all wetlands that would remain on-site. Appropriate runoff controls such as berms, storm gates, detention basins, overflow collection areas, filtration systems, and sediment traps shall be implemented to control siltation and the potential discharge of pollutants. For runoff during construction, see Section 3.4, "Drainage, Hydrology, and Water Quality," for a further discussion of the NPDES (Stormwater Pollution Prevention Plan).

The project shall result in no net change to peak flows into Morrison Creek and associated tributaries. The project applicant(s) shall establish a baseline of conditions for drainage on-site. The baseline-flow conditions shall be established for 2-, 5-, 10-, and 20-year storm events. These baseline conditions shall be used to develop monitoring standards for the stormwater system on the project site. The baseline conditions, monitoring standards, and a monitoring program shall be submitted to USACE and the City for their approval. The engineered channel and detention basins shall be designed and constructed to ensure that the performance standards are met. The discharge site into Morrison Creek and associated tributaries shall be monitored to ensure that preproject conditions are being met. Corrective measures shall be implemented as necessary. The mitigation measures will be satisfied when the monitoring standards are met for 5 consecutive years without undertaking corrective measures to meet the performance standard.

Timing: Before approval of improvement and drainage plans, and on an ongoing basis throughout and after project construction, as required for all project phases.

Enforcement: U.S. Army Corps of Engineers, Sacramento District; and City of Rancho Cordova Public Works and Planning Departments.

NP No mitigation measures are required.

Implementation of Mitigation Measures 3.10-1a and 3.10-1b would reduce **direct** significant impacts on jurisdictional wetlands and other waters of the United States and waters of the state resulting from the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level. Under the Impact Minimization and No Federal Action Alternatives, a much larger area of vernal pool habitat would be preserved. Under the No Federal Action Alternative, no waters of the United States or wetlands subject to USACE jurisdiction under the CWA would be filled. However, **indirect** impacts would remain **significant and unavoidable** for the proposed project and all alternatives under consideration, except for the No Project Alternative, for the following reasons:

- The extent of habitat loss and degradation is extensive and contributes significantly to the loss of this habitat type in the region.
- Vernal pools and other wetland habitats within the wetland preserve and on adjacent parcels could be adversely affected by habitat fragmentation and indirect impacts for which no feasible mitigation measures are available.

IMPACT 3.10-2

Loss and Degradation of Sensitive Natural Communities. *Implementation of the project would result in the substantial loss and degradation of riparian habitat and other natural communities considered sensitive by state and local resource agencies and requiring consideration under CEQA. Sensitive natural communities that would be affected by implementation of the Proposed Project Alternative or the High Density Alternative include willow scrub, mixed riparian scrub, elderberry savanna, willow woodland, cottonwood woodland, and cottonwood–willow riparian forest.*

PP, HD Riparian Habitat

Riparian habitat that would be lost as a result of implementation of the Proposed Project Alternative or the High Density Alternative includes 16 acres of willow scrub, 190 acres of mixed riparian scrub, 4 acres of willow woodland, 597 acres of cottonwood woodland, and 57 acres of cottonwood–willow riparian forest. The majority of the riparian habitat acreage on the project site consists of trees and shrubs that have reached senescence (i.e., the growth phase in which the plant proceeds from full maturity to death) and do not exhibit regeneration of riparian vegetation.

Small areas within these riparian habitats include seasonal wetlands and support healthy and vigorous riparian vegetation, but most of the riparian vegetation on the site is slowly dying off. The hydrology that supports regeneration of riparian vegetation is lacking from most of the riparian habitat areas, and the riparian vegetation is not associated with streambeds and banks as generally required for jurisdiction under Section 1602 of the California Fish and Game Code. Thus, impacts on a majority of this habitat are not considered significant. The exceptions are the willow woodland and cottonwood–willow riparian forest habitat. The cottonwood–willow riparian forest more closely resembles typical riparian habitats associated with streams. Some of the cottonwood–willow riparian forest habitat receives runoff from seasonal drainages, and several areas of pooled water, including some seasonal wetlands, were observed in this habitat type during winter 2004–2005. The 57 acres of cottonwood–willow riparian forest on the project site provide the highest habitat value and function of all of the riparian habitat types present. The 4 acres of willow woodland contained two large pools of water during surveys in January 2005 and appeared to support growth and regeneration of willows. The willow woodland does not provide the same habitat value as the cottonwood–willow riparian forest because structural diversity is lower; it is a smaller, more isolated patch; and it is not supported by seasonal drainages.

Although they are not directly associated with drainages on the project site, portions of the riparian habitats provide important functions and values for wildlife (e.g., nesting, foraging, and shelter), and DFG would likely consider these impacts on important wildlife habitat when it reviews the project as a trustee agency under CEQA. In addition, DFG would evaluate any riparian habitat associated with the historical floodplain of Morrison Creek when it evaluates project requirements resulting from issuance of a streambed alteration agreement under Section 1602 of the California Fish and Game Code for modifications to portions of Morrison Creek. Riparian scrub, woodland, and forest communities are identified as sensitive natural communities by DFG because of their declining status statewide and because of the important habitat values they provide to both common and special-status plant and animal species. These habitat types are tracked in the CNDDB.

Removal of riparian habitat is considered a significant impact, regardless of how the habitat was formed, because these riparian habitat types are dwindling native vegetation communities (Marr, pers. comm., 2005). Removal of functionally intact riparian habitat such as the cottonwood–willow riparian forest and the willow woodland (approximately 61 acres total) would be considered a significant impact. Goal NR.1 of the City General Plan calls for the protection and preservation of the diverse wildlife and plant habitats in Rancho Cordova and incorporation of "large interconnected wooded open space corridors in new development areas to provide movement corridors, and nesting sites for migratory songbirds and raptors." Those portions of the on-site riparian habitat that provide important habitat for wildlife, both at present and in the long term, because of existing conditions that support the perpetuation of these habitats, would be subject to this policy.

Most of the riparian habitat that would be affected by implementation of the Proposed Project Alternative or the High Density Alternative has been subjected to varying degrees of disturbance from mining, cattle grazing, and other land uses over time. In some cases these uses may have diminished the overall value of these habitats to wildlife as well as their importance to some special-status species. However, these activities, particularly mining (which increased the site's topographical relief), promoted growth and expansion of these habitats on the project site in the first place. Regardless of how these habitats established, they currently provide habitat for a variety of common and special-status wildlife and possibly meet the criteria for protection under the California Fish and Game Code. Under the Proposed Project and High Density Alternatives, creation of 12.3 acres of riparian habitat is the only proposed mitigation for riparian habitat. The creation of 12.3 acres would partially compensate for the loss of biologically valuable riparian habitat under this alternative. Removal of the riparian habitat present on the project site constitutes a substantial adverse effect on sensitive natural communities for purposes of CEQA. Thus, loss or disturbance of riparian habitat would be considered a **direct** and **indirect significant** impact. ***[Similar]***

Elderberry Savanna and Single Elderberry Shrubs Occurring at Isolated Locations Throughout the Project Site

Implementation of the Proposed Project Alternative or the High Density Alternative would result in the loss of 16.5 acres of elderberry savanna. Elderberry savanna is considered a sensitive natural community as identified by DFG and is tracked in the CNDDB because elderberry shrubs are the host plant for valley elderberry longhorn beetle (VELB), a species that is federally listed as threatened. To minimize potential effects on VELB, two elderberry preserve areas, designated as Open Space/Preserve, would be established on the project site (Exhibit 3.10-3). The elderberry preserves would be located on land designated under the specific plan as Open Space/Preserve and would be maintained as such in perpetuity. There are currently 38 elderberry shrubs within the two 10- and 14-acre designated preserve areas. All 16 existing elderberry shrubs in the designated western preserve area would be preserved. The 22 existing elderberry shrubs in the designated preserve area that currently contains White Rock Dump No. 1 would have to be replanted because

the majority of the shrubs would be displaced because of dump closure activities. Closure of White Rock Dump No. 1 requires a cap of clean soil to a depth of 5 feet, requiring that all elderberry shrubs be removed. The elderberry shrubs located in areas proposed for development would be relocated to the elderberry preserve areas. Elderberry shrubs removed as part of the closure of White Rock Dump No. 1 would be replaced after the preserve is created. Elderberry seedlings and associated natives would be planted in the elderberry preserve areas and within the proposed drainage corridors.

A VELB mitigation plan is currently being developed through ESA Section 7 consultation with USFWS. Implementation of this plan, as discussed under Mitigation Measure 3.10-4b, would satisfy mitigation requirements for the removal of elderberry savanna, a sensitive habitat as identified by DFG, as well as single elderberry shrubs. Mitigation measures in the plan include on-site preservation, transplanting, and seedling plantings within the two proposed preserves at ratios agreed upon by USFWS. Implementation of the mitigation plan with such measures (once approved) is expected to reduce impacts on elderberry savanna and elderberry shrubs occurring throughout the site to a less-than-significant level; therefore, a **direct** and **indirect less-than-significant** impact would occur. ***[Similar]***

IM Riparian Habitat

Impacts on riparian habitat under the Impact Minimization Alternative would be considerably less than those under the Proposed Project Alternative or the High Density Alternative because 37.29 acres of cottonwood–willow riparian forest and 20.77 acres of cottonwood woodland located adjacent to annual grassland–vernal pool habitat would be incorporated into the wetland preserve. As discussed above, the cottonwood–willow riparian forest was determined to have the greatest overall biological value of all the riparian communities present at the project site (EDAW 2005).

The areas added to the wetland preserve under the Impact Minimization Alternative were selected because they were identified as the most biologically valuable habitat on the project site based on several habitat assessment criteria: presence/absence of special-status species, relative level of disturbance, presence/absence of permanent or temporary surface water, size of habitat area, surrounding habitat types, and continuity with other natural communities and other areas proposed for preservation (EDAW 2005). Other riparian habitat types in the project site (willow scrub, mixed riparian scrub, willow woodland, and cottonwood woodland) are not considered as biologically valuable as the cottonwood–willow riparian forest. They are more isolated from other natural communities, structural diversity within these communities is relatively low, and supporting hydrology necessary for regeneration of riparian plant species appears to be lacking from most of the sites where these riparian communities are located.

In general, riparian vegetation on the project site, with the exception of cottonwood–willow riparian forest included in the additional acreage proposed for incorporation into the wetland preserve under this alternative, consists mostly of old senescent trees and shrubs and does not appear to be regenerating. It is likely that portions of these communities would not persist at the site under the current environmental conditions even without project implementation.

The Impact Minimization Alternative would result in impacts on willow scrub, mixed riparian scrub, and cottonwood woodland similar to the those of the Proposed Project and High Density Alternatives; however, under this alternative, 37.29 acres of the most biologically valuable riparian habitat on the project site would be added to the preserve in addition to the 12.3 acres of riparian habitat that would be created under the Proposed Project and High Density Alternatives. The combined total of riparian habitat acreage that would be restored or preserved on-site under the Impact Minimization Alternative is 49.59 acres (approximately 11.4 acres of impact would still require mitigation).

Although the total acreage of riparian habitat that would be lost would not be reduced significantly under the Impact Minimization Alternative, the majority of riparian habitat that is still functioning and regenerating would be preserved. Incorporating this riparian community into the wetland preserve would increase the overall biological value of the preserve as a whole: It would provide a larger contiguous habitat patch, trees and shrubs that provide wildlife cover and nesting and roosting opportunities for raptors and other bird species would be adjacent to foraging habitat, and there would be greater buffer areas between urban development and wildlife habitat. Therefore, **direct** impacts would be **less than significant**.

Indirect effects would be similar to those discussed above for the Proposed Project and High Density Alternatives. Although less than under the Proposed Project and High Density Alternatives, **indirect** impacts on sensitive habitats would be considered **significant** under this alternative. ***[Lesser]***

Elderberry Savanna and Single Elderberry Shrubs Occurring at Isolated Locations Throughout the Project Site

Impacts on 16.5 acres of elderberry savanna and scattered elderberry shrubs throughout the site would remain the same under the Impact Minimization Alternative as under the Proposed Project and High Density Alternatives. A VELB mitigation plan similar to that developed for the Proposed Project and High Density Alternatives would be developed for this alternative. As discussed above, implementation of the mitigation plan (once approved by USACE) is expected to reduce impacts on elderberry savanna and elderberry shrubs occurring throughout the site to a less-than-significant level; therefore, a **direct** and **indirect less-than-significant** impact would occur. ***[Similar]***

NF

Riparian Habitat

The No Federal Action Alternative would result in similar direct impacts on riparian habitat as the Proposed Project and High Density Alternatives. A small amount of riparian habitat that is within the 250-foot wetland buffer would be preserved under this alternative, including 2.93 acres of cottonwood–willow riparian forest and 2.15 acres of cottonwood woodland. A much larger portion of the cottonwood–willow riparian forest habitat (37.29 acres) would be preserved under the Impact Minimization Alternative than under the No Federal Action Alternative. Preservation of a total of 5.08 acres of riparian habitat and creation of 12.3 acres of riparian habitat would partially compensate for the loss of biologically valuable riparian habitat under this alternative. Removal of the riparian habitat present on the project site constitutes a substantial adverse effect on sensitive natural communities for purposes of CEQA. Thus, loss or disturbance of riparian habitat would be considered a **direct** and **indirect significant** impact. ***[Similar]***

Elderberry Savanna and Single Elderberry Shrubs Occurring at Isolated Locations Throughout the Project Site

Impacts on 16.5 acres of elderberry savanna and scattered elderberry shrubs throughout the site would remain the same under the No Federal Action Alternative as under the Proposed Project, High Density, and Impact Minimization Alternatives. Section 10 consultation with USFWS would be required for potential impacts on VELB habitat (i.e., elderberry shrubs) and the projects applicant(s) would be required to develop a habitat conservation plan, or participate in the SSCHCP if available, to mitigate impacts on elderberry shrubs. Implementation of an independent habitat conservation plan, once approved by USFWS, or participation in the SSCHCP, is expected to reduce impacts on elderberry savanna and elderberry shrubs occurring throughout the site to a less-than-significant level; therefore, a **direct** and **indirect less-than-significant** impact would occur. ***[Similar]***

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would avoid riparian habitat and other sensitive natural communities.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect riparian habitats or other sensitive natural communities; thus, **no direct** or **indirect** impacts would occur. ***[Lesser]***

Mitigation Measure 3.10-2a: Secure and Implement Section 1602 Streambed Alteration Agreement.

PP, HD, IM A Section 1602 Streambed Alteration Agreement from DFG will be required for construction affecting the bed and bank of Morrison Creek. As a condition of issuance of the Streambed Alteration Agreement, the project applicant(s) for all project phases shall prepare a habitat mitigation and monitoring plan. The wetland mitigation and monitoring plan currently being developed may be suitable to DFG, if it is expanded to adequately cover impacts on the stream channel of Morrison Creek and impacts on riparian habitats at adequate ratios as determined by DFG, subject to limitations on its authority set forth in Fish and Game Code Section 1600 et seq.

Any conditions of issuance of the Streambed Alteration Agreement shall be implemented as part of project construction activities that adversely affect the bed and bank and current and historic riparian habitat associated with Morrison Creek that is within the area subject to DFG jurisdiction. The agreement shall be executed by the project applicant(s) and DFG before the approval of any grading or improvement plans or any construction activities in any project phase that could potentially affect the bed and bank of Morrison Creek and its associated current and historic riparian habitat.

Timing: Before the approval of grading or improvement plans or any construction activities (including clearing and grubbing) that affect the bed and bank or current and historic riparian habitat associated with Morrison Creek.

Enforcement: California Department of Fish and Game.

NF No mitigation measures are required because the No Federal Action Alternative would not result in alteration to the bed or bank of Morrison Creek. Therefore, a Streambed Alteration Agreement from DFG would not be needed as it would under the action alternatives.

NP No mitigation measures are required.

Mitigation Measure 3.10-2b: Preserve, Restore, or Create Riparian Habitat at Satisfactory Ratio to Fulfill Local Planning Framework Requirements.

PP, HD, IM Goal NR.1, Policy NR 1.9 of the City General Plan calls for the protection and preservation of the diverse wildlife and plant habitats in Rancho Cordova and incorporation of “large interconnected wooded open space corridors in new development areas to provide movement corridors, and nesting sites for migratory songbirds and raptors.” Portions of the on-site riparian habitat such as the 57 acres of cottonwood willow riparian woodland and 4 acres of willow scrub have been determined to provide important habitat for wildlife, both at present and in the long term, because of existing conditions that support the perpetuation of these habitats. To implement Goal NR.1, a habitat mitigation and monitoring plan shall be developed and implemented to replace the 57 acres of cottonwood willow riparian woodland and 4 acres of willow scrub at no-net-loss acreage

to preserve the overall habitat functions and values. Elements of the habitat mitigation and monitoring plan may include habitat preservation on-site, enhancement of on-site riparian habitat types, or enhancement or protection of habitat off-site. The specific ratios of habitat lost to habitat created shall be determined by the City in consultation with DFG as a trustee agency protecting the wildlife resources of the state. The ratios shall be consistent with the City's policy and shall be adequate to protect and preserve the diverse resources in the City.

Any conditions of issuance of the riparian mitigation and monitoring plan shall be implemented as part of project construction activities that adversely affect riparian habitat. The riparian habitat mitigation and monitoring plan shall be developed by the project applicant(s) and submitted to the City before the approval of any grading or improvement plans or any construction activities in any project phase that could potentially affect the cottonwood willow riparian woodland and willow scrub on-site. The cottonwood–willow riparian forest habitat and willow woodland shall be either preserved or replaced on- or off-site on a no-net-loss basis because it provides functioning riparian habitat that is self-sustaining at the present time. If preservation of this on-site habitat type is chosen, the hydrology that supports this habitat must also be preserved to ensure the long-term viability of this habitat type.

The remainder of the riparian habitat on the project site consists mostly of old senescent trees and shrubs and does not appear to be regenerating. It is likely that portions of these communities would not persist at the site under the current environmental conditions even without project implementation. Because of the poor quality of the majority of the riparian habitat on the project site, the project mitigation for this riparian habitat shall be limited to the replacement and/or restoration of its current function and value (which consists of nesting and foraging habitat for raptors and other birds, as well as foraging habitat and shelter for numerous common wildlife species) as determined acceptable to the City in consultation with DFG as a trustee agency.

Timing: Before the approval of grading or improvement plans or any construction activities and before removal of any riparian vegetation as required for any project phase.

Enforcement: City of Rancho Cordova Planning Department in consultation with California Department of Fish and Game.

NF No mitigation measures are required because the No Federal Action Alternative would not result in adverse effects on riparian habitat in addition to those habitats protected and addressed under City policy.

NP No mitigation measures are required.

All of the riparian habitat present on the project site would be removed under the Proposed Project and High Density Alternatives. Most of the riparian habitat developed as a result of human alteration to the natural landscape, is likely not self-sustaining, and may not contain all the functions and values of naturally occurring, self-sustaining riparian habitat. However, the removal of riparian habitat under these alternatives would still constitute a significant loss of a sensitive habitat type that currently serves as habitat for numerous wildlife species. In its current (draft) version, the wetland mitigation plan (Appendix C) developed by ECORP, on behalf of the project applicant(s) calls for the creation of only a small amount (12.6 acres) of riparian habitat. This habitat would be created along the proposed drainage parkways and thus would be subject to intrusion by humans and domestic animals. Preservation and restoration of a much smaller amount of natural riparian habitat associated with appropriate portions of the realigned Morrison Creek or other drainage ways, and restoration of natural riparian habitat, would provide better quality habitat for wildlife in the long term. Therefore, with implementation of Mitigation Measures 3.10-2a and 3.10-2b, the direct and indirect impacts under the Proposed Project and High Density Alternatives would remain **significant and unavoidable**. Under the Impact

Minimization Alternative, direct impacts on riparian habitat would be reduced to a **less-than-significant** level with implementation of an adequate and successful mitigation plan, and the most biologically valuable riparian habitat would be preserved. Indirect impacts on riparian habitat under the Impact Minimization Alternative would be similar to those under the Proposed Project and High Density Alternatives and would remain **significant and unavoidable**.

IMPACT 3.10-3

Loss of Oak Woodland and Individual Oak Trees. *Project implementation would result in the loss of 3 acres of oak woodland habitat and would include the removal of 47 individual native oak trees with a diameter at breast height (dbh) of 6 inches or greater.*

PP, HD, IM, NF

Under the Proposed Project Alternative, the High Density Alternative, or the Impact Minimization Alternative, 3 acres of oak woodland and a total of 47 native oak trees that qualify for protection or mitigation under the County Tree Ordinance (because they have a dbh of 6 inches or greater) would be removed from the project site.

The City has not yet established a tree ordinance and defers to the County Tree Ordinance when addressing impacts on trees within the City's sphere of influence (Amrhein, pers. comm., 2005). Goal NR.4 of the Natural Resources Element of the City General Plan calls for protection and preservation of tree resources. City Policies NR 4.1 and NR 4.2 call for preservation and protection of native oak habitats and native oak and landmark trees. Action NR 4.1.1 calls for establishment of guidelines that require avoidance of oak habitat to the maximum extent feasible and mitigation that would result in preservation of in-kind habitat within the City's sphere of influence where avoidance of oak habitat is not feasible. Action NR 4.1.2 calls for adoption and maintenance of a City Tree Preservation Ordinance, but as mentioned above, such an ordinance has not yet been developed by the City.

Without proper mitigation, removal of oak woodland habitat and individual oak trees would conflict with local ordinances, specifically the County Tree Ordinance. Therefore, a **direct and significant** impact would occur.

No indirect impacts on oak woodland, native oak trees, or other native tree species are expected to occur as a result of implementation of the Proposed Project Alternative, No Federal Action Alternative, the High Density Alternative, or the Impact Minimization Alternative. ***[Similar]***

NP

Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would avoid the oak woodland habitat and most of the individual native trees on the project site.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect oak woodland or individual native trees; thus, **no direct** or **indirect** impacts would occur. ***[Lesser]***

Mitigation Measure 3.10-3: Perform Tree Survey and Avoid or Replace Native Oak Trees and Other Native Trees Scattered Throughout the Project Site.

PP, HD, IM, NF

Before the approval of any development in areas identified to contain trees, the City shall require that a determinate survey of tree species and size be performed. If any native oaks or other native trees of 6 inches or greater dbh, multitrunk native oaks or native trees of 10 inches or greater dbh, or nonnative trees of 18 inches or greater dbh that have been determined by a qualified professional to be in good health are found to exist in the development area, such trees shall be

avoided if feasible. If such trees cannot feasibly be avoided, the project applicant(s) for all project phases containing trees shall do one of the following:

- All such trees that will be removed or otherwise damaged by project implementation shall be replaced at an inch-for-inch ratio. A replacement tree planting plan shall be prepared by a qualified professional or licensed landscape architect and shall be submitted to the City for approval before removal of trees; OR

- The project applicant(s) shall submit a mitigation plan that provides for complete mitigation of the removal of such trees in coordination with the City by a method comparable to an inch-by-inch replacement. The mitigation plan shall be subject to City approval.

Trees mitigated through implementation of mitigation measures associated with riparian habitat impacts shall not be subject to this mitigation measure. If the City adopts a tree preservation ordinance at any time in the future, any future development activities shall be subject to that ordinance instead.

Timing: Before the approval of any development in any project phase that contains areas that have been identified to contain trees.

Enforcement: City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Implementation of Mitigation Measure 3.10-3 would reduce the significant impact of loss of oak woodland and individual oak trees under the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives to a **less-than-significant** level.

IMPACT 3.10-4

Loss and Degradation of Habitat for Special-Status Wildlife. *Implementation of the project would result in the loss and degradation of habitat for a number of special-status wildlife species, including vernal pool invertebrates, VELB, Swainson's hawk, and other raptors.*

PP, HD Development under the Proposed Project Alternative or the High Density Alternative would result in an increase in development and human population that would result in adverse effects on a number of special-status wildlife species. Special-status wildlife listed under ESA that could be substantially affected by the Proposed Project and High Density Alternatives include vernal pool fairy shrimp, vernal pool tadpole shrimp, conservancy fairy shrimp, and VELB. Significant impacts on Swainson's hawk, listed under CESA as threatened, could also result. Impacts on these five listed species would be considered significant and are discussed in detail below. Impacts on nesting and foraging habitat for special-status raptors would also be considered significant. Impacts on all other special-status wildlife species would be considered less than significant.

Federally Listed Vernal Pool Invertebrates

Suitable habitat for three federally listed vernal pool invertebrates is present on the project site. The vernal pool fairy shrimp and vernal pool tadpole shrimp have been identified in vernal pools located along the outer edges of the project site. Potential habitat for conservancy fairy shrimp is also present on the project site. Vernal pool tadpole shrimp and conservancy fairy shrimp are federally listed as endangered. Vernal pool fairy shrimp is federally listed as threatened.

The *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005) was released by USFWS on December 15, 2005. This plan features 33 species of plants and animals that occur exclusively or primarily within vernal pool ecosystems, including the federally listed vernal pool fairy shrimp and tadpole shrimp. The plan outlines recovery priorities and provides goals, objectives, strategies, and criteria for recovery. One of the overall objectives of the recovery plan is to promote natural ecosystem processes and functions by protecting and conserving intact vernal pools and vernal pool complexes. Habitat protection under the recovery plan includes the protection of the topographic, geographic, and edaphic features that support hydrologically interconnected systems of vernal pools, swales, and other seasonal wetlands within an upland matrix that together form hydrologically and ecologically functional vernal pool complexes.

Vernal pool habitat in the southern portion of the project site is within the Mather Core Area identified in the Recovery Plan. Core areas are the specific sites USFWS has deemed necessary to recover federally endangered and threatened vernal pool species or to conserve federal species of concern, based on the premise that these areas represent viable populations or will contribute to habitat connectivity and therefore increase opportunities for dispersal and genetic exchange. Recovery efforts are to be focused on the core areas within each vernal pool region. Core areas are further ranked in Zone 1, 2, or 3 in order of their overall priority for recovery. The Mather Core Area is ranked in Zone 1 meaning it has the highest priority for recovery. Protection of Zone 1 core areas has been designated as a Priority 1 action by USFWS because they believe that within each Zone 1 core area, protection of species occurrences and suitable vernal pool habitat is necessary to prevent extinction or irreversible decline of at least one species covered in the recovery plan. Percent of suitable habitat that must be protected within each vernal pool region and core area ranges from 85 to 95% for federally listed vernal pool invertebrates within the Mather Core Area. Habitat to be protected includes both occupied and unoccupied suitable habitat that serves as corridors for dispersal, opportunities for metapopulation dynamics, reintroduction/introduction sites, and protection of undiscovered populations. Because accurate mapping is currently unavailable and the vernal pool recovery plan is not mandated, project consistency cannot be determined. However, USFWS will likely consider the recently released recovery plan during Section 7 consultation for the project.

Implementation of the Proposed Project or the High Density Alternatives would permanently remove approximately 23.9 acres of jurisdictional wetland and 12.9 acres of nonjurisdictional wetland considered potential habitat for federally listed vernal pool invertebrates. In addition to the direct removal of potential habitat, the Proposed Project and High Density Alternatives are expected to have indirect impacts on potential habitat for federally listed vernal pool invertebrates (see Impact 3.10-1 for a description of potential indirect impacts on vernal pools and other wetland habitats).

The Proposed Project and High Density Alternatives include a 507-acre wetland preserve that would provide some level of protection to a portion of the project site that contains the highest quality and density of vernal pools and seasonal wetlands. Wetland acreages within the wetland preserve that provide potential habitat for federally listed vernal pool invertebrates include 18.2 acres of vernal pools, 2.4 acres of seasonal wetland swale, and 3.3 acres of seasonal wetland. In addition, the Proposed Project and High Density Alternatives include creation of approximately 17.9 acres of vernal pools that could provide habitat for federally listed vernal pool invertebrates in the future. The purpose of establishing the wetland preserve is to preserve and enhance existing wetland function and values; however, there are no assurances that this goal can be achieved, and given the large anticipated increase in urbanization on the adjacent land, indirect impacts on potential habitat for federally listed vernal pool invertebrates are expected. Therefore, implementation of the Proposed Project Alternative or the High Density Alternative would result in **direct** and **indirect significant** impacts on federally listed vernal pool invertebrates.

Valley Elderberry Longhorn Beetle

VELB is federally listed as threatened, though in October 2006 its "delisting" was proposed. It is not known whether the species occurs on the project site, but because the site is within the range of the species and suitable habitat is present (e.g., elderberry shrubs), it is assumed that the species could be present. A total of 329 elderberry shrubs were identified on the project site in 2000 (Gibson & Skordal 2000a). A total of 291 elderberry shrubs would be directly affected by project implementation because they would be removed from their present locations. Exit holes, which may have been created by the beetle and suggest the presence of the beetle, were found on 41 of the shrubs.

Two elderberry preserve areas, designated as Open Space/Preserve, would be established on the project site (Exhibit 3.10-3). There are currently 38 elderberry shrubs within the two 10- and 14-acre designated preserve areas. All 16 existing elderberry shrubs in the designated western preserve area would be preserved. The 22 existing elderberry shrubs in the designated preserve area that currently contains White Rock Dump No. 1 would have to be replanted because the majority of the shrubs would be displaced because of dump closure activities. Closure of White Rock Dump No. 1 requires a cap of clean soil to a depth of 5 feet, requiring that all elderberry shrubs be removed. The elderberry shrubs located in areas proposed for development would be relocated to the elderberry preserve areas. Elderberry shrubs removed as part of the closure of White Rock Dump No. 1 would be replaced after the preserve was created. Elderberry seedlings and associated natives would be planted in the elderberry preserve areas and within the proposed drainage corridors.

Although the status of VELB on the project site is not known, relocating the shrubs to land designated as Open Space/Preserve would not be expected to result in any measurable benefit to the species because the conservation areas would eventually be surrounded by development and isolated from larger areas of potential habitat. Furthermore, there are no assurances that the open space/preserve land would be managed in a manner that would promote the long-term viability of the shrubs. Therefore, as long as VELB remains a species considered threatened under the ESA, implementation of the Proposed Project Alternative or the High Density Alternative would result in **direct** and **indirect significant** impacts on VELB. ***[Similar]***

Swainson's Hawk and Other Raptors

Swainson's hawk, a species state listed as threatened, is one of a number of raptors known or expected to occur on the project site. Swainson's hawk is the only listed raptor species expected on the project site, but all raptors and their nests are protected under the California Fish and Game Code and some are considered California species of special concern. The Swainson's hawk is a migratory species that can be found on the project site and in the immediate vicinity during the nesting season. It has not been documented nesting on the project site, but suitable nesting habitat is present. Other raptors that could nest on the project site include American kestrel, red-tailed hawk, red-shouldered hawk, white-tailed kite, northern harrier, western burrowing owl, great horned owl, and barn owl. The project site also provides potential foraging habitat for raptors that winter in the project vicinity. Raptors that are known to occur or expected to occur on the project site during winter months, but that are expected to be absent during the breeding season, include prairie falcon, sharp-shinned hawk, Cooper's hawk, ferruginous hawk, merlin, and short-eared owl.

Implementation of the Proposed Project Alternative or the High Density Alternative would have a substantial adverse effect on both foraging and nesting habitat for raptors. The 1,950 acres of grassland habitat present on the project site is considered foraging habitat for raptors.

Implementing the Proposed Project Alternative or the High Density Alternative would not only remove foraging and nesting habitat; it would also fragment the remaining habitat in the vicinity of the project site. Large raptors generally require large areas of suitable foraging habitat. Thus, implementation of the Proposed Project Alternative or the High Density Alternative could eventually lead to the permanent displacement of some raptors from the project site. Therefore, the Proposed Project and High Density Alternatives would result in **direct** and **indirect significant** impacts on Swainson's hawk and other raptors. ***[Similar]***

IM

Impacts under the Impact Minimization Alternative would be reduced substantially from those under the Proposed Project and High Density Alternatives because the size of the wetland preserve would be increased to 994.5 acres under this alternative, as opposed to 507 acres under the Proposed Project and High Density Alternatives. The total wetland acreage in the wetland preserve would increase from 26.63 acres to 42.53 acres. Direct impacts on federally listed vernal pool invertebrates would be reduced because land that is proposed under the Proposed Project and High Density Alternatives for single-family residential and other land uses resulting in the removal of existing habitat would be incorporated into the wetland preserve. The highest quality and highest density vernal pools and seasonal wetlands, which are located in the southern portion of the project site, would receive additional protection because the width of the buffer between urban development and the most important vernal pool and seasonal wetland habitat would increase. Impacts on VELB, Swainson's hawk, and other raptors would also be reduced, but to a lesser extent. Although impacts would be reduced, implementation of the Impact Minimization Alternative would still result in **direct** and **indirect significant** impacts. ***[Lesser]***

NF

Impacts under the No Federal Action Alternative would be reduced substantially from those under the Proposed Project and High Density Alternatives because the size of the wetland preserve (designated as Natural Resources) would be increased to 871.5 acres under this alternative, as opposed to 507 acres under the Proposed Project and High Density Alternatives. The total wetland acreage in the wetland preserve would increase from 26.63, under the Proposed Project and High Density Alternatives, acres to 56.63 acres under the No Federal Action Alternative. Direct impacts on federally listed vernal pool invertebrates would be reduced because vernal pool habitat on land that is proposed under the other action alternatives for single-family residential and other land uses resulting in the removal of existing habitat would be incorporated into the Natural Resources area designated as wetland preserve under the Proposed Project, High Density, and Impact Minimization Alternatives. The highest quality and highest density vernal pools and seasonal wetlands, which are located in the southern portion of the project site, would receive additional protection because this alternative provides a 250-foot buffer between urban development and the most important vernal pool and seasonal wetland habitat. The Impact Minimization Alternative would provide a larger wetland preserve area (994.5 acres) overall than the No Federal Action Alternative, but the total amount of wetland habitat preserved would increase by 14.1 acres under this alternative. Impacts on VELB under the No Federal Action Alternative would be similar to those under the Proposed Project and High Density Alternatives because elderberry shrubs on the project site are located primarily outside of the areas that would be included in the Natural Resources area. Under the No Federal Action Alternative a lesser, but still substantial amount of nesting and foraging habitat for Swainson's hawk and other raptors would be removed than under the Proposed Project and High Density Alternatives because of the increased size of the designated Natural Resources area. The Impact Minimization Alternative would preserve 123 acres more of nesting and foraging habitat than the No Federal Action Alternative. Implementation of the No Federal Action Alternative would result in direct and **indirect significant** impacts. ***[Lesser]***

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. The *Grantline West Mitigated Negative Declaration* (City of Rancho Cordova 2005) and the *Aerojet Mining Amendment Mitigated Negative Declaration* (City of Rancho Cordova 2004) contain mitigation measures that would reduce potentially significant impacts on VELB habitat and Swainson's hawk habitat to a less-than-significant level.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect sensitive species or habitats; thus, **no direct** or **indirect** impacts would occur. ***[Lesser]***

Mitigation Measure 3.10-4a: Secure Take Authorization for Federally Listed Vernal Pool Invertebrates and Implement Permit Conditions.

PP, HD, IM No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates, or within adequate buffer areas (250 feet or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS), until a biological opinion (BO) has been issued by USFWS and the project applicant(s) have abided by conditions in the BO (including conservation and minimization measures) intended to be completed before on-site construction. Conservation and minimization measures are likely to include preparation of supporting documentation describing methods to protect existing vernal pools during and after project construction, a detailed monitoring plan, and reporting requirements.

The project applicant(s) for all project phases shall identify mitigation for the impacts on vernal pools and other seasonal wetland habitats that support or potentially support federally listed vernal pool invertebrates that will ensure no net loss of habitat (acreage and function) for these species in the Laguna Formation. The project applicant(s) shall complete and implement a habitat mitigation and monitoring plan that will compensate for the loss of acreage, function, and value of affected vernal pool habitat. The habitat mitigation and monitoring plan shall be consistent with guidance provided in *Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans within the Jurisdiction of the Sacramento Field Office, California* (USFWS 1996) and the SSCHCP or shall provide an alternative approach that is acceptable to the City, USACE, and USFWS and accomplishes no net loss of habitat.

The project applicant(s) for all project phases shall ensure that there is sufficient upland habitat within the target areas for creation and restoration of vernal pools and vernal pool complexes to provide ecosystem health. The land used to satisfy this mitigation measure shall be protected through a conservation easement acceptable to USACE, the City, and USFWS.

The project applicant(s) for all project phases shall identify the extent of indirectly affected vernal pool and seasonal wetland habitat, either by identifying all such habitat within 250 feet of project construction activities or by providing an alternative technical evaluation. If a lesser distance is pursued, this distance shall be approved by USFWS. The project applicant(s) shall preserve 2 wetted acres of vernal pool habitat for each wetted acre of any indirectly affected vernal pool habitat. This mitigation shall occur before the approval of any grading or improvement plans for any project phase that would allow work within 250 feet of such habitat, and before any ground-disturbing activity within 250 feet of the habitat. The project applicant(s) will not be required to complete this mitigation measure for direct or indirect impacts that have already been mitigated to the satisfaction of USFWS through another BO or mitigation plan.

A standard set of BMPs shall be applied to construction occurring in areas within 250 feet of off-site vernal pool habitat, or within any lesser distance deemed adequate by a qualified biologist (with approval from USFWS) to constitute a sufficient buffer from such habitat. Refer to Section 3.4, "Drainage, Hydrology, and Water Quality," for the details of BMPs to be implemented.

Timing: Before the approval of any grading or improvement plans, before any ground-disturbing activities within 250 feet of said habitat, and on an ongoing basis throughout construction as applicable for all project phases as required by the mitigation plan, BO, and/or BMPs.

Enforcement: U.S. Army Corps of Engineers, Sacramento District; U.S. Fish and Wildlife Service; and City of Rancho Cordova Planning Department.

NF

The project applicant(s) for all project phases shall obtain an incidental take permit under Section 10(a) of ESA. No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates, or within adequate buffer areas (250 feet or lesser distance deemed sufficiently protective by a qualified biologist with approval from USFWS), until a BO has been issued by USFWS and the project applicant(s) have abided by conditions in the BO (including all conservation and minimization measures). Conservation and minimization measures are likely to include preparation of supporting documentation describing methods to protect existing vernal pools during and after project construction.

Under the No Federal Action Alternative, interagency consultation under Section 7 of ESA would not occur; therefore, the project applicant(s) would be required to develop a habitat conservation plan to mitigate impacts on federally listed vernal pool invertebrates, or participate in the SSCHCP, if available. The project applicant(s) shall complete and implement, or participate in, a habitat conservation plan that shall compensate for the loss of acreage, function, and value of affected vernal pool habitat. The habitat conservation plan shall be consistent with the goals of the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005) and must be approved by USFWS.

The project applicant(s) for all project phases shall ensure that there is sufficient upland habitat within the target areas for creation and restoration of vernal pools and vernal pool complexes to provide ecosystem health. The land used to satisfy this mitigation measure shall be protected through a fee title or conservation easement acceptable to the City and USFWS.

The project applicant(s) for all project phases shall identify the extent of indirectly affected vernal pool and seasonal wetland habitat, either by identifying all such habitat within 250 feet of project construction activities or by providing an alternative technical evaluation in support of a lesser indirect impact distance. If a lesser distance is pursued, this distance shall be approved by USFWS. The project applicant(s) shall preserve 2 wetted acres of vernal pool habitat for each wetted acre of any indirectly affected vernal pool habitat. This mitigation shall occur before the approval of any grading or improvement plans for any project phase that would allow work within 250 feet of such habitat, and before any ground-disturbing activity within 250 feet of the habitat. The project applicant(s) will not be required to complete this mitigation measure for direct or indirect impacts that have already been mitigated to the satisfaction of USFWS through another BO or mitigation plan.

A standard set of BMPs shall be applied to construction occurring in areas within 250 feet of off-site vernal pool habitat, or within any lesser distance deemed adequate by a qualified biologist (with approval from USFWS) to constitute a sufficient buffer from such habitat. Refer to Section 3.4, "Drainage, Hydrology, and Water Quality," of this DEIR/DEIS for the details of BMPs to be implemented.

Timing: Before the approval of any grading or improvement plans, before any ground-disturbing activities within 250 feet of said habitat, and on an ongoing basis throughout construction as applicable for all project phases as required by the habitat conservation plan, BO, and/or BMPs.

Enforcement: U.S. Fish and Wildlife Service and City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Mitigation Measure: Implement Mitigation Measures 3.10-1a and 3.10-1b.

PP, HD, IM Mitigation Measures 3.10-1a and 3.10-1b are discussed above under Impact 3.10-1.

NF, NP No mitigation measures are required.

Mitigation Measure 3.10-4b: Obtain Incidental Take Permit for Impacts on Valley Elderberry Longhorn Beetle.

PP, HD, IM No project construction shall proceed in areas containing VELB habitat (i.e., elderberry shrubs) until a BO has been issued by USFWS, and the project applicant(s) for all project phases have abided by all pertinent conditions in the BO relating to the proposed construction, including conservation and minimization measures, intended to be completed before on-site construction. Conservation and minimization measures are likely to include preparation of supporting documentation that describes methods for relocation of existing shrubs and maintaining existing shrubs and other vegetation in the preserve.

Relocation of existing elderberry shrubs and planting of new elderberry seedlings shall be implemented on a no-net-loss basis. Detailed information on monitoring success of relocated and planted shrubs and measures to compensate (should success criteria not be met) would also likely be required in the BO. Ratios for mitigation of VELB habitat will ultimately be determined through the ESA Section 7 consultation process with USFWS, but shall be a minimum of “no net loss.” A VELB mitigation plan is currently being developed through ESA Section 7 consultation with USFWS. The mitigation plan will also address the proposed delisting of VELB and any mitigation to be implemented if the delisting occurs prior to project implementation due to requirements under CEQA. Implementation of this plan would satisfy mitigation requirements for the removal of elderberry savanna, a sensitive habitat as identified by DFG, as well as single elderberry shrubs. A copy of the USFWS-approved mitigation plan shall be submitted to the City before the approval of any grading or improvement plans or any ground-disturbing activities within 100 feet of VELB habitat for all project phases.

Should delisting of VELB occur, a mitigation plan that would compensate for the removal of elderberry savanna, a sensitive habitat as identified by DFG, would still be required. The mitigation plan shall be submitted to and approved by DFG and the City before the approval of any grading or improvement plans or any ground-disturbing activities that would affect elderberry savanna for all project phases.

Timing: Before the approval of any grading or improvement plans or any ground-disturbing activity within 100 feet of VELB habitat as applicable for all project phases, and on an ongoing basis as required by the mitigation plan and/or BO.

Enforcement: U.S. Army Corps of Engineers, Sacramento District; U.S. Fish and Wildlife Service; California Department of Fish and Game (if VELB delisted); and City of Rancho Cordova Planning Department.

NF As long as VELB remains a species protected under ESA, the project applicant(s) shall obtain an incidental take permit under Section 10(a) of ESA for VELB. No project construction shall proceed in areas containing VELB habitat (i.e., elderberry shrubs) until a BO has been issued by USFWS, and the project applicant(s) for all project phases have abided by all pertinent conditions in the BO relating to the proposed construction, including all conservation and minimization measures. Conservation and minimization measures are likely to include preparation of supporting documentation that describes methods for relocation of existing shrubs and maintaining existing shrubs and other vegetation in the preserve.

Under the No Federal Action Alternative, interagency consultation under Section 7 of ESA would not occur; therefore, the project applicant(s) would be required to develop a habitat conservation plan to mitigate impacts on VELB, or participate in the SSCHCP, if available. If participation in the SSCHCP is not available or not chosen, the project applicant(s) shall complete and implement, or participate in, a habitat conservation plan that will compensate for the loss of VELB habitat. Relocation of existing elderberry shrubs and planting of new elderberry seedlings shall be implemented on a no-net-loss basis. Detailed information on monitoring success of relocated and planted shrubs and measures to compensate (should success criteria not be met) would also likely be required in the BO. Ratios for mitigation of VELB habitat will ultimately be determined through the ESA Section 10(a) consultation process with USFWS, but shall be a minimum of "no net loss." Based on the current (dated) knowledge of the number of shrubs on-site and the latest VELB preservation guidelines, it is expected that approximately 3,088 seedlings would need to be planted over an area of approximately 25 acres to fulfill VELB mitigation requirements and no net loss of habitat.

Should delisting of VELB occur, a mitigation plan that would compensate for the removal of elderberry savanna, a sensitive habitat as identified by DFG, would still be required. The mitigation plan shall be submitted to and approved by DFG and the City before the approval of any grading or improvement plans or any ground-disturbing activities that would affect elderberry savanna for all project phases.

Timing: Before the approval of any grading or improvement plans or any ground-disturbing activity within 100 feet of VELB habitat as applicable for all project phases, and on an ongoing basis as required by the habitat conservation plan and/or BO.

Enforcement: California Department of Fish and Game (if VELB delisted), U.S. Fish and Wildlife Service, and City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Mitigation Measure 3.10-4c: Conduct Preconstruction Surveys for Nesting Raptors and, if Found, Establish Appropriate Buffers.

PP, HD, IM, NF To mitigate impacts on Swainson's hawk and other raptors (including burrowing owl) for all project phases, the project applicant(s) shall retain a qualified biologist to conduct preconstruction surveys and to identify active nests on and within 0.5 mile of the project site and active burrows on the project site. The surveys shall be conducted before the approval of grading and/or improvement plans (as applicable) and no less than 14 days and no more than 30 days before the beginning of construction for all project phases. To the extent feasible, guidelines provided in *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley* (Swainson's Hawk Technical Advisory Committee 2000) shall be followed. If no nests are found, no further mitigation is required.

If active nests are found, impacts on nesting Swainson's hawks and other raptors shall be avoided by establishment of appropriate buffers around the nests. No project activity shall commence within the buffer area until a qualified biologist confirms that any young have fledged and the nest is no longer active. DFG guidelines recommend implementation of 0.25- or 0.5-mile buffers, but the size of the buffer may be adjusted if a qualified biologist and the City, in consultation with DFG, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities will be required if the activity has potential to adversely affect the nest.

If active burrows are found, a mitigation plan shall be submitted to the City for review and approval before any ground-disturbing activities. The City shall consult with DFG. The mitigation plan may consist of installation of one-way doors on all burrows to allow owls to exit, but not reenter, and construction of artificial burrows within the project vicinity, as needed. If active burrows contain eggs and/or young, no construction shall occur within 50 feet of the burrow until young have fledged. Once it is confirmed that there are no owls inside burrows, these burrows may be collapsed.

Timing: Before the approval of grading and improvement plans, before any ground-disturbing activities, and during project construction as applicable for all project phases.

Enforcement: City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Mitigation Measure 3.10-4d: Prepare and Implement a Swainson's Hawk Mitigation Plan.

PP, HD, IM, NF The project applicant(s) for all project phases shall implement one of the following measures:

- Before the approval of grading and improvement plans or before any ground-disturbing activities, whichever occurs first, the project applicant(s) shall preserve, to the satisfaction of the City, suitable Swainson's hawk foraging habitat to ensure 1:1 mitigation of habitat value for Swainson's hawk foraging habitat lost as a result of the project, as determined by the City in consultation with DFG and a qualified biologist.

  The 1:1 habitat value shall be based on Swainson's hawk nesting distribution and an assessment of habitat quality, availability, and use within the City's Planning Area. If specific data for Rancho Cordova's Swainson's hawk habitat is not available at the time that this mitigation measure is being implemented, the mitigation ratio shall be consistent with the 1994 DFG Swainson's Hawk Guidelines included in the *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks* (Buteo swainsoni) *in the Central Valley of California*. Such mitigation shall be accomplished through either the transfer of fee title or perpetual conservation easement. The mitigation land shall be located within the known foraging area and within Sacramento County. The City, in consultation with DFG, will determine the appropriateness of the mitigation land.

  Before approval of such proposed mitigation, the City shall consult with DFG regarding the appropriateness of the mitigation. If mitigation is accomplished through conservation easement, then such an easement shall ensure the continued management of the land to maintain Swainson's hawk foraging values, including but not limited to ongoing agricultural uses and the maintenance of all existing water rights associated with the land. The conservation easement shall be recordable and shall prohibit any activity that substantially impairs or diminishes the land's capacity as suitable Swainson's hawk habitat.

The project applicant(s) shall transfer said Swainson's hawk mitigation land, through either conservation easement or fee title, to a third-party, nonprofit conservation organization (Conservation Operator), with the City and DFG named as third-party beneficiaries. The Conservation Operator shall be a qualified conservation easement land manager that manages land as its primary function. Additionally, the Conservation Operator shall be a tax-exempt nonprofit conservation organization that meets the criteria of Civil Code Section 815.3(a) and shall be selected or approved by the City, in consultation with DFG. The City, in consultation with DFG and the Conservation Operator, shall approve the content and form of the conservation easement. The City, DFG, and the Conservation Operator shall each have the power to enforce the terms of the conservation easement. The Conservation Operator shall monitor the easement in perpetuity to assure compliance with the terms of the easement.

The project applicant(s), in consultation with the City, DFG, and the Conservation Operator, shall establish an endowment or some other financial mechanism that is sufficient to fund in perpetuity the operation, maintenance, management, and enforcement of the conservation easement. If an endowment is used, the endowment funds shall either be submitted to the City to be distributed to an appropriate third-party nonprofit conservation agency, or they shall be submitted directly to the third-party nonprofit conservation agency in exchange for an agreement to manage and maintain the lands in perpetuity. The Conservation Operator shall not sell, lease, or transfer any interest of any conservation easement or mitigation land it acquires without prior written approval of the City and DFG.

If the Conservation Operator ceases to exist, the duty to hold, administer, manage, maintain, and enforce the interest shall be transferred to another entity acceptable to the City and DFG. The City Planning Department shall ensure that mitigation habitat is properly established and is functioning as habitat by conducting regular monitoring of the mitigation site(s) for the first 10 years after establishment of the easement. OR

- The project applicant(s) may participate in a future City Swainson's Hawk Foraging Habitat Ordinance (once adopted) as an alternative to the measure above. OR

- The project applicant(s) may participate in a future habitat conservation plan (once adopted) as an alternative to the above measures.

Timing: Before the approval of grading, improvement, or construction plans and before any ground-disturbing activity in any project development phase that would affect Swainson's hawk foraging habitat.

Enforcement: City of Rancho Cordova Planning Department.

NP No mitigation measures are required.

Implementation of Mitigation Measures 3.10-4a, 3.10-4b, 3.10-4c, 3.10-4d, and 3.10-1a and 3.10-1b (listed previously), would lessen significant direct and indirect impacts on special-status wildlife resulting from the Proposed Project, High Density, Impact Minimization, and No Federal Action Alternatives; however, this impact would remain **significant and unavoidable** because the removal of approximately 3,300 acres of potential habitat for special-status wildlife and the associated fragmentation of surrounding potentially suitable habitat cannot be fully mitigated.

Impacts on special-status wildlife species could be fully mitigated only through a combination of habitat preservation and restoration in the vicinity of the project site. Parcels of similar habitat quality are currently present in the project vicinity, but these parcels would be of lesser value following development of the project because of the effects of habitat fragmentation and secondary impacts related to the project. Moreover, there

would be a net loss of approximately 3,300 acres of potential habitat for special-status species regardless of the acreage preserved. Therefore, fully compensating for the impact by preserving existing habitat in the project vicinity is infeasible. The mitigation does include elements of habitat creation and enhancement that would increase the habitat value of preserved lands so that mitigation habitat could be of greater value than habitat lost and degraded, but there is not sufficient undeveloped land in the project vicinity to offset the effects of habitat fragmentation on special-status species, and thus, fully mitigate the impact.

IMPACT 3.10-5

Loss and Degradation of Special-Status Plants and Habitat for Potential Special-Status Plants. *Implementation of the project would result in direct and/or indirect impacts on three populations of Greene's legenere and in the removal of vernal pool grassland, seasonal wetland, and riparian habitat on the project site that have the potential to support special-status plant species.*

PP, HD

Three populations of Greene's legenere were identified at the project site during protocol-level surveys conducted by ECORP in spring 2003. The special-status plant surveys were conducted in accordance with the *USFWS Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants* (USFWS 2000), as well as the Guidelines contained in the CNPS *Inventory of Rare and Endangered Plants of California, Sixth Edition* (CNPS 2001). Protocol-level plant surveys are typically considered valid for 5 years. One population is located within the proposed wetland preserve, but it could potentially be affected by either removal or habitat modification from construction of Rancho Cordova Parkway, which would graze the east side of the vernal pool where this population occurs. The other two populations occur within seasonal wetland habitat along a portion of Morrison Creek that would be diverted into a constructed drainage channel. These populations would be directly affected (i.e., removed) by the construction of the drainage channel.

Other potential indirect impacts on Greene's legenere include impacts caused by pollutants transported by urban runoff and other means, impacts caused by installation of piping and drainage and swale culverts, changes in vegetation as a result of changes in land use and management practices, impacts on site hydrology from the construction of Rancho Cordova Parkway, and the introduction of invasive species or noxious weeds from the surrounding development.

As habitat areas become more fragmented, roads and other development encroach into habitat areas, and nonnative plants are used for landscaping in new-development areas, there are generally increased opportunities for the introduction of invasive plant species and noxious weeds. As a result, habitat for Greene's legenere in the wetland preserve could be diminished compared to its current condition. It is assumed that no intrusion of humans or domestic animals would occur because the wetland preserve would be fenced. This **indirect** impact is considered **significant**. ***[Similar]***

No other special-status plant populations were found during the protocol-level surveys, so no additional direct impacts on special-status plant species are expected to result. Additional indirect impacts to special-status plants resulting from loss of suitable habitat such as vernal pool grassland, seasonal wetland, and riparian habitat are addressed through Mitigation Measures 3.10-1a, 3.10-1b, 3.10-1b, 3.10-2a, and 3.10-2b, which address loss of sensitive habitats.

Loss of Greene's legenere through either direct removal or habitat modification constitutes a substantial adverse effect on a species identified as a special-status species in local or regional plans, policies, or regulations. Thus, loss of Greene's legenere would be considered a **direct significant** impact. ***[Similar]***

IM Although a greater percentage of habitat that could support populations of Greene's legenere would be preserved under the Impact Minimization Alternative than under the Proposed Project and High Density Alternatives, impacts on the three populations that were documented during ECORP's spring 2003 surveys would be the same because plans for construction of Rancho Cordova Parkway and the constructed drainage parkway are the same under all three alternatives. Loss of Greene's legenere through either direct removal or habitat modification constitutes a substantial adverse effect on a species identified as a special-status species in local or regional plans, policies, or regulations. Thus, loss of Greene's legenere would be considered a **direct significant** impact. ***[Similar]***

The potential for indirect impacts on Greene's legenere would be reduced under the Impact Minimization Alternative because the width of the buffer between urban development and the habitat where Greene's legenere populations were documented would increase. **Indirect** impacts are **potentially significant**, but to a lesser degree than under the Proposed Project and High Density Alternatives. ***[Lesser]***

NF The No Federal Action Alternative would result in no impacts on special-status plants or habitat for potential special-status plant species because known populations of and suitable habitat for Greene's legenere would be preserved under this alternative. In contrast, significant impacts on Greene's legenere would result from implementation of all of the other three action alternatives, but could be mitigated to a less-than-significant level by implementing avoidance, seed collection, and relocation measures in a mitigation and monitoring plan. ***[Lesser]***

NP Under the No Project Alternative, mining activities at the project site, which are not part of the Rio del Oro project, would continue under existing Conditional Use Permits—one originally issued by the County, and the other issued by the City—and possibly under one or more future individual Implementation Permits expected to be issued by the City. Mining activities would not affect any special-status plants because these activities would not occur in areas that support special-status plant populations or special-status plant habitat.

Because no development would occur under the No Project Alternative, there would be no project-related ground-disturbing activities that would affect special-status plants; thus, **no direct** or **indirect** impacts would occur. ***[Lesser]***

Mitigation Measure 3.10-5: Incorporate Measures to Protect Greene's Legenere in the Mitigation and Monitoring Plan.

PP, HD, IM Direct impacts on the population of Greene's legenere located within the wetland preserve shall be avoided to the maximum extent feasible.

A mitigation and monitoring plan for Greene's legenere is being developed on behalf of the project applicant(s) by ECORP. Before the approval of grading plans or any ground-breaking activity within 250 feet of any Greene's legenere population, the mitigation plan shall be submitted to the City for review and approval. The plan shall be submitted concurrently to DFG and USFWS for review and comment, and the City may consult with these entities before approval of the plan. The plan is required to maintain viable plant populations on-site and shall include avoidance measures for the existing population to be retained and mitigation measures for the populations to be directly affected. Possible avoidance measures include fencing of the population before construction and exclusion of project activities from the fenced-off areas, and construction monitoring by a qualified botanist to keep construction crews away from the population. Indirect impacts (i.e., changes in hydrology) shall be minimized by placing culverts to the vernal pool where this population occurs, if necessary. Possible mitigation for the two populations of Greene's legenere that would be removed during construction of the drainage

parkway includes the collection of seeds from the existing populations and inoculation of the collected seeds into existing or compensatory vernal pools within the wetland preserve.

It is proposed in the mitigation plan that the best option for the successful germination of seeds would be to inoculate existing pools that are similar in size and depth and hydration period, and with similar associated species as the pools that currently support Greene's legenere. Mitigation for the populations of legenere proposed to be directly affected shall commence before the approval of any plans for, or any ground-breaking activities near, the locations of such legenere populations. Monitoring of the existing population of Greene's legenere and the seeded populations shall be conducted in conjunction with monitoring of vernal pools for a minimum period of 5 years, as specified in Mitigation Measure 3.10-1.

Timing: Before the approval of grading or improvement plans or any ground-breaking activity within 250 feet of any Greene's legenere population, including grubbing and clearing, for any project development phase. Ongoing monitoring shall occur for a minimum of 5 years following the completion of all construction activities.

Enforcement: City of Rancho Cordova Planning Department.

NF, NP No mitigation measures are required.

Implementation of Mitigation Measure 3.10-5 would reduce the significant impact from direct impacts and potential indirect impacts on Greene's legenere under the Proposed Project, High Density, and Impact Minimization Alternatives to a **less-than-significant** level.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative impacts discussed in this section are based on existing, proposed, planned, and approved projects within the City's planning area. For purposes of this section, the geographic extent of cumulative impacts on vernal pools and biological resources associated with vernal pools is based on the extent of the Laguna Geologic Formation, which includes the project site.

Impacts

IMPACT 3.10-6

Cumulative Biological Resources Impacts. *Implementation of the project together with past, present, and reasonably foreseeable future projects would result in a cumulatively significant loss of biological resources in the region. The project's incremental contribution to this significant cumulative impact is* ***cumulatively considerable****.*

The project could result in degradation of wildlife habitat through development of new facilities that, when combined with other habitat impacts occurring from development within the Laguna Formation, could result in significant cumulative impacts. Despite the implementation of project-specific biological resource mitigation measures identified previously in this section there would be a temporal loss of vernal pool resources and Swainson's hawk foraging habitat during implementation of mitigation until performance standards are met.

Within the project site there are 35.49 acres of existing vernal pools. Of these, 49% (17.28 acres) would be permanently destroyed by project implementation. It is estimated that 75% to 90% of the historic California vernal pool habitat has been lost. The project would contribute to a cumulative loss of vernal pools in the region within the Laguna Formation. In addition to the direct loss of habitat, the project in conjunction with the existing plans in the surrounding area would result in the fragmentation of the regional vernal pool resources of the Laguna Formation.

Therefore, vernal pools and other wetlands would be confined to a small geographic region and would be more vulnerable to the effect of habitat fragmentation and other indirect impacts.

The project would result in the loss of nearly 1,500 acres of annual grassland habitat, which serves as foraging habitat for raptors, including Swainson's hawk. This loss would contribute significantly to the regional loss of this biological resource. Removal of large expanses (867 acres) of woodland and riparian habitat from the project site would contribute substantially to the regional loss of these habitat types that provide important functions and values to both common and special-status plant and animal species. Woodland and riparian habitat within the region is rapidly declining and a large portion has already been lost to development and other land use modifications.

When considered collectively, the existing, proposed, planned, and approved projects in the area would result in fragmentation of regional biological resources. These impacts are considered to be cumulatively **significant**.

Mitigation Measures

Implementation of Mitigation Measures 3.10-3 and 3.10-5 would reduce the direct project-specific impacts on protected trees and special-status plants to a less-than-significant level. Implementation of Mitigation Measures 3.10-1a, 3.10-1b, 3.10-2, 3.10-4a, 3.10-4b, 3.10-4c, and 3.10-4d would reduce but not fully eliminate impacts on biological resources. Even with implementation of the proposed mitigation and regional enforcement of the USACE "no-net-loss" standard, the value of the region as it relates to the long-term viability of these resources would be substantially diminished. The Rio del Oro project would result in a cumulatively considerable incremental contribution to significant cumulative biological resources impacts, including the loss and degradation of sensitive habitats, habitat for special-status wildlife, and habitat for special-status plants; and loss/displacement of special-status wildlife. On a cumulative level, the direct and indirect impacts on biological resources would be considered **significant and unavoidable**.

3.10.4 RESIDUAL SIGNIFICANT IMPACTS

Implementation of the mitigation measures described in this section would reduce significant effects on sensitive biological resources, but not less than-significant levels. However, impacts on sensitive habitats and special-status wildlife would remain significant and unavoidable even with implementation of the proposed wetland preserve and open-space preserve because conflicts with the City General Plan, habitat fragmentation, and permanent loss/displacement of special-status wildlife would result.