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 & Skordal 1999);
- *Wetland Delineation for Rio del Oro, Sacramento County, CA* (ECORP Consulting 2004a);
- *Elderberry Survey, Rio del Oro Property, Sacramento County, CA* (Gibson & Skordal 2000a);
- *Listed Vernal Pool Branchiopods Wet Season Surveys* (Gibson & Skordal 2000b, 2001);
- *Rio del Oro, Rancho Cordova, California—Rare Plant Survey, Sacramento County, CA* (ECORP Consulting 2003);
- *Tree Inventory for Rio del Oro Project, Sacramento County, CA* (Sierra Nevada Arborists 2003);
- *Late Season Special-Status Plant Survey for Rio del Oro, Sacramento County, California* (ECORP Consulting 2006); and
- *Soil Investigation of Rio del Oro Wetlands Preserve prepared for ECORP Environmental Consultants* (Davis[2] Consulting Earth Scientists 2007).

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 (µ) 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

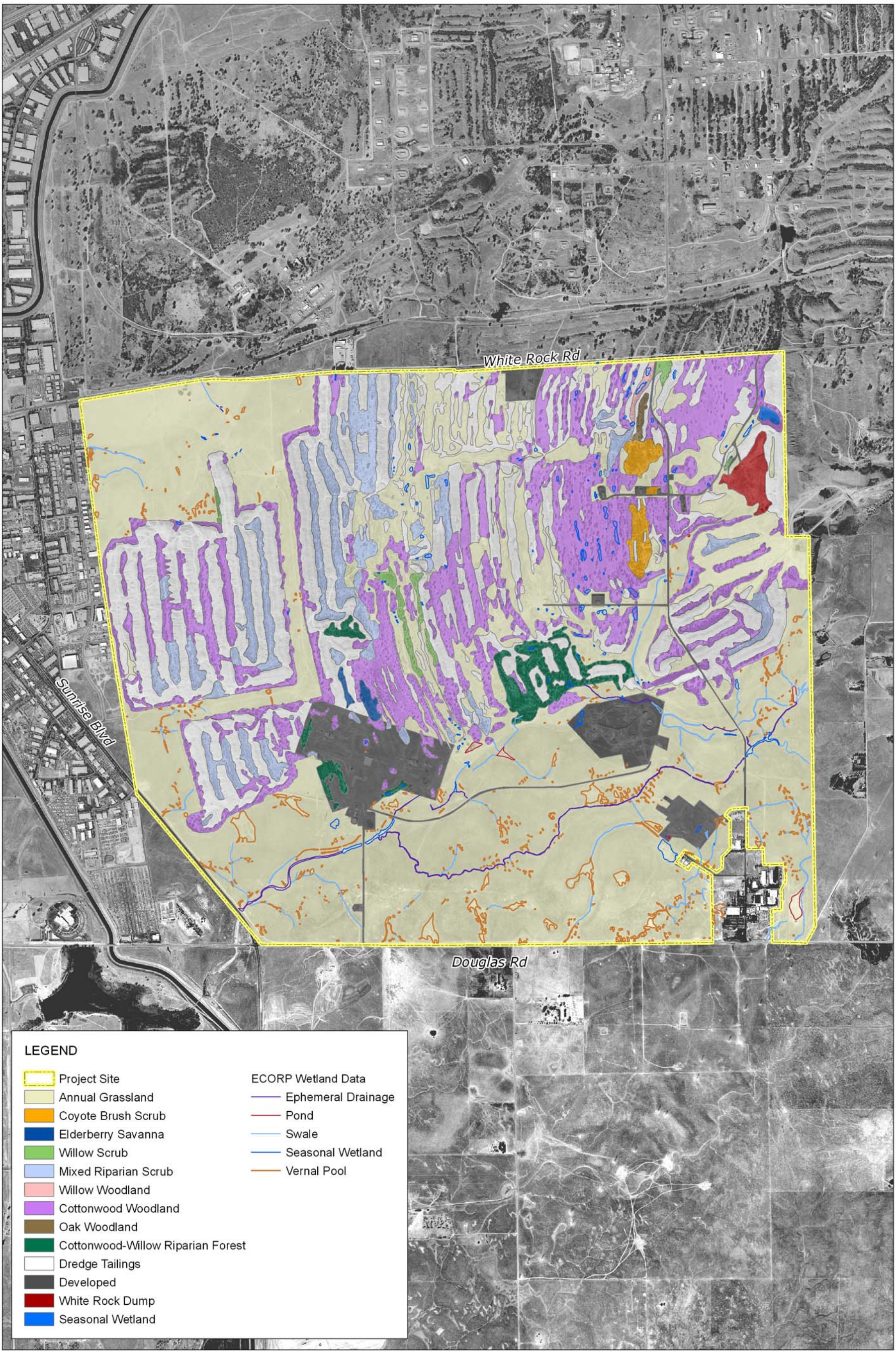
Annual grassland covers approximately 1,975 acres, half the project site, and is the most extensive plant community on the site. Annual grassland is found on the unmined portions of the site; it also characterizes the understory of the riparian communities. Annual grassland on the project site is characterized 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.



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 Recirculated DEIR/Supplemental DEIS
City of Rancho Cordova and USACE

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0 1,000 2,000 4,000
FEET

NORTH

EDAW

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 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 the 2006 draft environmental impact report/draft environmental impact statement [2006 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 Consulting 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 Consulting 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." The site also enables wildlife movement through the area because of the large amount of open space and its continuous nature with adjacent undeveloped properties to the north and east.

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 2006a).

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.

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 Consulting 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 Consulting 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 Consulting 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 Consulting 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		
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 Consulting 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 Consulting 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 and 2006 (ECORP Consulting 2003, 2006).
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 and 2006 (ECORP Consulting 2003, 2006).
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 and 2006 (ECORP Consulting 2003, 2006).

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 Consulting 2003, 2006; 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
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

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

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, 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 Consulting during spring 2003; a late-season survey was also conducted in 2006. 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 Consulting 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 Consulting 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 Consulting 2003, 2006).

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 (*J. nigra*), or Arizona walnut (*J. 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 *J. 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 near 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 & Skordal and EDAW as noted in Table 3.10-2. On behalf of the project applicant(s), Gibson & 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 & 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 & Skordal 2000b).

An elderberry survey of the entire project site was also completed by Gibson & Skordal (2000a). Of the 329 elderberry plants documented, 41 contained beetle exit holes, suggesting that valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*), 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 2 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 may occur but has not been observed on the project site.

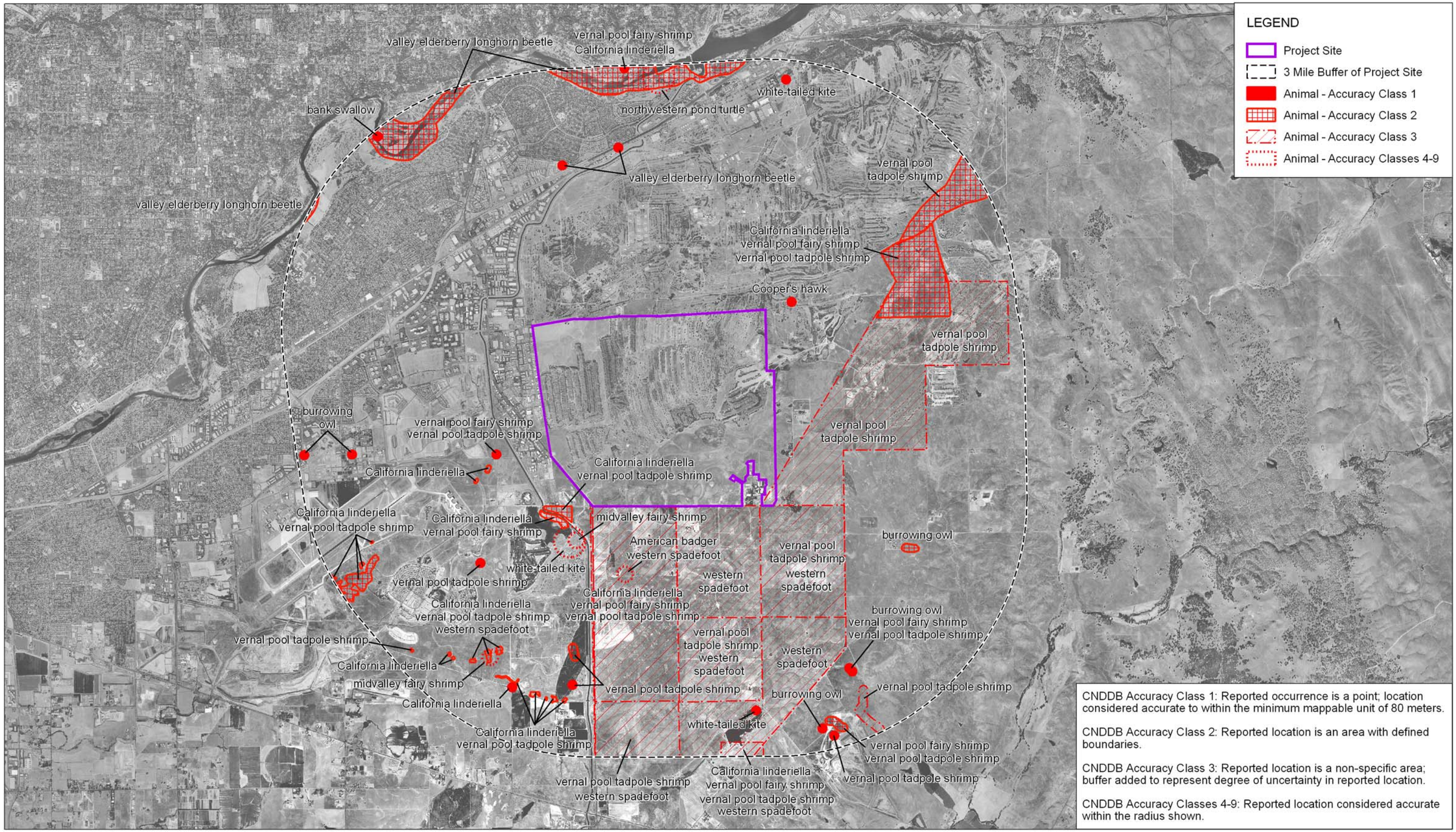
Northwestern pond turtle is a federal and California species of concern. Northwestern pond turtle could occur around Mather Lake, southwest of the project site, and is documented north of the site within 3 miles (Exhibit 3.10-2). However, there is no suitable aquatic habitat within the project boundary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



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 Recirculated DEIR/Supplemental DEIS
City of Rancho Cordova and USACE

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Wetlands and Other Waters of the United States

A wetland delineation conducted by ECORP Consulting 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 are 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 Consulting, 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, 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 the U.S. Environmental Protection Agency (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 P of this Recirculated DEIR/Supplemental DEIS.

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 (Sacramento County 2005). 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 late in 2010 or early 2011 (Radmacher, pers. comm., 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 & Skordal 1999);

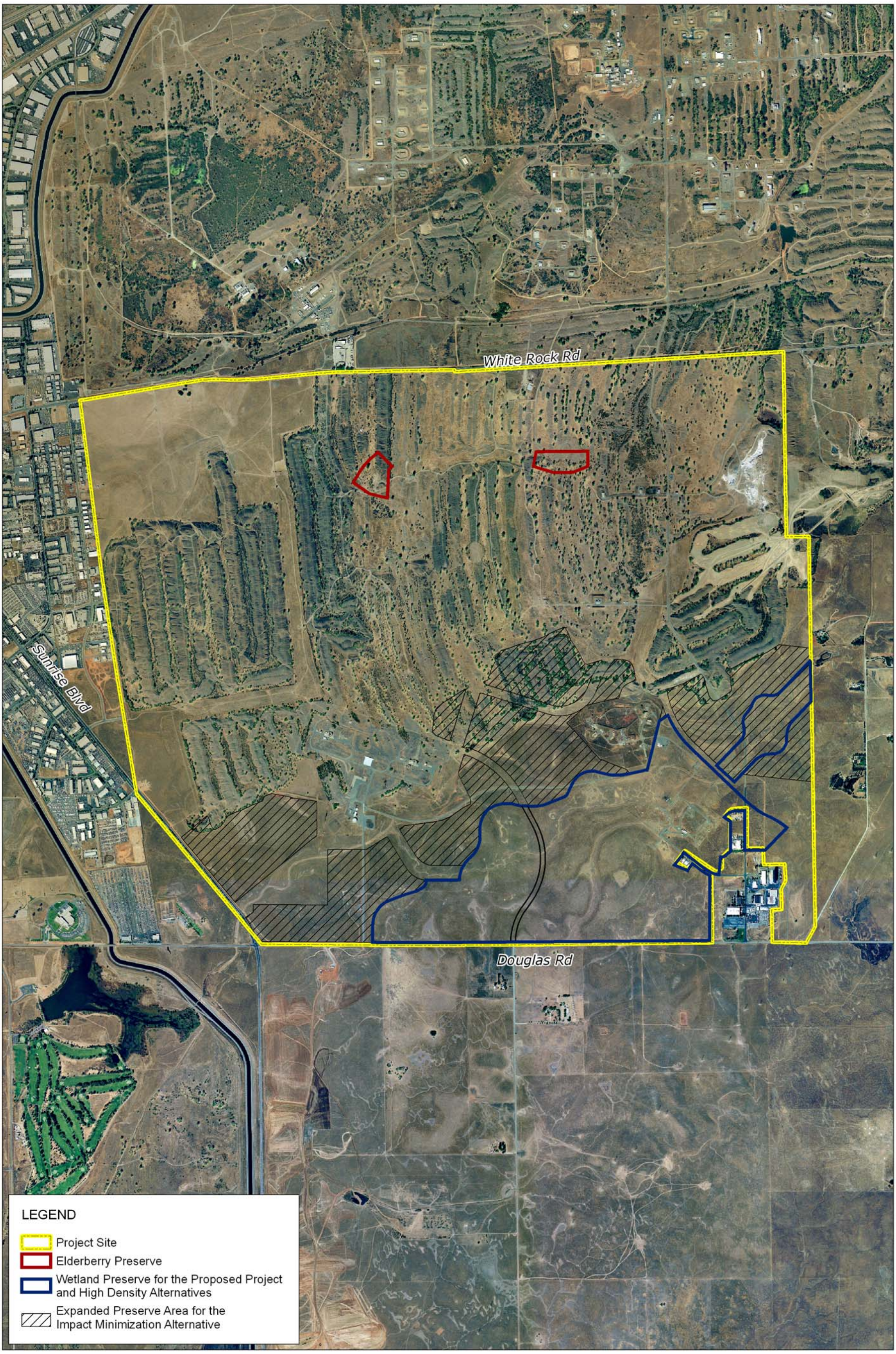
- *Wetland Delineation for Rio del Oro, Sacramento County, California* (ECORP Consulting 2004a);
- *Wetland Resource Assessment for Rio del Oro, Sacramento County, CA* (ECORP Consulting 2004b);
- *Updated Wetland Delineation Map for the Rio del Oro Project Site* (ECORP Consulting 2004c);
- *Elderberry Survey, Rio del Oro Property, Sacramento County, CA* (Gibson & Skordal 2000a);
- *Listed Vernal Pool Branchiopods Wet Season Surveys* (Gibson & Skordal 2000b, 2001);
- *Rio del Oro, Rancho Cordova, California—Rare Plant Survey, Rio del Oro Property* (ECORP Consulting 2003);
- *Late Season Special-Status Plant Survey for Rio del Oro, Sacramento County, California* (ECORP Consulting 2006);
- *Tree Inventory for Rio del Oro Project, Sacramento County, CA* (Sierra Nevada Arborists 2003);
- *Soil Investigation of Rio del Oro Wetlands Preserve prepared for ECORP Environmental Consultants* (Davis[2] Consulting Earth Scientists 2007);
- *Draft Wetland Mitigation Monitoring Plan for Rio del Oro, Sacramento County, CA* (ECORP Consulting 2007a) (Appendix Q of this Recirculated DEIR/Supplemental DEIS); and
- *Draft Valley Elderberry Longhorn Beetle Mitigation Plan for Rio del Oro, Sacramento County, CA* (ECORP Consulting 2007b) (Appendix R of this Recirculated DEIR/Supplemental DEIS).

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 recirculated DEIR/ supplemental 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 197 acres of drainage parkways and open space and 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. The proposed drainage parkways would range from 200 feet to 300 feet in width and would consist of a meandering low-flow channel, adjacent wetlands, and riparian plantings (ECORP Consulting 2007a). 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 Consulting 2005). The wetland preserve would be established before development of Phase 1 and 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 as a result of implementation of each alternative development scenario are identified as follows: PP (Proposed Project), HD (High Density), IM (Impact Minimization), NF (No Federal Action), and NP



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 Recirculated DEIR/Supplemental DEIS
City of Rancho Cordova and USACE

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(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).

The analysis of impacts was conducted following the thresholds provided in Appendix G of the State CEQA guidelines. Project impacts were assessed by comparing the postimplementation scenario of the project (and alternatives) with the existing conditions on-site as documented during various resource baseline studies and summarized above.

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” of the 2006 DEIR/DEIS and have been addressed in previous CEQA documents. Off-site impacts associated with traffic improvements are discussed in Section 3.14, “Traffic and Transportation” of the 2006 DEIR/DEIS and have been addressed in the environmental document for the City General Plan, prepared separately from this Recirculated DEIR/Supplemental 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 27.9 acres of USACE jurisdictional waters of the United States on the project site would be filled, including approximately 15.1 acres of vernal pools, 2.9 acres of pond, 3.6 acres of seasonal wetland swale, 3.1 acres of seasonal wetland, and 3.3 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 acreage numbers have changed slightly from the 2006 DEIR/DEIS because the 2.2 acres of vernal pool habitat that would be indirectly affected by project implementation were erroneously added twice in the acreage calculation for that document. 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 Consulting 2007a) and maintaining sufficient microwatersheds to support both preserved and created vernal pools and wetland features.

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* (Foothill Associates and ECORP Consulting, June 2004) adjacent to the east of the project site, just north of the proposed North Douglas Road. The Rio del Oro project site itself is outside the boundaries of the conceptual-level strategy. There are no other connections to preserves in the region, and there are no other opportunities for connections to other planned or existing preserves. The conceptual-level strategy does not propose any other preserves adjacent to the Rio del Oro project site other than the one to the east, nor does the City General Plan show other planned preserves in adjacent areas. Approved development plans to the south of Douglas Road do not include preserve areas that could connect to the proposed Rio del Oro Wetland Preserve, and adjacent land to the west is already built out. Although preserves have been established or are proposed for developments to the south, such as the Anatolia projects, and these preserves include vernal pool habitat supporting federally listed vernal pool fairy shrimp, they are isolated from the Rio del Oro project site by residential and commercial development. Lack of connectivity between habitat on the project site and adjacent habitats is an existing condition because White Rock Road, Douglas Road, and Sunrise Boulevard bound the project site on its north, south, and west sides, respectively. The connection to Morrison Creek to the southwest of the project site would be maintained. There are no existing or proposed habitat preserves to the north of the project site. 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 monitoring plan (MMP) for this project (ECORP Consulting 2005). However, within the on-site preserve, hydrologic modeling analysis shows that creation of compensatory wetlands would not adversely affect existing wetlands. The current version of the project applicant(s)' proposed wetland MMP developed by ECORP Consulting, which will be subject to USACE approval, is included in Appendix Q of this Recirculated DEIR/Supplemental DEIS. Appendix Q includes the hydrologic modeling analysis. The MMP is a revised draft plan proposed by the project applicant and is subject to review and approval by the regulatory agencies before adoption.

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 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. However, a hydrologic modeling analysis conducted for the proposed preserve using ArcGIS software tools and a Light Detection and Ranging (LiDAR) derived, fine-scale topographic model indicates that construction of Rancho Cordova Parkway and Americanos Boulevard would not jeopardize the hydrological integrity of vernal pools in the preserve because microwatersheds would be maintained, as described below. The hydrologic analysis also indicates that hydration periods within the preserve would not be altered because on-site microwatersheds would be maintained. Most storm drainage and summer runoff would be captured in drainage corridors and released into Morrison Creek downstream of the vernal pool preserve (two exceptions are discussed below) and proposed contours would slope away from the preserve beginning at the preserve boundary. 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 in the 2006 DEIR/DEIS) as natural substrate span crossings over Morrison Creek. Rancho Cordova Parkway and Americanos Boulevard would cross Morrison Creek with a clear span of the delineated wetlands within the channel bank. These natural substrate span crossings would be sized to provide for wildlife movement (including invertebrate species that occur in the preserve) and minimize habitat fragmentation. Bridge design would include a large enough span area to provide movement corridors for terrestrial wildlife even during high flows (i.e., the entire span would not be inundated).

The proposed residential development would include various design features characteristic of low-impact development, including water quality ponds, and retention or detention ponds for water quality, peak flow control, and volume control outside of the preserve. There are two instances where storm drainage and nuisance flows would be released within the preserve. One is at Rancho Cordova Parkway, where some runoff would drain into a vegetated water quality swale that would be constructed adjacent to the road within the preserve; treated water would be discharged from the water quality swale into the preserve (Exhibit 3.10-4). The second exception would occur adjacent to the east of Americanos Boulevard, where storm drainage and nuisance flows from a single-family residential area would be directed into a water quality basin, treated, and subsequently discharged into Morrison Creek at the upstream end of the preserve (Exhibit 3.10-5). The watershed analysis for the project indicates that the peak flows, runoff volumes, and runoff durations of the wetland preserve area would not be substantially altered because the residential area is relatively small in relationship to this watershed; because the project would modify only 3% of the 1,830-acre watershed; and because low-impact development features, water quality ponds, and retention/detention ponds required by the local agencies would be incorporated into the project. All water quality treatment basins and swales would be designed to the standards of the *Stormwater Quality Design Manual for the Sacramento and South Placer Regions* (Sacramento Stormwater Quality Partnership 2007).

The project is designed to direct flows to the drainage corridors that would be created throughout the project site. These drainage corridors include water quality treatment swales and basins to treat stormwater and nuisance flows before they are released into the proposed low-flow channels and adjacent wetland habitat that would be created. Increased flows caused by an increase in impervious surfaces would be directed to these drainage corridors and would not enter Morrison Creek anywhere within or upstream of the proposed vernal pool preserve, with the two exceptions noted previously for the Rancho Cordova Parkway bioswale and the water quality

basin adjacent to the east of Americanos Boulevard. The portion of Morrison Creek that would receive increased runoff from the project drainage channels is downstream of the vernal pool preserve. The on-site vernal pool preserve would not receive any nuisance flows. The applicant proposes to construct detention basins to attenuate runoff flows to predevelopment levels. Because detention basins have been incorporated into the project design, peak flow rates would not increase; therefore, the inundation area would not change from preproject levels. Urban runoff would be treated as required by state and local and state stormwater quality standards in the detention basins and drainage channels proposed to be constructed within the project site. Incorporation of low-impact development features, along with the required water quality features, would aid in reducing flows to near natural conditions.

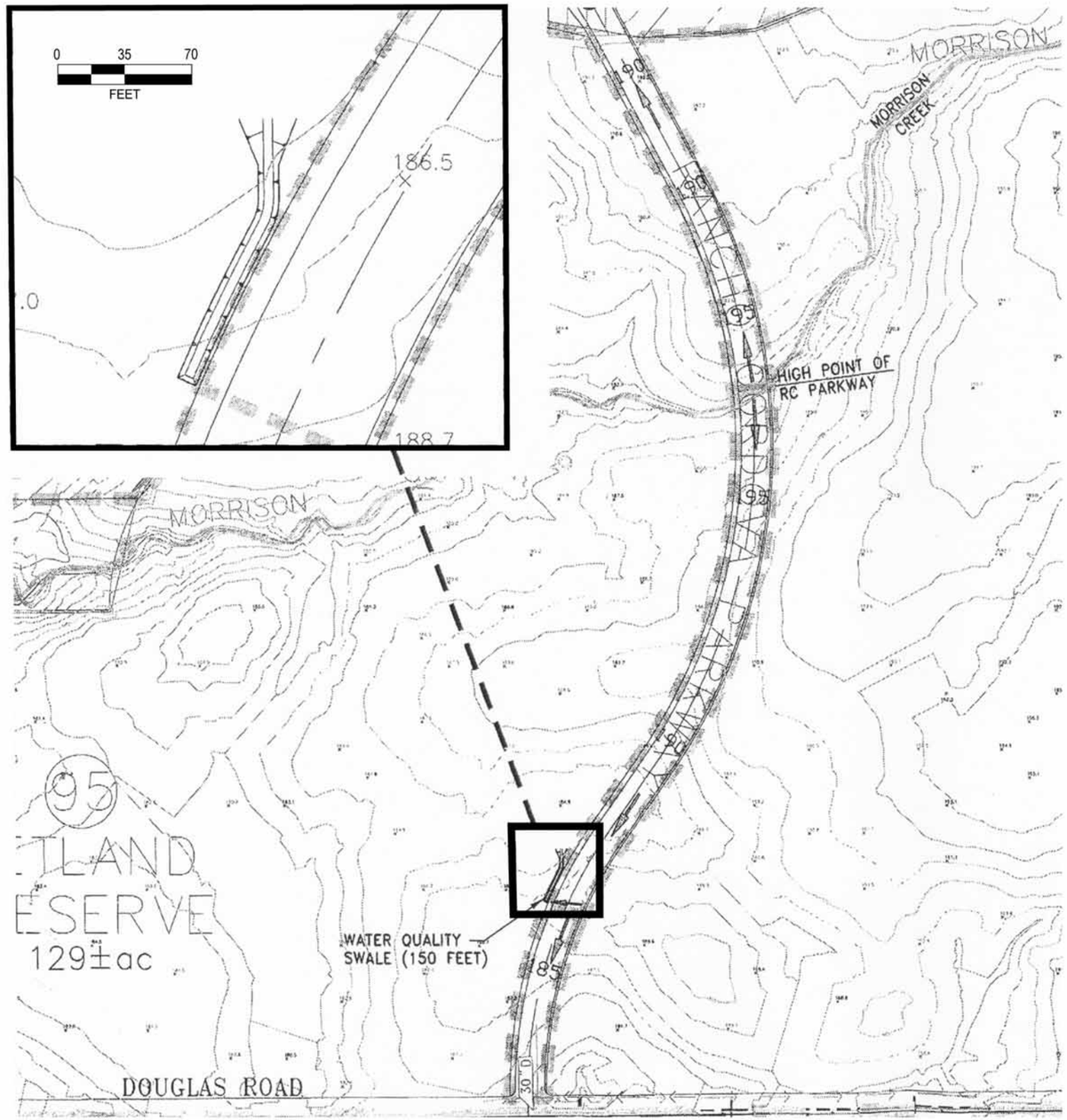
The current depth to groundwater typically ranges between 50 feet and 160 feet below the current ground surface (ERM 2003). Groundwater levels underneath the project site are expected to be 6 feet higher in the long term when compared with current conditions as a result of implementing the Proposed Project Alternative (WRIME 2005). Based on the hydrological evaluations described in Chapter 3.4, "Hydrology and Water Quality," of the 2006 DEIR/DEIS, these estimated changes in the depth to groundwater would be minimal and well within the existing range of natural seasonal variations. Furthermore, there and would not be an appreciable change in hydrogeologic variables such as groundwater flow or direction.

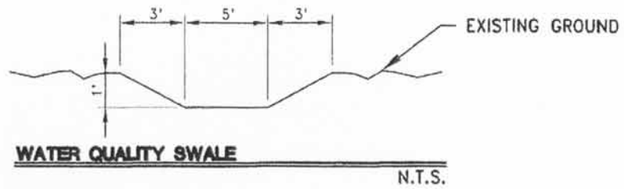
Mitigation Monitoring Plan

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

A revised draft wetland MMP was developed by ECORP Consulting in September 2007 and is the applicant's proposed mitigation plan (ECORP Consulting 2007a). The revised draft MMP, included in Appendix Q to this document, is subject to review and approval by the appropriate regulatory agencies. Proposed mitigation in the revised draft MMP includes a combination of on-site preservation and compensatory mitigation (i.e., vernal pool creation), as well as off-site mitigation through purchase of the Cook Property (described below) and credit purchase in the Clay Station Mitigation Bank. Proposed on-site mitigation consists of designation of a 507-acre wetland preserve in the southern portion of the project site. A total of 20.4 acres of existing vernal pools are located in the proposed preserve, and restoration and creation of an additional 17.9 acres would occur in the preserve under the proposed MMP. The proposed preserve also contains 2.5 acres of seasonal wetland swale, 3.4 acres of seasonal wetland, 0.6 acre of pond, and 1.9 acres of ephemeral drainage. All of these features, as well as that portion of Morrison Creek that is within the 507-acre wetland preserve, would be preserved. The details of the MMP are still being reviewed by USACE; the September 2007 draft is not the final, approved version. In compliance with City General Plan Policies, the wetland preserve would include wildlife-passable boundary fencing, and informational signage or kiosks would be erected along trails outside the preserve boundary to educate the public about the importance and benefit of wetlands.

The 160-acre Cook Property is proposed by the project applicants for off-site mitigation involving preservation and no creation of naturally existing vernal pool and seasonal wetland habitat within the same core recovery area (i.e., the Mather Core Recovery Area as depicted in the vernal pool recovery plan [USFWS 2006]) as the Rio del Oro property. The Cook Property is bordered to the north and west by conservation properties, to the east by Eagles Nest Road, and to the south by Florin Road. The Cook Property is contiguous with a large conservation area that





NOTES:

1. HIGHPOINT OF RANCHO CORDOVA PARKWAY WILL BE LOCATED ABOVE MORRISON CREEK.
2. STORM WATER FROM RC PARKWAY SOUTH OF MORRISON CREEK WILL DRAIN TO A LOCATION APPROXIMATELY 1200 FT SOUTH OF MORRISON CREEK TO A WATER QUALITY SWALE, AND THEN DISCHARGED INTO THE PRESERVE. THE SWALE SHALL BE AT A SLOPE OF 1% AND BE 132 FEET MINIMUM.
3. STORM WATER FROM RC PARKWAY NORTH OF MORRISON CREEK WILL DRAIN NORTH INTO THE ONSITE DRAINAGE SYSTEM.
4. APPROXIMATELY 500 FT OF RC PARKWAY WILL DRIAN SOUTH TO EXISTING FACILITIES IN DOUGLAS ROAD.
5. THE WATER QUALITY SWALE SHALL BE DESIGNED PER THE STORMWATER QUALITY DESIGN MANUAL FOR THE SACRAMENTO & SOUTH PLACER REGIONS.
6. STORM WATER WILL BE TRANSPORTED TO THE WATER QUALITY SWALE VIA STORM DRAIN PIPES WITHIN RANCHO CORDOVA PARKWAY.

LEGEND

Direction of Flow

Shed Boundary

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Source: Wood Rogers 2007

Drainage Flows from Rancho Cordova Parkway

EXHIBIT 3.10-4

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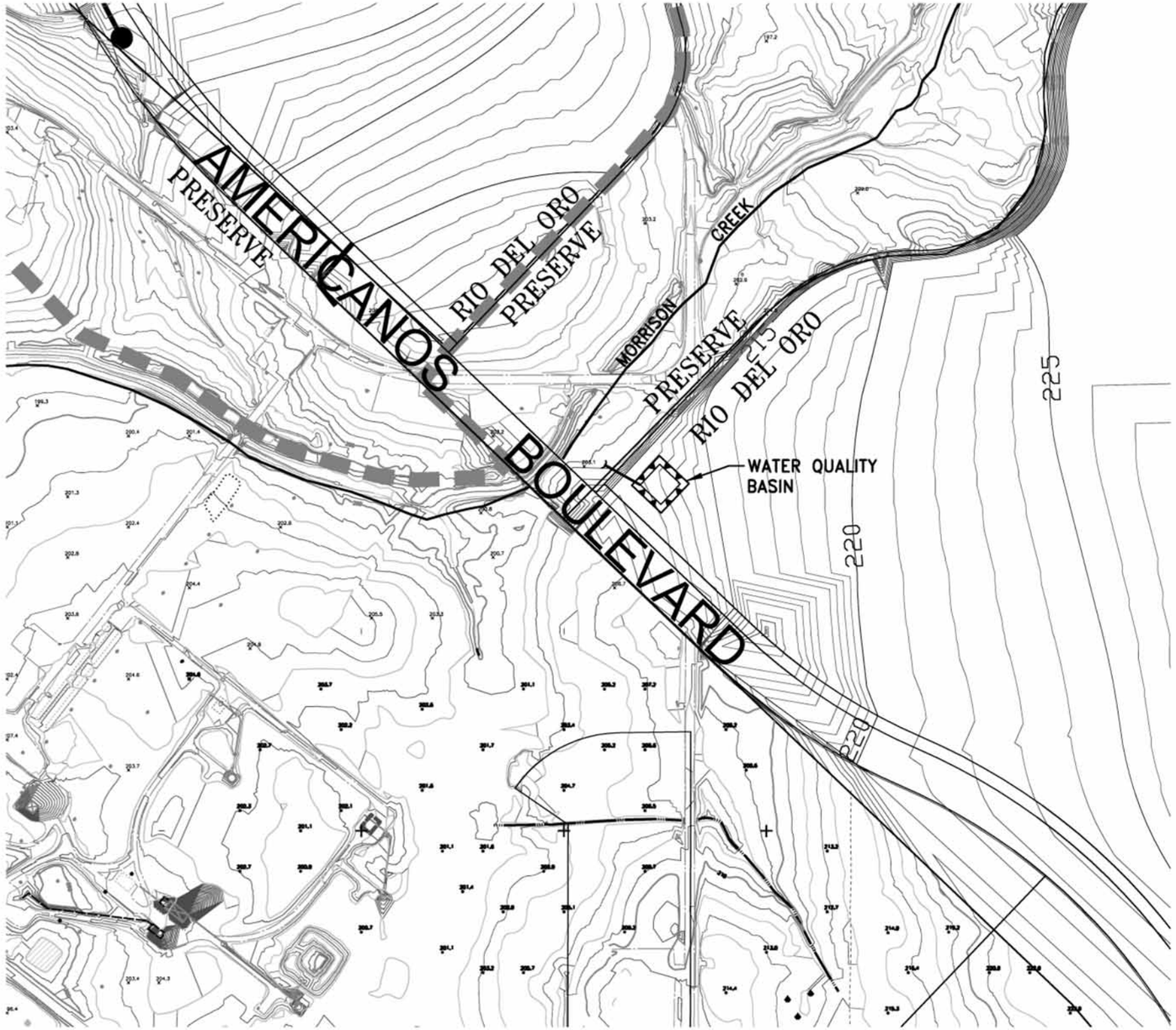

NOTES:

1. NUISANCE FLOWS WILL BE DIRECTED TO A WATER QUALITY BASIN BEFORE DRAINING INTO MORRISON CREEK.
2. STORM EVENTS WILL BE DIRECTED INTO THE WATER QUALITY BASIN BEFORE DRAINING INTO MORRISON CREEK.
3. THE WATER QUALITY BASIN SHALL BE DESIGNED PER THE STORMWATER QUALITY DESIGN MANUAL FOR THE SACRAMENTO & SOUTH PLACER REGIONS.

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Source: Wood Rogers 2007

Drainage to Water Quality Basin at Americanos Boulevard

EXHIBIT 3-10-5

Rio del Oro Specific Plan Project Recirculated DEIR/Supplemental DEIS
City of Rancho Cordova and USACE
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provides connectivity to other vernal pool grassland habitat that currently supports listed branchiopod crustaceans. The Cook Property contains 22.3 acres of wetland habitat, including 15.2 acres of vernal pools, seasonal marsh, and seasonal wetland swales and 0.58 acre of intermittent drainage (Frye Creek). Protocol-level branchiopod surveys have not been conducted on the Cook Property; however, it is likely that the vernal pools support vernal pool branchiopod crustaceans. Surveys in the immediate vicinity of the Cook Property have identified vernal pool fairy shrimp (*Branchinecta lynchi*), mid-valley fairy shrimp (*B. mesovallensis*), vernal pool tadpole shrimp (*Lepidurus packardi*), and California fairy shrimp (*Linderiella occidentalis*).

An additional 13 acres of created seasonal wetland habitat are proposed to be purchased at the Clay Station Mitigation Bank. The Clay Station Mitigation Bank is located approximately 15 miles south of the project site and is bounded by Clay Station Road to the east, Laguna Creek and associated riparian habitat to the west, farmland to the north, and Brown's Creek to the south. Clay Station is adjacent to other large preserves, such as Gill Ranch, that provide habitat connectivity to a larger preserve area. The wetland habitat that would be purchased at the Clay Station Mitigation Bank has been monitored for several years and is fully functioning (ECORP Consulting 2000, 2004d). These created wetlands exhibit functions and values similar to those of the wetland habitat to be affected at the project site. In addition, these wetlands currently support vernal pool fairy shrimp and tadpole shrimp (ECORP Consulting 2004d, 2007a). Both the Cook Property and Clay Station Mitigation Bank are currently owned by one of the project applicants (i.e., Elliott Homes) and in its control (ECORP Consulting 2007a).

Table 3.10-3 provides a summary of wetland impacts and proposed mitigation acreage as provided in the draft MMP (Appendix Q), which has not been approved by the regulatory agencies. Project impacts include direct fill of 27.9 acres of jurisdictional waters of the United States, including wetlands; direct fill of 12.9 acres of isolated wetlands; and indirect effects on 2.2 acres of USACE jurisdictional wetlands. The draft MMP proposes to preserve 28.7 acres of waters of the United States, including wetlands, on-site and 22.3 acres of wetlands and waters of the United States off-site at the Cook Property. This would result in a preservation ratio of 1.25:1. The draft MMP also proposes to create and restore 47.0 acres of wetlands and low-flow channel on-site and provide 13 acres of created seasonal wetland purchased at the Clay Station Mitigation Bank. If approved by the regulatory agencies, this plan would result in a compensatory mitigation ratio of 1.5:1 of acres created or restored to acres filled and would ensure no net loss in the amount of wetland habitat in the region.

The project applicant(s) would be required to begin construction of the mitigation habitats, in accordance with the MMP (when a final version has been approved by the appropriate regulatory oversight agencies), before the start of 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 MMP (when a final version has been approved). However, a temporal loss of aquatic functions is still expected to occur under the proposed MMP, as impacts on aquatic resources in some of the phases could occur before creation of some of the compensatory wetlands are created and before all of the created mitigation habitats reach their final success criteria and assume their full intended ecological functions. The applicant has purchased credits at the Clay Station Mitigation Bank to offset these temporal losses. The seasonal wetland habitat purchased at the Clay Station Mitigation Bank is fully functional and has met success criteria to be approved for sale by the Mitigation Banking Review Team.

A hydrologic analysis of the topography of the proposed on-site preserve area was conducted to establish the preserve boundary, using hydrologic modeling tools in ESRI's ArcGIS software and a LiDAR-derived topographic model of the project site. The analysis maintained a buffer of 250

feet to the proposed development and maintained the watersheds necessary to support preserved habitat. Using the LiDAR technology, biologists, hydrogeomorphologists, and GIS technicians from ECORP Consulting mapped the microwatersheds of vernal pools and other wetlands within the proposed on-site preserve area. It was determined that the mean watershed size required for each acre of vernal pool at the project site is approximately 7.14 acres.

Table 3.10-3
Summary of Wetland Impacts and Proposed Mitigation Acreage

Wetland Type	Existing Acres	Isolated Acres	Impacts			On-site Preservation Acres [1]	On-site Creation Acres [2]	Off-site Preservation Acres [3]	Off-site Creation Acres [4]
			Direct		Indirect				
			Jurisdictional Acres	Isolated Acres	Jurisdictional Acres				
Vernal pool	35.485	2.414	15.072	2.414	2.179	20.413	17.867	2.67	0
Pond	3.54	0.721	2.924	0.721	0	0.616	0	6.51	0
Seasonal wetland swale	6.044	0.653	3.587	0.653	0	2.457	0	0	0
Seasonal wetland	6.418	9.158	3.064	9.158	0	3.354	20.785	12.53	13
Ephemeral drainages	5.145	0	3.256	0	0	1.889	0	0.58	0
Channel/low-flow	0	0	0	0	0	0	8.402	0	0
Total	**56.632**	**12.946**	**27.903**	**12.946**	**2.179**	**28.729**	**47.054**	**22.29**	**13**
	Acreage	Ratio							
Total Impact:	**43.028**								
Total Preservation:	**51.019**	**1.19:1**							
Total Compensation:	**60.054**	**1.40:1**							

Notes:
[1] Within 507 acres of on-site wetland preserve.
[2] Vernal pool habitat is proposed within a 507-acre wetland preserve and all other habitat is proposed within drainage corridors.
[3] Preliminary Assessment of wetland acreage to be preserved off-site at the Cook Property.
[4] Seasonal wetland habitat to be purchased at a bank to replace mitigation previously proposed within detention basins that are no longer feasible.
Source: ECORP Consulting 2007a.

The hydrologic analysis suggests that project implementation would not decrease the watershed ratios below levels necessary to sustain existing depressional wetlands or the proposed 17.9 acres of compensatory vernal pools. According to the model, the proposed on-site wetland preserve could accommodate and support an additional 50 acres of vernal pool habitat without compromising the existing hydrology. In addition, soil analyses conducted by Davis[2] Consulting Earth Scientists indicate that soils on the site are still conducive to formation of vernal pools. Historic aerial photography of the project site shows the presence of vernal pools within the preserve area that are no longer visible and functioning on the site as a result of past land uses. Wetlands northwest of Security Park were filled between 1961 and 1971 as part of the

footprints of these previously existing vernal pools whenever possible without compromising the minimum watershed of existing vernal pools. Further GIS analysis of LiDAR-derived topography, review of historic aerial topography, and results of the soil analyses would be used to refine the configuration of the compensatory wetlands to ensure that each wetland feature would contain an adequate watershed and that proposed wetlands would not compromise the microwatersheds of existing individual vernal pools. This strategy would provide optimal siting of compensatory pools and maximize the potential for successful creation.

The GIS watershed analysis of the LiDAR-derived topographic model indicates that the proposed construction of Rancho Cordova Parkway through the wetland preserve would not compromise the watershed of any vernal pool to the point that it would not retain a watershed/wetland acreage ratio of 7.14:1, with the exception of one small vernal pool (0.053 acre). Although the mean watershed ratio for all vernal pools was calculated at 7.14:1, further analysis shows that wetlands of this size class require a watershed ratio of approximately 3.26:1. The proposed alignment of Rancho Cordova Parkway maintains a watershed ratio of 6.62:1 for this particular pool and greater than 7.14:1 for all other pools downstream of the road; therefore, the alignment of Rancho Cordova Parkway should not adversely affect existing or proposed vernal pool habitat.

The draft operations and management (O&M) plan for the wetland preserve prepared by ECORP Consulting (2007c) establishes monitoring requirements for wetlands in the preserve area. Specific performance standards and success criteria, as agreed upon by the regulatory agencies, shall be specified in the MMP, once approved by the agencies. The draft O&M plan for the proposed wetland preserve states that biological inspections of the preserve would be performed by the monitoring biologist three times per year. Monitoring would include specific aspects of the preserve habitat as well as general wetland function, thatch accumulation, newly introduced invasive species, overall wetland preserve function, and potentially the grazing regime. The first inspection would focus on the hydrology and the presence of listed vernal pool crustaceans. The second inspection would focus on the different wetland habitats during the floristic season; the third inspection would look at the upland, problem areas, grazing regime, and the success of restoration efforts. General inspections should be arranged by the preserve manager to evaluate erosion, fire hazard reduction, fencing integrity, condition of signage, trash accumulation, and evidence of unauthorized use by motor vehicles. The monitoring biologist, along with the preserve manager, would prepare and submit an annual report to the preserve owner, USACE, and USFWS by December 31 of each year. The holder of the conservation easement would be identified during the processing of the CWA Section 404(b)(1) permit and through negotiation of an incidental take statement from USFWS. Elliott Homes has preliminarily contacted several preserve managers, including the Sacramento Valley Open Space Conservancy (Rutledge, undated pers. comm.), regarding management of the proposed preserve.

The draft O&M plan prepared by ECORP Consulting (2007c) for the proposed open space corridors requires that biological inspections be conducted two times per year to ensure that existing conditions are maintained in perpetuity. Each biological inspection should monitor habitat function, thatch accumulation, presence of invasive species, and function of the open space preserve. General inspections should be arranged by the preserve manager to evaluate erosion, fire hazard reduction, fencing integrity, condition of signage, trash accumulation, and evidence of unauthorized use by motor vehicles. The monitoring biologist, along with the preserve manager, would prepare and submit an annual report to the preserve owner, USACE, and USFWS by December 31 of each year.

After implementation of the MMP, long-term ownership of the proposed wetland preserve may be assumed by the City, the Sacramento Valley Conservancy, the Wildlife Heritage Foundation, or another mutually agreeable third-party organization. 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 MMP is approved by those agencies with jurisdiction over the plan, or portions of the plan (i.e., USACE, the Central Valley RWQCB, the City), successful implementation of the plan is expected to compensate for adverse effects on waters of the United States (30.328 acres), on 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).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 to the overall loss and alteration of naturally occurring vernal pool habitat in the county.

Consistency with the City General Plan

An analysis of the Proposed Project's consistency with applicable goals and policies in the City General Plan was provided in Appendix F of the 2006 Draft EIR/EIS. The analysis for goals and policies in the Natural Resources Element is supplemented and set forth in a new Appendix P attached to this Recirculated DEIR/Supplemental DEIS.

The following discussion supplements the analysis in new Appendix P to address the proposed Project's consistency with General Plan Actions NR 1.1.3 and NR 1.7.1 in light of the Superior Court's interpretation of these General Plan Actions in its decision in *California Native Plant Society v. City of Rancho Cordova* (Case No. 06 CS 01311) (Preserve decision). The analysis of General Plan consistency in this document is in compliance with the requirements of CEQA. The City Council will adopt findings of General Plan consistency for the Proposed Project as part of any project approval in accordance with the standards under state law.

In *California Native Plant Society v. City of Rancho Cordova*, the California Native Plant Society challenged the City's certification of an environmental impact report for its approval of the "Preserve at Sunridge" project ("the Preserve Project"), which is part of the Sunrise Douglas Community Plan, claiming that the Preserve Project was inconsistent with Actions NR 1.1.3 and NR 1.7.1. The trial court ruled that substantial evidence did not support the City's findings of General Plan consistency for the Preserve Project. For the Preserve Project, the City Council made General Plan consistency findings for the project, generally. But, the Council did not interpret or make specific General Plan consistency findings on these two Actions. The City does not agree with the trial court's interpretation of City policies. The City and Real Parties have appealed the trial court decision. The appeal is pending.

The facts supporting consistency of the Proposed Project with Actions NR.1.1.3 and NR 1.7.1 are set forth in Appendix P. However, under the reasoning and interpretation in the Preserve decision, the Proposed Project may be found potentially inconsistent with these policies. For the

purposes of full disclosure under CEQA, the potential inconsistency of the Proposed Project with these policies under the Preserve decision's interpretation (which the City disputes) is included in this document, since the case is pending. The following facts are identified as grounds for potential inconsistency of the Proposed Project with NR Action 1.1.3 based on the reasoning of the Preserve decision: (1) lack of connection to potential, off-site habitat areas; (2) inclusion of roadways that traverse the proposed Project preserve area; and (3) alteration of Morrison Creek outside the proposed Project preserve area. The following facts are identified as grounds for potential inconsistency of the Proposed Project with Action NR 1.7.1 based on the reasoning in the Preserve decision: the Proposed Project will result in a cumulatively considerable contribution to the significant cumulative impact of loss of certain types of habitat for species in the region.

In addition to appealing the Preserve decision, the City has initiated amendments to policies and actions in its Natural Resources Element to clarify its intent under these policies (Amendments). The Natural Resources Element Amendments are being processed by the City. The Amendments include the addition of a definition of "feasible" (consistent with how that term is defined under CEQA) and revisions to the following Policies and Actions: NR Policies 1.10, 1.11, 2.2 and 3.2, and NR Actions 1.1.1, 1.1.3, and 1.7.1. The City has not adopted the Amendments at the time this document was completed. Although these are proposed Amendments, for the purposes of providing full information and disclosure in this Recirculated DEIR/Supplemental DEIS, Appendix P contains an analysis of the proposed project's consistency with these proposed Amendments. Appendix P sets forth the language of the proposed Amendments. Further information on the processing of the proposed Amendments is available for review at the City Planning Department. The proposed project would be consistent with these amended Policies and Actions (if adopted) based on facts similar to those set forth in Appendix P for the existing Policies and Actions. The Amendments would not cause a change in the conclusion that the proposed project is consistent with the Natural Resources Element of the General Plan.

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 late 2010 or early 2011, 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 before commencement of mitigation pursuant to the MMP developed for the project, USACE, the Central Valley RWQCB, and the City may consider (if applicable) modifications to the MMP to be consistent with the SSCHCP.

Consistency with the Recovery Plan for Vernal Pool Ecosystems

The *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (USFWS 2005) was released by USFWS on December 15, 2005. This plan addresses 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 that 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 that it has the highest priority for recovery. Protection of Zone 1 core areas has been designated as a Priority 1 action by USFWS biologists because they believe that within each Zone 1 core area, species occurrences and suitable vernal pool habitat must be protected to prevent extinction or irreversible decline of at least one species covered in the recovery plan.

The recovery plan does not establish regulatory requirements; however, within Priority 1 areas, USFWS recommends that 85%–95% of the sustainable vernal pool habitat within the core area be protected. Furthermore, conversations with USFWS biologists about the proposed project have indicated that USFWS would attempt to achieve these preservation targets for each project site throughout the 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. Project consistency cannot be determined because accurate mapping is currently unavailable for the entire core area and the "core area" itself can only be projected onto project maps from the hard copies provided in the recovery plan, and because the vernal pool recovery plan is not mandated. However, USFWS would likely consider the recently released recovery plan during Section 7 consultation for the project. Mitigation currently proposed in the draft wetland MMP in Appendix Q would preserve approximately 70% of the on-site vernal pool habitat that appears to be within the Mather Core Area. However, the proposed mitigation plan would also provide preservation for 15.2 acres of vernal pool and other wetland habitats at the Cook Property, which is also within the Mather Core Area.

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 MMP, 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 21.7 acres of jurisdictional wetlands and 5.5 acres of other waters of the United States (i.e., ponds and ephemeral drainage).

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 CWA. 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:

- The project applicant(s) shall conduct an assessment of representative portions of the proposed wetland preserves within the Rio del Oro property and any other proposed preserve areas using the California Rapid Assessment Method (CRAM) for Wetlands. Data shall be used to evaluate current conditions and serve as a baseline for future monitoring. The following requirements apply to the assessment of the proposed wetland preserves:

  - The field assessment shall be conducted during the flowering period for plant species associated with vernal pools, typically March through June.

  - The investigation shall define and evaluate assessment areas. Such areas shall be analyzed using 17 different metrics organized into four main attributes developed for vernal pool systems (*California Rapid Assessment Method for Wetlands Depressional Field Book*, Version 5.0, September 2007). Those attributes are: buffer and landscape context, hydrology, physical structure, and biotic structure.

  - CRAM scores shall be calculated for each assessment area by adding up the component metrics of each attribute and converting the sum into a percentage of the maximum score possible for that attribute.

  - The CRAM analysis shall also include a discussion of potential stressors associated with human activities within or surrounding the wetlands assessed, which may provide

qualitative information regarding the CRAM scores.

The data collected during the initial assessment shall serve as the baseline (preproject condition), to which data collected during future monitoring efforts shall be compared.

- As part of the Section 404 permitting process, a draft wetland MMP has been developed for the project (Appendix Q) by ECORP Consulting 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 MMP 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 MMP 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 MMP 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 MMP, 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 MMPs must demonstrate how the aquatic functions and values that would be lost through project implementation will be replaced. The habitat MMP for jurisdictional wetland features will need to be consistent with USACE's December 30, 2004, *Habitat Mitigation and Monitoring Proposal Guidelines*. The wetland MMP 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 MMP shall include the following:

  - target areas for creation;
  - a complete biological assessment of the existing resources in the target areas, including a CRAM analysis conducted during the wet season to establish baseline conditions;
  - 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. As requested by EPA, the monitoring plan shall incorporate CRAM analysis and the following elements:
    - intensive monitoring of hydrology early on (this can be phased out as created wetlands are achieving target standards);
    - CRAM analysis conducted annually for 5 years after any construction adjacent to assessment areas to determine whether these areas are retaining functions and values;
    - analysis of CRAM data, including assessment of potential stressors, to determine

whether any remedial activities may be necessary;

- corrective measures if performance standards are not met;
- monitoring of vegetation communities and targeted special-status species as success criteria for hydrologic function have become established and the creation site "matures" over time;
- reference locations for comparison to compensatory vernal pools to document success;
- adaptive management measures to be applied if performance standards are not being met;
- responsible parties for monitoring and preparing reports; and
- responsible parties for receiving and reviewing reports and for verifying success or prescribing implementation or corrective actions.

- An operations and management plan for the Preserve shall be prepared and submitted to USACE and USFWS for review and approval. The plan shall include detailed information on the habitats present within the target area, the long-term management and monitoring of these habitats, legal protection for the target area (e.g., conservation easement, declaration of restrictions), and funding mechanism information (e.g., endowment).

► 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 National Pollutant Discharge Elimination System (NPDES) permit and associated best management practices (BMPs). See Section 3.4, "Drainage, Hydrology, and Water Quality," of the 2006 DEIR/DEIS for a further discussion of the NPDES.

- 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 MMP 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 MMP 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 MMP. 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 MMP 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 A model-based watershed analysis was conducted by ECORP Consulting (Appendix Q) to determine hydrologic effects on wetlands within the 507-acre preserve. The long-term viability of the preserve was analyzed using all of the following factors:

- the size of the preserve,
- the amount of watershed area required to support the wetlands within the preserve,
- the potential impacts from the construction of Rancho Cordova Parkway and Americanos

Boulevard,

- the construction of the mitigation wetlands within the preserve, and
- the watershed area needed to support the hydrologic function of each mitigation wetland.

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 in the 2006 DEIR/DEIS) as natural substrate span crossings over Morrison Creek. Rancho Cordova Parkway and Americanos Boulevard would cross Morrison Creek with a clear span of the delineated wetlands within the channel bank, so no construction would occur within the channel and no fill or modification of the channel would be required.

GIS analysis of a LiDAR-derived topographic model (Appendix Q) and wetland delineation data were used to determine the watershed-to-wetland ratio (WWR) for the wetlands within the preserve. It was found that the proposed configuration of the preserve conserves almost 100% of the original watershed area and would not negatively affect the hydrologic function of the vernal pools. GIS analysis calculated the mean watershed ratio of existing vernal pools in the preserve at 7.14:1. This WWR would be maintained for all existing vernal pools, except that the WWR of one small pool (0.053 acre) would be reduced to 6.62:1. The adverse effect on this vernal pool should not be considered significant because pools of this size class require a WWR of only 3.26:1 to maintain functionality.

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,” of the 2006 DEIR/DEIS 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 off-site or within the preserve. 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, which are described in Section 3.4, “Drainage, Hydrology, and Water Quality,” of the 2006 DEIR/DEIS are met. The discharge site into Morrison Creek and associated tributaries shall be monitored to ensure that preproject conditions are being met. Stormwater runoff from Rancho Cordova Parkway would be discharged out of the wetland preserve to the north and south, and runoff from the central portion of the road would drain into a water quality treatment swale before being discharged into the wetland preserve (Exhibit 3.10-4). Runoff from Americanos Boulevard would be directed into a water quality treatment basin before being discharged into Morrison Creek (Exhibit 3.10-5). The water quality swale and treatment basins would be designed according to the *Stormwater and Water Quality Design Manual for the Sacramento and South Placer Regions* (Sacramento Stormwater Quality Partnership 2007) and shall meet the performance standards described in Section 3.4, “Drainage,

Hydrology, and Water Quality," of the 2006 DEIR/DEIS. 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. It is assumed that once a mitigation plan has been accepted by USACE and is implemented as required (including on-site preservation, on-site creation, purchase of off-site preservation areas, and purchase of credits at a mitigation bank), the direct impacts resulting from project implementation could be mitigated by providing "no net loss" of overall wetland acreage resulting from the project, as required by USACE conditions. The project applicant(s) has already purchased 13 acres of seasonal wetland habitat at the Clay Station Mitigation Bank and an additional 22.3 acres of wetland habitat at the 160-acre Cook property. The exact ratio of on site preservation versus on-site creation is currently being determined through consultation between USACE and the project applicant(s). 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, as discussed below in Impact 3.10-6, "Cumulative Biological Resources Impacts."

- The GIS watershed analysis of the LiDAR-derived topographic model indicates that hydrology of vernal pools and other wetland habitats within the proposed on-site preserve would not be adversely affected by fragmentation. However, wetlands on parcels downstream of the project site in the Morrison Creek watershed could be adversely affected by increased flows in Morrison Creek resulting from project implementation and wetlands on adjacent parcels could be adversely affected by habitat fragmentation and other indirect impacts for which no additional feasible mitigation measures are available that would be sufficient to compensate for all impacts. Even though there are existing roadways separating the project site from adjacent parcels to the north, south, and southwest, hydrological connectivity is not cut off under existing conditions because roadside ditches and culverts allow flows to pass from one site to the next. The amount of impervious surface that would exist adjacent to wetlands on neighboring parcels would be greatly increased as a result of project implementation and this could have indirect adverse effects on the hydrology of those wetlands.

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, including grading in the eastern open space tract to contain seasonal flows to an active channel and define the 100-year flood plain, construction of roadway crossings, and construction of an overbank detention basin in the southwest corner of the project site.

The portion of Morrison Creek downstream of the vernal pool preserve would be reconfigured to connect hydrologically with the constructed drainages and to allow for gravity flows away from the project (no pumps). About 2,000 feet of Morrison Creek would be improved to connect the creek (from where it leaves the vernal pool preserve) to the proposed main drainage corridor. The improved channel would slope westerly at approximately 1% from elevation 175 feet to 142 feet over a length of 2,000 feet. The downstream end of the improved channel would include erosion control materials (e.g., rip-rap) to reduce the velocity of erosive runoff. The runoff would then flow southwesterly in the main drainage corridor across Sunrise Boulevard at the upstream culvert, at an elevation of 135 feet. These improvements are necessary to provide sufficient runoff conveyance, to mitigate erosion, and to provide public safety for the future development. 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 and inundated low areas with water), 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. Although the constructed drainage corridors would establish a substantial amount of riparian habitat from volunteer vegetation growth, the project applicant would plant and monitor, at a minimum, the amount of riparian habitat acreages required as established as mitigation through consultation with DFG as part of the streambed alteration agreement required for work on Morrison Creek. 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 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.

Although Section 7 consultation for the project is ongoing, a draft VELB mitigation plan has been developed by ECORP Consulting (2007b)(Appendix R). Details from this draft plan, which

might be modified slightly as a result of the issuance of the final biological opinion (BO) for the project, are provided in Impact 3.10-4. 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 on habitat quality include isolation of remaining riparian habitat from other wooded open space, reduction of foraging habitat adjacent to nesting and roosting sites, and disturbances from urbanization adjacent to the north, east, and west. Potential disturbances include intrusion by domestic animals, noise, and light disturbances that could deter raptor nesting, and introduction of invasive species from adjacent residential landscaping. 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 project 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 MMP. The draft wetland MMP shall address impacts on the stream channel of Morrison Creek and shall include mitigation of impacts on riparian habitats to the satisfaction of DFG, subject to limitations on its authority set forth in Fish and Game Code Section 1600 et seq. The MMP shall include performance standards and success criteria to ensure that mitigation habitat would be successfully maintained.

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 MMP 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 MMP 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 MMP shall be implemented as part of project construction activities that adversely affect riparian habitat. The riparian habitat MMP 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 currently being developed by ECORP Consulting on behalf of the project applicant(s) shall be expanded to address riparian and stream impacts to the satisfaction of the City and DFG, subject to limitations on its authority set forth in Section 1600 et seq. of the California Fish and Game Code. Although it is anticipated that a plan to compensate for the loss of some of the riparian habitat would be developed, the project would still result in a substantial net loss of cottonwood- and willow-dominated communities that currently provide habitat for nesting and foraging raptors, neotropical migrant land birds, and other birds, as well as other common wildlife species. 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 result from isolation of remaining habitat from other similar habitat, reduction of adjacent foraging habitat, urbanization adjacent to north, east, and west and disturbances from domestic animals, light and noise disturbances, and potential introduction of invasive plant species from adjacent landscaping. The Impact Minimization Alternative would also result in a substantial net loss of cottonwood- and willow-dominated communities that currently provide habitat for nesting and foraging raptors, neotropical migrant land birds, and other birds, as well as other common wildlife species, even though the most valuable of these habitats would be preserved. Indirect impacts, therefore, 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 under its current General Plan 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 implement one of the following measures:

- 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.
- The tree planting or mitigation plan shall include monitoring requirements and success criteria, as determined by a qualified professional, to ensure that replacement trees survive to maturity and can be reasonably expected to persist for the normal life span of the particular species being monitored. Monitoring of replacement trees shall continue for a period of five years following planting and trees that do not survive or meet the success criteria shall be replaced.

Loss of 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, western spadefoot toad, 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 that it has the highest priority for recovery. Protection of Zone 1 core areas has been designated as a Priority 1 action by USFWS biologists 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.

Core areas were identified as Zone 1 in cases where they were occupied by very narrowly endemic species (i.e., few populations and narrow or disjunct distributions that are known to be, or are likely to be, genetically or ecologically distinct) or where the core area supported a high diversity of the species covered by the plan. The Mather Core Area is listed as a Priority 1 area because of the presence of Sacramento Orcutt grass and a "high number of rare species in the area." USFWS's recovery plan lists Sacramento Orcutt grass, slender Orcutt grass, vernal pool fairy shrimp, and vernal pool tadpole shrimp as listed species in the area. Although the recovery plan does not establish regulatory requirements, within Priority 1 areas, USFWS recommends that 85%–95% of the sustainable vernal pool habitat within the core area be protected. Furthermore, conversations with USFWS biologists about the project have indicated that USFWS would be attempting to achieve project-by-project attainment of the 85%–95% preservation target throughout the 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. Project consistency

cannot be determined because accurate mapping is currently unavailable for the entire core area and the "core area" itself can only be projected onto project maps from the hard copies provided in the recovery plan, and because the vernal pool recovery plan is not mandated. However, USFWS would likely consider the recently released recovery plan during Section 7 consultation for the project.

The project would preserve approximately 70% of the vernal pools within that portion of the core recovery area that is located within the project site, which is below the recovery plan goal of 85%–95% preservation. The proposed on-site wetland preserve would connect to a preserve area to the east that is shown in the City General Plan and is within 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). The project applicant, in consultation with USFWS, has also secured an additional property—known as the Cook Property—and 13 acres of wetland habitat at the Clay Station Mitigation Bank for additional mitigation of impacts on vernal pools. The 160-acre Cook Property is also within the Mather Recovery Plan Core Area and contains an additional 22.3 acres of wetland habitat, including 15.2 acres of vernal pools and seasonal wetland and seasonal wetland swale habitat. The northeast portion of the Clay Station Mitigation Bank is within the Cosumnes/Rancho Seco Core Area. The site currently supports both vernal pool fairy shrimp and tadpole shrimp, is connected to other preserves, exhibits wetland functions and values similar to the wetlands to be filled at Rio del Oro, and has been authorized by the Mitigation Banking Review Team to sell mitigation credits in a service area that includes the Rio del Oro project site.

Implementation of the Proposed Project or High Density Alternative would permanently remove approximately 21.7 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, as discussed under Impact 3.10-1, "Loss and Degradation of Jurisdictional Wetlands and Other Waters of the United States, and Waters of the State." Wetland acreages within the wetland preserve that provide potential habitat for federally listed vernal pool invertebrates include 20.4 acres of vernal pools, 2.5 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, as well as off-site mitigation consisting of 22.3 acres at the Cook Property and 13 acres at Clay Station Mitigation Bank. 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, although 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 292 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 42 of the shrubs (ECORP Consulting 2007b).

Although Section 7 consultation for the project is ongoing, an applicant-proposed *Draft Valley Elderberry Longhorn Beetle Mitigation Plan* has been developed by ECORP Consulting (2007b) and is included in Appendix R. The draft mitigation plan is subject to review and approval by USFWS. The following details are provided from this draft plan, which might be modified slightly when the final BO for the project is issued.

Two elderberry preserve areas, designated as Open Space/Preserve, would be established on the project site (Exhibit 3.10-3). There are currently 37 elderberry shrubs within the two 10- and 12-acre designated preserve areas. All 19 existing elderberry shrubs in the designated western preserve area would be preserved. The 18 existing elderberry shrubs in the designated eastern preserve area would also be retained. These areas would be fenced off during construction with the recommended 100-foot buffer zone marked with colored pin-flags. The 292 elderberry shrubs located in areas proposed for development would be relocated to the elderberry preserve areas. In addition, 2,997 elderberry seedlings and 3,869 associated natives would be planted in the elderberry preserve areas and within the proposed drainage corridors. Furthermore, 154.2 VELB credits would be purchased at a USFWS-approved mitigation bank. The two preserves would be monitored over 10 consecutive years. The two preserve areas would be permanently fenced, protected by deed restrictions and conservation easements, and managed as wildlife habitat in perpetuity. A minimum of two field surveys would be conducted between February 14 and June 30 by a qualified biologist and a written report prepared and submitted for each of the 10 consecutive years.

Although the presence 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 promote the long-term viability of the habitat. 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 expected to occur (could potentially nest and forage) 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 in the project area 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]***

Western Spadefoot Toad

Western spadefoot toad, a California species of special concern, breeds in vernal pools and other suitable seasonal wetlands during wet winter conditions and aestivates in adjacent grassland habitat after the pools have dried. This species has not been documented on the project site, but because suitable habitat is present and this species is known to occur in the project vicinity, it is assumed that western spadefoot could be present.

Implementation of the Proposed Project or High Density Alternative would permanently remove approximately 21.7 acres of jurisdictional wetland and 12.9 acres of nonjurisdictional wetland that provide potential habitat for the western spadefoot toad. In addition to the direct removal of potential habitat, the Proposed Project and High Density Alternatives would be expected to have indirect impacts on potential habitat for western spadefoot toad. Indirect impacts on potential habitat for western spadefoot toad could include mortality related to an increase in vehicular use, and exposure to herbicides, pesticides, and other toxins. In addition, if present, western spadefoot toads could be killed during construction activities.

Under the Proposed Project and High Density Alternatives, the proposed 507-acre wetland preserve would preserve 20.4 acres of vernal pools, 2.5 acres of seasonal wetland swale, and 3.3 acres of seasonal wetland considered as potential habitat for western spadefoot toad. In addition, the Proposed Project and High Density Alternatives include creation of approximately 17.9 acres of vernal pools that could provide habitat for western spadefoot toad in the future, as well as off-site mitigation consisting of 22.3 acres at the Cook Property and 13 acres at the Clay Station Mitigation Bank. However, given the large anticipated increase in urbanization on the adjacent land and the potential for direct mortality during project implementation (if present on site), implementation of the Proposed Project Alternative or the High Density Alternative would result in **direct** and **indirect significant** impacts on western spadefoot toad.

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 and western spadefoot toad 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 and western spadefoot toad 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 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 shall include preparation of supporting documentation

describing methods to protect existing vernal pools during and after project construction, a detailed monitoring plan, and reporting requirements.

A revised draft wetland MMP was developed by ECORP Consulting in September 2007 and is the applicant's proposed plan for addressing project impacts on habitats that potentially support federally listed vernal pool invertebrates. The draft MMP, included in Appendix Q to this document, is subject to review and approval by the appropriate regulatory agencies. Project implementation would result in the fill of 33.9 acres of habitat that could potentially support federally listed vernal pool invertebrates. This habitat consists of 17.5 acres of vernal pools, 4.2 acres of seasonal wetland swale, and 12.2 acres of seasonal wetlands. Indirect impacts on an additional 2.2 acres of vernal pools would also result from project implementation.

Proposed mitigation in the draft MMP includes a combination of on-site preservation and compensatory mitigation (i.e., creation of vernal pools), as well as off-site mitigation through purchase of a 160-acre property, known as the Cook Property, and credit purchase in the Clay Station Mitigation Bank. The Cook Property mitigation proposal would preserve 21.7 acres of existing wetland habitat, including 2.7 acres of vernal pools, 2.6 acres of seasonal wetland swale, and 9.9 acres of seasonal wetland within the Mather Core Recovery Area that could potentially support federally listed branchiopods. Surveys in the vicinity of the Cook Property have identified vernal pool fairy shrimp and vernal pool tadpole shrimp, and the property is contiguous with other conservation properties that support vernal pool habitat. The Clay Station Mitigation Bank would provide compensatory mitigation in the form of 13 acres of created vernal pool habitat that has been monitored for approximately 10 years and currently supports both vernal pool fairy shrimp and vernal pool tadpole shrimp. Proposed on-site mitigation consists of designation of a 507-acre wetland preserve in the southern portion of the project site. A total of 20.4 acres of existing vernal pools would be retained in the proposed preserve and an additional 17.9 acres would be restored and created in the preserve under the proposed MMP. The proposed preserve also contains 2.5 acres of seasonal wetland swale, 3.3 acres of seasonal wetland, 0.6 acre of pond, and 1.9 acres of ephemeral drainage. All of these features, as well as that portion of Morrison Creek that is within the 507-acre wetland preserve, would be preserved. In addition, the proposed draft MMP proposes creation of 20.8 acres of seasonal wetlands within the drainage parkways that would be developed for the project.

In summary, the project would directly or indirectly affect 36.1 acres of potential vernal pool branchiopod habitat; the proposed MMP would preserve 41.4 acres of potential habitat and would create 51.6 acres of potential habitat. This would result in a preservation ratio of 1.15:1 and a compensatory mitigation ratio of 1.43:1, which would result in no net loss of vernal pool or seasonal wetland habitat that could potentially support federally listed vernal pool invertebrates. The details of the MMP are still being developed and reviewed by USACE, and the September 2007 draft is not the final, approved version.

The project applicant(s) shall complete and implement a habitat MMP that will result in no net loss of acreage, function, and value of affected vernal pool habitat. The final habitat MMP 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 (if adopted) 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. A watershed analysis of the hydrologic function of the wetland preserve

was conducted by ECORP Consulting on behalf of the project applicant(s) (Appendix Q). GIS analysis of a hydrologic model created from LiDAR-derived topography and wetland delineation data was used to determine the minimum watershed area required to support hydrologic function of the wetlands within the preserve. It was found that the proposed configuration of the preserve would conserve almost 100% of the original watershed area and would not negatively affect the hydrologic function of existing vernal pools. 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 acreage of vernal pool habitat for each wetted acre of any indirectly affected vernal pool habitat at a ratio approved by USFWS at the conclusion of the Section 7 consultation. 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 the 2006 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 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 the 2006 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." Although Section 7 consultation for the project is ongoing, a draft VELB mitigation plan

has been developed by ECORP Consulting (Appendix R). Because the proposed MMP is in draft form and a final BO has not been issued by USFWS, the proposed MMP may be modified in the future. Details from this draft plan are provided under the impact discussion above. The plan includes creation of two on-site preserve areas, transplanting of all existing shrubs to the on-site preserve areas, planting of 2,997 elderberry seedlings in the proposed preserve areas and drainage parkways, and purchase of 154.2 credits in a USFWS-approved mitigation bank. 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 after 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 are 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, after 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, after consultation with DFG. The City, after 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), after 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, either the endowment funds shall 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.

Mitigation Measure: Implement Mitigation Measures 3.10-1a, 3.10-1b, and 3.10-4a to Reduce Impacts on Western Spadefoot Toad.

PP, HD, IM, NF Measures 3.10-1a and 3.10-1b are discussed above under Impact 3.10-1. Mitigation Measure 3.10-4a was discussed previously under this impact (Impact 3.10-4). These measures would ensure no net loss of western spadefoot habitat.

Timing: Before the approval of grading, improvement, or construction plans and before any ground-disturbing activity in any project development phase that contains vernal pools or other seasonal wetland habitats.

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. The amount of habitat lost and the resulting fragmentation of habitat preserved could potentially contribute to the decline of vernal branchiopods, VELB, Swainson's hawk, and western spadefoot toad populations in the region. This decline would constitute a substantial adverse effect under CEQA.

The project by itself, however, would not be expected to cause a decline in numbers of any of these species to the point where their regional populations were no longer viable, which is the threshold stated in the City's General Plan Policy.

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 Consulting in spring 2003. 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 modify 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. Late-season special-status plant surveys were conducted by ECORP Consulting in June and July 2006. The targeted special-status species included Sacramento Orcutt grass, slender Orcutt grass, and Sanford's arrowhead. No special-status plants were observed on-site during the late-season field surveys (ECORP Consulting 2006).

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.

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 areas of new development, 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 on 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 Consulting'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 an MMP. ***[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 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.

An MMP for Greene's legenere is being developed on behalf of the project applicant(s) by ECORP Consulting. 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.

The mitigation plan proposes 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 wetlands and other waters of the United States includes the planning area for the City General Plan and surrounding areas that support biological resource values and functions similar to those of the project site. This area is expanded from the area described in the 2006 DEIR/DEIS, which considered impacts only from projects within the extent of the Laguna geologic formation; it now also includes areas in the project vicinity that are beyond the Laguna Formation but support similar biological resources.

Impacts

IMPACT 3.10-6

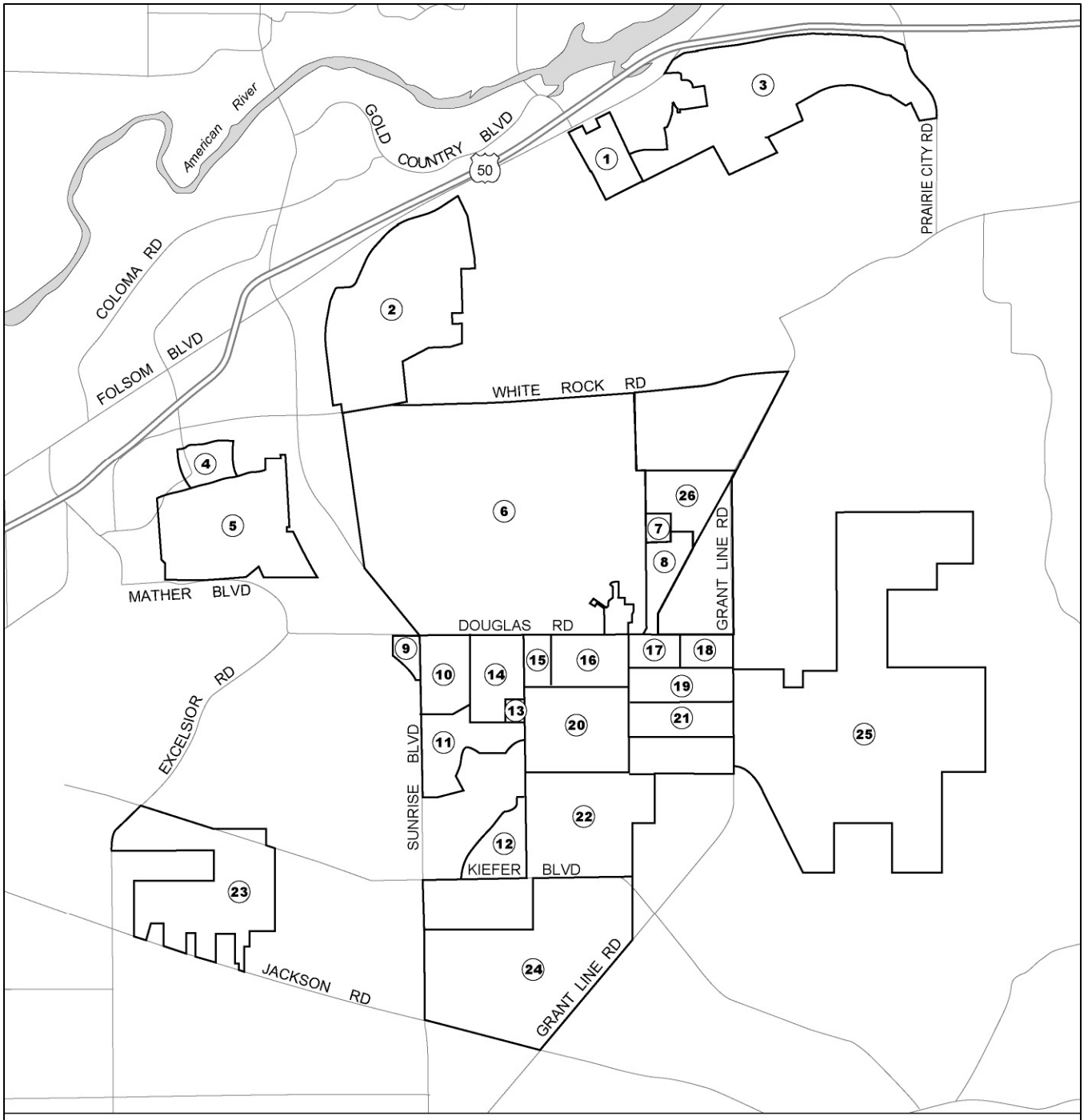
Cumulative Biological Resources Impacts. *Implementation of the project together with past, present, and reasonably foreseeable future projects would result in a cumulatively significant loss of biological resources in the region. The project's incremental contribution to this significant cumulative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

Many projects near the Rio del Oro planning area have been implemented recently or are in various stages of planning and entitlement (see Exhibit 3.10-6). Some have already resulted in negative impacts on wetlands and other waters of the United States. Table 3.10-4 summarizes the impacts of the surrounding projects that were considered in the cumulative impact analysis for the Rio del Oro project.

Table 3.10-4
Wetlands at Projects in the Vicinity of Rio del Oro

Project	Total Wetlands Acreage (Approximate)	Affected Acres of Waters of the United States (Approximate)
Anatolia	Initial wetland acreage unknown. Additional 0.217 acre of waters of the United States for Phase I of Sunrise Douglas Road Improvements, per December 21, 2004, request.	Application not yet submitted.
Arista del Sol	17.41	13.88
Cordova Hills	63[a]	18[a]
Capital Village	Wetlands not found	None
Douglas 98	3.91	3.91
Douglas 103	5.40	1.98
Excelsior Estates	48	42
Glenborough at Easton and Easton Place	23.894	5.76
Grantline 208	11.19	No net loss
Heritage Falls	6.85	6.85
Mather East	2.68	0.19
Mather Field	138[a]	30[a]
Montelena	16.66	10.605
North Douglas	5.36	6.17
North Douglas II	4.42	0.627
Sunridge Lot J	2.99	2.99
Sunridge Park	1.82 plus 1.06 acres of pond	1.8 directly, 1.58 indirectly
The Preserve	20.24	15.65
Villages of Zinfandel	1.15	1.15.
Waegell (The Arboretum)	116.89	Application not yet submitted.
Westborough	22.72 (20 acres are isolated wetlands)	Application not yet submitted.
Total (approximate, not including projects that have not submitted applications)	**513.644**	**161.56 plus 1.58 indirect**

Notes:
[a] Taken from U.S. Environmental Protection Agency comment letter on the 2006 DEIR/DEIS (dated February 15, 2007).
Source: Data provided by City of Rancho Cordova and USACE



LEGEND

1. Easton Place at Easton
2. Westborough at Easton
3. Glenborough at Easton
4. Capital Village
5. Villages of Zinfandel
6. Rio del Oro
7. North Douglas II
8. North Douglas I
9. Mather East
10. Anatolia I
11. Anatolia II
12. Anatolia III
13. Anatolia IV
14. Montelena
15. SunRidge Lot J
16. SunRidge Park
17. Douglas 103
18. Douglas 98
19. Grantline 208
20. The Preserve
21. Arista Del Sol
22. SunCreek
23. Excelsior Estates
24. Waegell Villages
25. Cordova Hills
26. Heritage Falls

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Source: City of Rancho Cordova 2007, Adapted by EDAW 2007

Projects in the Vicinity of Rio del Oro

EXHIBIT 3.10-6

Rio del Oro Specific Plan Project Recirculated DEIR/Supplemental DEIS
City of Rancho Cordova and USACE
P 3T089.01 11/28/07

NORTH

EDAW

As indicated in Table 3.10-4, based on the data currently available, cumulative losses of vernal pools and other wetlands within the City's planning area and surrounding areas supporting similar biological resources have been and are expected to be substantial. In addition, road improvements and roadway construction within the City's planning area are estimated to result in direct impacts on an additional 25.1 acres of vernal pool and other wetland habitats that are not included in Table 3.10-4. These impacts were analyzed at a programmatic level in the City General Plan EIR (City of Rancho Cordova 2006b), and mitigation for these impacts is included in the Natural Resources Element of the General Plan.

The Rio Del Oro project would result in degradation of wildlife habitat by developing new facilities that, when combined with other habitat impacts occurring from development within the region, would 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 wetlands and other waters of the United States during implementation of mitigation until performance standards are met. Within the project site there are 37.9 acres of existing vernal pools. Of these, 46% (17.5 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. The project would also result in the permanent loss (fill) of 12.8 acres of wetlands and other waters of the United States other than vernal pools and 10.5 acres of other seasonal wetland habitats that are not waters of the United States (i.e., isolated wetlands). 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 wetland resources. Therefore, vernal pools and other wetlands would be confined to small geographic locations 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 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.

As determined in the City's General Plan EIR, land use as designated in the City's General Plan could result in direct impacts to 28,543.5 acres of habitat that are occupied or potential habitat for listed (special-status) plant or wildlife species (City of Rancho Cordova 2006b). This acreage represents the maximum acreage of habitats that could be directly affected; actual direct impacts may be less depending on the ultimate design of specific development plans, application of General Plan policies on a project specific basis, and project specific compliance with state and federal agency requirements (City of Rancho Cordova 2006b). Table 3.10-5 lists the acreage of each habitat type within the City planning area that could be directly affected by implementation of land uses designated in the City's General Plan for all habitats that also occur at the Rio Del Oro project site. This table is included to demonstrate the overall potential loss of habitat in the City's General Plan planning area. All of the habitats listed in table 3.10-5 provide potential habitat for special-status species as identified in the column "special-status species supported." Each specific project plan within the General Plan planning area that has the potential to cause direct or indirect impacts on the environment would be subject to project-specific CEQA review and appropriate mitigation measures to avoid, minimize, and compensate for impacts on habitats and associated special-status species would be developed on a project by project basis. The table shows, nonetheless, that development of the City's General Plan Land Use Map is expected to result in the loss and

modification of large amounts of these habitat types in the region. Due to its size and large acreage of habitats that would be lost as a result of project implementation, the Rio Del Oro project would contribute substantially to this regional loss.

When considered collectively, the existing, proposed, planned, and approved projects in the area would result in fragmentation of habitats and lead to the decline of regional biological resources including special-status species. These impacts are considered cumulatively **significant**.

Table 3.10-5
Acreage of Potential Special-Status Species Habitats that Could be Directly Affected by the City of Rancho Cordova General Plan Land Use and that also Occur at the Project Site

Habitat Type	Listed Species Supported	Total Acreage in General Plan Planning Area
Vernal Pool Grassland	Swainson's Hawk	20,728.8
Grassland	Swainson's Hawk	637.5
Vernal Pool	Bogg's Lake hedge-hyssop Ahart's dwarf rush Legenere Pincushion navarretia Slender Orcutt grass Sacramento Orcutt grass Sanford's arrowhead Vernal pool fairy shrimp Vernal pool tadpole shrimp California linderiella	630.3
Cottonwood Woodland	Swainson's Hawk	131.6
Mixed Riparian Scrub	Bank swallow Swainson's Hawk	21.0

Notes:
Source: Data provided by City of Rancho Cordova in 2007

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 to less-than-significant levels. 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 habitat fragmentation and permanent loss/displacement of special-status wildlife would result.