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Biological Resources Assessment

Ryan Avenue Project
Chico, Butte County, California

October 2012

Prepared for:

George Santos
634 West 4th Avenue
Chico, CA 95926

Prepared by:

NorthStar ENVIRONMENTAL
Formerly Galloway Consulting

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List of Abbreviated Terms

BCM	Butte County Meadowfoam
BSA	Biological Survey Area
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
EPA	U.S. Environmental Protection Agency
ESA	Federal Endangered Species Act
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
PRC	Public Resource Code
RWQCB	Regional Water Quality Control Board
SNC	Sensitive Natural Community
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1. EXECUTIVE SUMMARY

NorthStar Environmental (NorthStar) conducted biological surveys in the approximately 6-acre Ryan Avenue Project Biological Survey Area (BSA) near the City of Chico Municipal Airport in Butte County, California. The BSA is characterized by disturbed annual grassland and urban development void of vegetation consisting of gravel access roads and equipment parking areas. The BSA is bordered by Cohasset Road along the eastern boundary, a commercial complex along the southeastern boundary, Ryan Avenue along the southern-most boundary, disturbed annual grassland to the west, and a local recreational area to the north. A general biological survey was conducted within the BSA on October 1, 2012 by botanist Elena Gregg and biologist Andrew Anderson.

Based on the results of the survey conducted on-site, the BSA supports marginal foraging habitat for the Swainson's hawk and marginal habitat for western burrowing owls and other ground nesting birds protected under the Migratory Bird Treaty Act (MBTA). As such, ground disturbance activities must be conducted between September 1 and February 28 (i.e. the non-breeding season). If vegetation removal or ground disturbance occurs during the breeding season (i.e. March 1 to August 31) pre-construction migratory bird and raptor surveys will be required.

One small seasonal wetland does occur within the northwestern portion of the BSA. This wetland contains only low potential for federally listed species to occur including Butte County meadowfoam, vernal pool fairy shrimp, and vernal pool tadpole shrimp due to the lack of vernal characteristics and suitable ponding depth and duration.

Impacts to the one seasonal wetland within the BSA may be regulated by the U.S. Army Corps of Engineers (USACE) and/or the Regional Water Quality Control Board (RWQCB), and permits from these agencies my need to be acquired depending upon the jurisdictional status of the wetland and the amount of impacts proposed. Mitigation for impacts to the wetland may be required as directed by the agencies.

2. INTRODUCTION

NorthStar Environmental (NorthStar) conducted biological surveys in the Ryan Avenue Project Biological Survey Area (BSA) in Chico, Butte County, California (**Figure 1**). The approximately 6-acre BSA is located in Section 34, Township 23N Range 1E, of the Richardson Springs U.S. Geological Survey (USGS) 7.5-minute quadrangle. The BSA is bordered by Cohasset Road along the eastern boundary and Ryan Avenue along the southern-most boundary. Surveys were conducted on October 1, 2012 by botanist Elena Gregg and biologist Andrew Anderson to determine the presence of sensitive natural resources and to determine if these resources would be impacted by the proposed project. Proposed on the BSA is the fill of the northwest corner of the site, the use of the eastern-most portion of the BSA along Cohasset Road as a materials storage area, the installation of two temporary buildings, the installation of a storm drain line in the western portion of the BSA, and the potential future construction of a mini storage area in the southern portion of the BSA adjacent to Ryan Avenue.

3. METHODS

3.1 Biological Resources

3.1.1 Special-Status Species

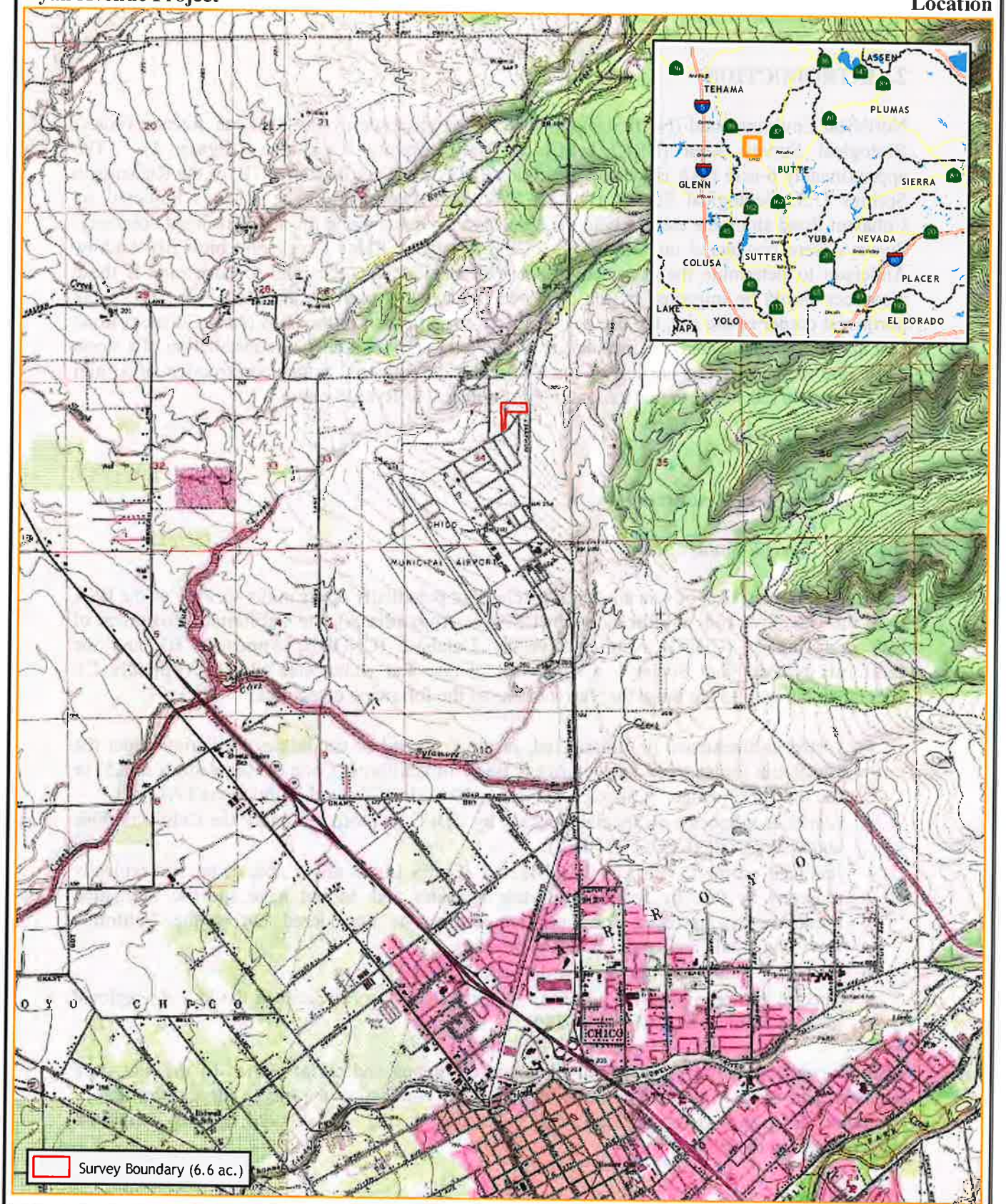
NorthStar obtained lists of special-status species that potentially occur in the vicinity of the BSA from the U.S. Fish and Wildlife Service (USFWS, **Appendix A**), the California Department of Fish and Game's (CDFG) Natural Diversity Database (CNDDB, **Appendix B**), and the California Native Plant Society's (CNPS) list of rare and endangered plants (**Appendix C**). Special-status species are those that fall into one of the following categories:

- Listed as threatened or endangered, or are proposed or candidates for listing under the California Endangered Species Act (CESA, 14 California Code of Regulations 670.5) or the federal Endangered Species Act (ESA, 50 Code of Federal Regulations 17.12);
- Listed as a Species of Special Concern by CDFG or protected under the California Fish and Game Code (CFGC, §3503.5);
- Included on the CNPS List 1A, 1B, or 2 (CNPS List 3 and 4 species are not typically regarded as rare by federal and state agencies and do not have specific mitigation requirements; however, they are required to be considered during the California Environmental Quality Act (CEQA) process);
- Protected under the Migratory Bird Treaty Act (MBTA); or
- Species that are otherwise protected under policies or ordinances at the local or regional level as required by CEQA (§15380).

Prior to conducting the onsite survey, topographic maps and aerial photos of the site were reviewed and areas of potential habitat noted. After conducting the onsite survey, the agency special-status species lists were reviewed and edited, taking into account existing conditions observed within the BSA.

Ryan Avenue Project

Location



Within Section 34 of
T23N, R1E Butte County, CA.
Richardson Springs USGS 7.5' Quad
Map Date: October 3, 2012

Miles
0 0.5 1

NorthStar ENVIRONMENTAL

Figure 1

3.1.2 Sensitive Natural Communities

NorthStar consulted the CNDDB to identify Sensitive Natural Communities (SNC) occurring on the Richardson Springs and eight surrounding USGS quadrangles. These SNC were then surveyed for within the BSA during the field visit. The Office of Planning and Research define project effects that substantially diminish habitat for fish, wildlife or plants, or that disrupt or divide the physical arrangement of an established community as significant impacts under CEQA (Public Resources Code §21083 and CEQA Guidelines §15382). This definition applies to certain SNC because of their scarcity and ecological values and because the remaining occurrences are vulnerable to elimination. The CNDDB identifies SNC based on classifications created by Holland, R.F. (1986), which includes those communities that, if eliminated or substantially degraded, would sustain a significant adverse impact as defined under CEQA. Sensitive Natural Communities are important ecologically because their degradation and destruction could threaten populations of dependent plant and wildlife species and significantly reduce the regional distribution and viability of the community. If the number and extent of SNC continue to diminish, the status of rare, threatened, or endangered species could become more precarious, and populations of common species (i.e., non special-status species) could become less viable. Loss of SNC also can eliminate or reduce important ecosystem functions, such as water filtration by wetlands and bank stabilization by riparian woodlands.

3.1.3 Critical Habitat

NorthStar determined if USFWS-designated critical habitat for special-status species occurs in the BSA by contacting the GIS Branch of the USFWS and accessing their critical habitat mapping database. When the USFWS lists a species as threatened or endangered under the federal ESA, areas of habitat considered essential to its conservation and survival may be designated as critical habitat. These areas may require special consideration and/or protection due to their ecological importance. Although critical habitat may be designated on state or private lands, activities on them are not restricted unless there is federal involvement or direct impacts to listed species are expected. The BSA was determined to not occur within any designated critical habitat. However, critical habitat for vernal pools/vernal pool fairy shrimp/vernal pool tadpole shrimp/Butte County meadowfoam is located adjacent to the BSA to the east and critical habitat for Conservancy fairy shrimp is located approximately 1.8 miles north of the BSA. Furthermore, the BSA was identified as occurring within a USFWS designated Vernal Pool Core Recovery Region. While the core area incorporates the vernal pool critical habitat areas, the core areas outside critical habitat "have no legal mandate for protection under the Endangered Species Act and solely rely upon voluntary implementation" (USFWS 2005).

3.2 Waters of the United States

A formal Delineation of Waters of the United States was conducted within the BSA by NorthStar on October 1, 2012. Based on the delineation, one small, potentially isolated seasonal wetland totaling 0.03 acre occurs within the BSA. This delineation has not been submitted to the U.S. Army Corps of Engineers (USACE) at this time for verification. The actual acreage of the jurisdictional Waters of the U.S. is dependent upon review and approval by the USACE.

3.3 Field Surveys and Personnel

Biological surveys were conducted in the BSA on October 1, 2012 by botanist Elena Gregg and biologist Andrew Anderson. General biological resource surveys for plant and wildlife species and their habitats were conducted to determine the potential for their presence in the BSA and to determine if these resources would be impacted by the proposed project. The survey included conducting meandering transects though out the BSA, with special focus on habitat types frequently associated with special-status species.

Following the field survey, the "potential for occurrence" was determined based on the quality and types of habitats observed on the site. For birds and bats, the potential for occurrence is considered during the appropriate timeframes when these species breed, forage, roost, over-winter, or stop-over in the BSA during migration. Any bird or bat species could fly over the BSA, but this is not considered a potential for occurrence. The categories for the potential for occurrence include:

- **None:** The species or natural community is known not to occur, and has no potential to occur in the BSA based on sufficient surveys, the lack of suitable habitat (including soil, vegetation, connectivity, etc.), and/or the BSA is well outside of the known distribution of the species.
- **Low:** Potential habitat in the BSA is sub-marginal and the species is not known to occur in the vicinity of the BSA. Protocol-level surveys are not recommended.
- **Moderate:** Suitable habitat is present in the BSA and the species is known to occur in the vicinity of the BSA.
- **High:** Habitat in the BSA is highly suitable for the species and there are reliable records close to the BSA, but the species was not observed.
- **Known:** The species or natural community was detected in the BSA or a recent reliable record exists for the BSA.

4. RESULTS

4.1 Environmental Setting

The BSA is characterized by disturbed annual grassland and urban development void of vegetation consisting of gravel access roads, buildings, and equipment parking areas. The BSA is bordered by Cohasset Road along the eastern boundary, a commercial complex along the southeastern boundary, Ryan Avenue along the southern-most boundary, disturbed annual grassland to the west, and a local recreational area to the north. One small seasonal wetland occurs to the northwest of the BSA. This small wetland contains plant species indicative of seasonal wetlands, but appears to be isolated. Soils within the BSA include gravelly loams and clay loams. Elevation on the site ranges from 273 to 292 feet above sea level. Weather documented in the Chico area ranges from an average of 75.2 degrees Fahrenheit in the summer to 46.8 degrees Fahrenheit in the winter with average precipitation totaling 25.66 inches annually (WRCC 2012).

4.2 Habitat Types

California habitat types are described in the California Wildlife Habitat Relationships (CWHR) system based on classifications created by Mayer and Laudenslayer (1988). The CWHR system was designed to aid in the mapping of habitats utilized by California's commonly-occurring birds, mammals, reptiles, and amphibians. The BSA is dominated by disturbed annual grasslands and urban development.

The annual grassland, as classified in the CWHR, is dominated by introduced annual grasses. These include wild oats, soft chess, ripgut brome, red brome, wild barely, and foxtail fescue. This habitat mostly occurs from sea level to about 3900 feet in elevation on flat plains to gently rolling hills. It provides foraging, breeding, and cover habitat for several species; including reptiles, mammals, and birds. Within the BSA, the only areas of existing disturbed annual grassland occur within the eastern-most portion of the BSA and a small area along the northwestern boundary of the BSA.

In addition to the annual grassland, the site is heavily influenced by urban development. Urban development has occurred within or adjacent to most other habitats in California, with the highest density at lower elevations. Within the BSA, the majority of the northern portion of the site is comprised of urban habitat, which includes a large commercial building and gravel equipment storage/parking area. The driveway leading to the building is composed of gravel and the areas immediately adjacent to the gravel driveway have been graded and contain stock piles of materials. During the field visit, no vegetation was present in the driveway area. Due to the disturbance present, the driveway area is also considered urban habitat.

One potentially isolated wetland occurs within the site. This wetland was formed due to the placement of fill on the adjacent property, which has altered the natural hydrology and caused the water runoff that would have normally sheet flowed off the site to pond at the toe of the fill.

4.3 Sensitive Natural Communities

No CNDDB designated SNC's occur within the BSA. The site is dominated by disturbed annual grassland and urban development, which have retained little, if any, remnants of the natural environment that once occurred in the area.

4.4 Critical Habitat

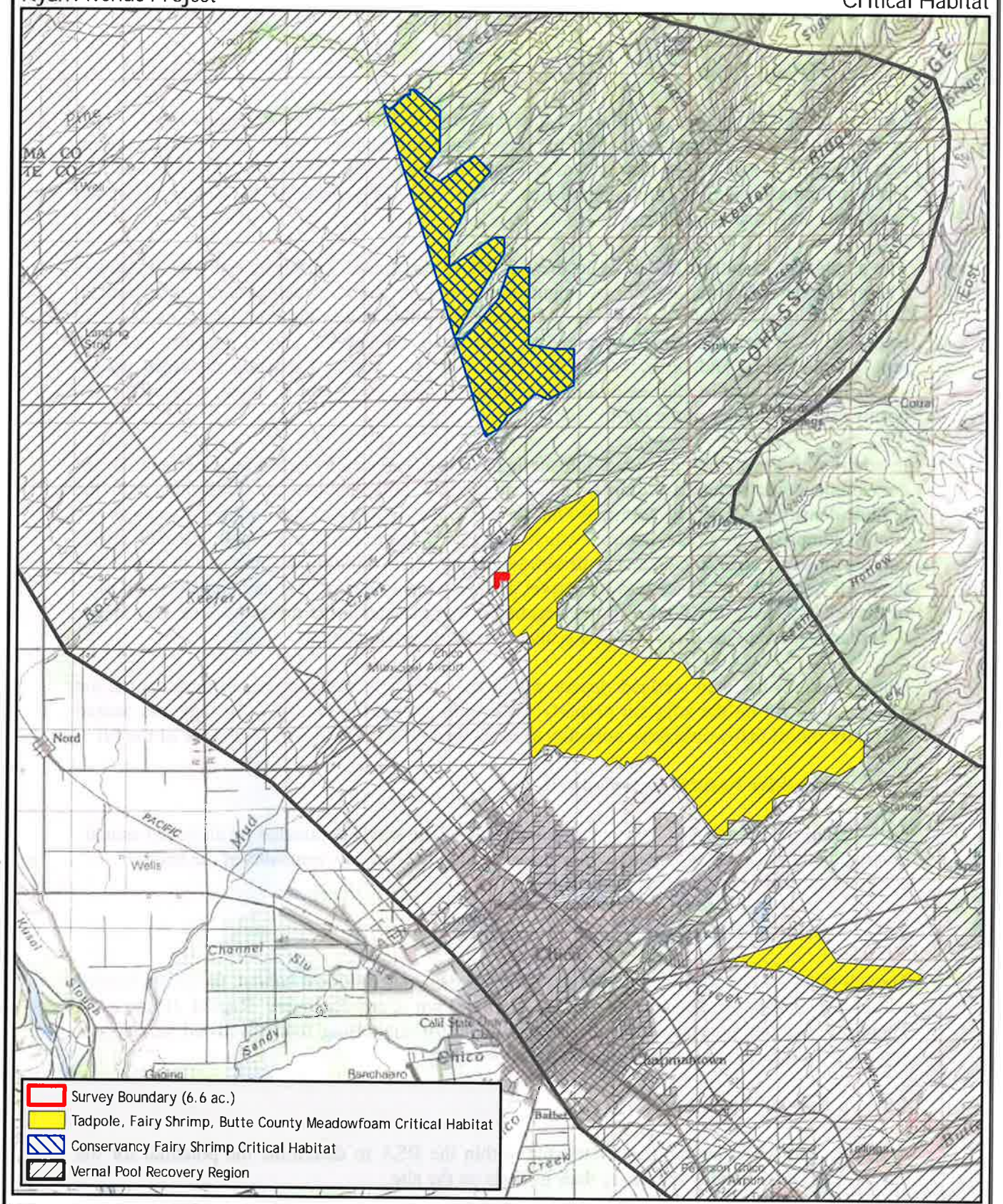
Though the BSA is not located within any USFWS designated critical habitat, the site is located within the Northeast Sacramento Valley Vernal Pool Core Recovery Region (**Figure 2**). Therefore, habitats present within the BSA suitable for supporting federally listed vernal pool species should be avoided to the greatest extent feasible.

4.5 Special-Status Species

A general biological survey was conducted within the BSA to determine the potential for the presence of special-status species or their habitats on the site.

Ryan Avenue Project

Critical Habitat



CNDDB Occurrences derived from CDFG data. (09/01/12)
Project is within Richardson Springst 7.5' USGS Quad.
Map shows Chico 15' USGS Quad.
Map Date: October 3, 2012.

Miles
0 0.5 1

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Figure 2

All of the special-status species listed by the USFWS, CDFG, and CNPS as occurring within the Richardson Springs and/or eight surrounding USGS quadrangles are presented in **Table 1** along with their assessed potential to occur within the BSA. A map of all CNDDB special-status species occurrences within 5 miles of the BSA is provided in **Figure 3**. As depicted in **Figure 3**, three special-status plant species have past occurrences within 1 mile of the BSA including the Butte County meadowfoam (BCM), wooly meadowfoam, and adobe lily. Butte County meadowfoam and wooly meadowfoam have a low potential to occur within the one seasonal wetland present within the BSA. However, wooly meadowfoam is a CNPS list 4 plant species and due to its low potential to occur, is not considered further in this document. Since BCM is a federally listed plant species it is discussed further below even though it has a low potential to occur. The third plant species identified as having potential to occur within 1 mile of the BSA, the adobe lily, does not have any potential to occur on the site since the BSA does not contain the necessary heavy clay soils required by this plant species. None of the other special-status plant species identified as having past occurrences within 5 miles of the BSA were determined to have potential to occur within the BSA due to the lack of suitable vernal, seep, and woodland habitats.

Furthermore, 3 federally listed invertebrate species were identified as having past occurrences within 5 miles of the BSA including the vernal pool fairy shrimp, vernal pool tadpole shrimp, and conservancy fairy shrimp. Both the vernal pool fairy shrimp and vernal pool tadpole shrimp only have a low potential to occur within the one seasonal wetland on the site, however, due to their federally listed status, they are discussed further below. The conservancy fairy shrimp, however, has no potential to occur within the BSA. This is because conservancy fairy shrimp require specific habitat characteristics that are not present within the BSA. Conservancy fairy shrimp in northern California are found only in relatively large and turbid vernal pools formed on Peters Clay soil on the volcanic Tuscan Formation or on the alluvial soils of the Pescadero Clay Loam on Basin Rim landforms (USFWS 2005). None of these landforms occur within the BSA and the seasonal wetland on the site is not a vernal pool and is not large enough to support the conservancy fairy shrimp.

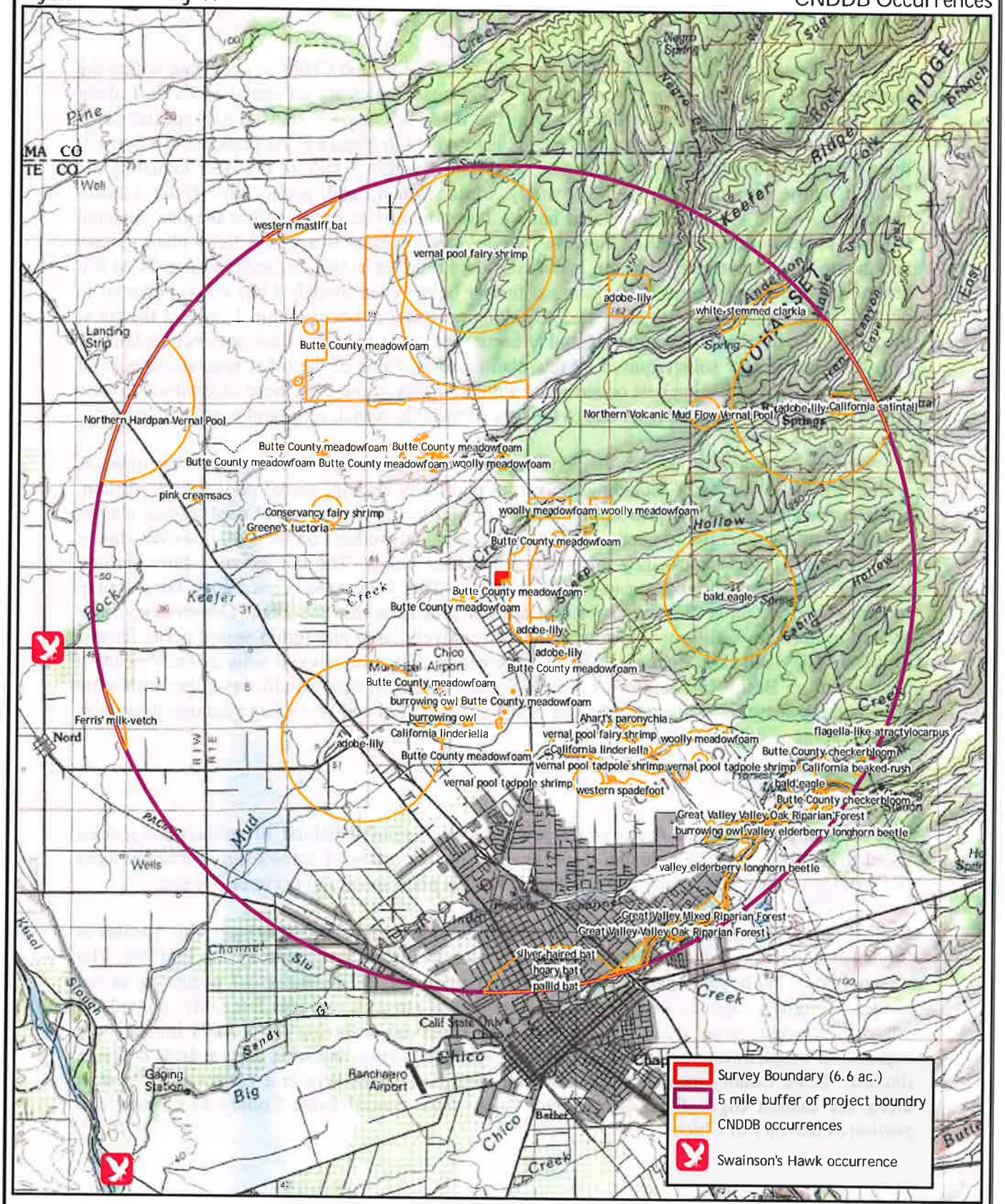
4.5.1 Plants

Due to the highly disturbed nature of the site and lack of suitable habitat, all of the plant species listed in **Table 1** have no potential to occur, with the exception of Butte County meadowfoam (BCM). However, there is only a low potential for this plant species to occur on the site.

Butte County meadowfoam is a state and federal listed endangered species. This species is protected under the federal ESA and critical habitat has been designated by the USFWS. The winter annual herb belonging to the false mermaid family (Limnanthacea) occurs in vernal swales, along the edges of vernal pools and ephemeral streams, and less frequently around the edges of isolated vernal pools. It has also been observed occurring on uplands immediately adjacent to vernal swales and pools and within abandoned irrigation canals and roadside drainage ditches. Butte County meadowfoam has been identified exclusively in a narrow 25-mile strip along the eastern edge of the Sacramento Valley from central Butte County to the northern portion of the City of Chico.

Ryan Avenue Project

CNDDB Occurrences



CNDDB Occurrences derived from CDFG data. (09/01/12)
Project is within Richardson Springs| 7.5' USGS Quad.
Map shows Chico 15' USGS Quad.
Map Date: October 3, 2012.

Miles
0 0.5 1

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Figure 3

Table 1. Special-status species and sensitive natural communities identified by USFWS, CNDDB, and CNPS as potentially occurring in the Ryan Avenue Project BSA.

Common Name (*Scientific Name*)	**Status** Fed/State/ CNPS	**Associated Habitats**	**Potential for Occurrence***
SENSITIVE NATURAL COMMUNITIES			
Coastal and Valley Freshwater Marsh	_/SNC/_	Occurs near river mouths, oxbows, and other areas in the floodplain, and along margins of lakes and springs, where water is quiet and permanently flooded by freshwater. Dominated by perennial, emergent monocots 4-5 meters tall.	None. This SNC is not present within the BSA.
Great Valley Cottonwood Riparian Forest	_/SNC/_	Perennial creeks and rivers in the Central Valley.	None. This SNC is not present within the BSA.
Great Valley Mixed Riparian Forest	_/SNC/_	A tall, dense, winter-deciduous, broadleafed riparian forest. The tree canopy is usually fairly well closed and moderately to densely stocked with several species including *Acer negundo*, *Juglans hindsii*, *Platanus racemosa*, *Populus fremontii*, and *Salix* spp.	None. This SNC is not present within the BSA.
Great Valley Valley Oak Riparian Forest	_/SNC/_	Occurs on the deep alluvial soils of higher floodplain terraces in association with river systems. Can also be found in other upland communities.	None. This SNC is not present within the BSA.
Great Valley Willow Scrub	_/SNC/_	Pioneer riparian community found on depositional areas near the edge of intermittent and perennial creeks and rivers.	None. This SNC is not present within the BSA.
Northern Hardpan Vernal Pool	__/SNC/_	Seasonally flooded depressions on impermeable soils or rock.	None. This SNC is not present within the BSA.
Northern Volcanic Mud Flow Vernal Pool	__/SNC/_	Seasonally flooded depressions on impermeable soils or rock.	None. This SNC is not present within the BSA.
PLANTS			
Adobe Lily (*Fritillaria pluriflora*)	__/__/1B	Chaparral, cismontane woodland, valley and foothill grassland. (Feb-Apr)	None. No suitable heavy clay soils present within the BSA.
Ahart's Buckwheat (*Eriogonum umbellatum var. ahartii*)	__/__/1B	Serpentinite soils, openings, and slopes in chaparral and cismontane woodland. (Jun-Sep)	None. No suitable serpentinite soils or chaparral habitat present.
Ahart's Paronychia *(Paronychia ahartii)*	__/__/1B	Cismontane woodland, valley and foothill grassland, and vernal pools. (Mar-Jun)	None. The wetland in the BSA does not contain suitable mesic or vernal qualities to support this species.
Bogg's Lake Hedge-hyssop (*Gratiola heterosepala*)	__/SE/1B	Marshes and swamps. Vernal pools. (Apr-Aug)	None. The one wetland present does not pond water for long enough duration to support this species.
Brazilian Watermeal (*Wolffia brasiliensis*)	__/__/ 2	Marshes and swamps (shallow freshwater). (Apr-Dec)	None. The one wetland present does not pond water for long enough duration to support this species.

Common Name (*Scientific Name*)	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence*
Brownish Beaked-Rush (*Rhynchospora capitellata*)	__/__/ 2	Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest (mesic), 455-2000 meters. (Jul-Aug)	None. The one wetland present does not pond water for long enough duration to support this species.
Butte County Checkerbloom (*Sidalcea robusta*)	__/__/1B	Chaparral and cismontane woodland. (Apr-Jun)	None. No suitable chaparral habitat present within the BSA.
Butte County Fritillary (*Fritillaria eastwoodiae*)	__/__/3	Chaparral, cismontane woodland, openings in lower montane coniferous forests, sometimes serpentinite. (Mar-Jun)	None. No suitable chaparral habitat present within the BSA.
Butte County Meadowfoam (*Limnanthes floccosa* ssp. *californica*)	FE/SE/1B	Valley and foothill grassland, vernal pools. (Mar-May)	Low. The one wetland in the BSA contains poor habitat for this species, however known occurrences are located adjacent to the BSA.
California Beaked-rush (*Rhynchospora californica*)	__/__/1B	Bogs and fens, lower montane coniferous forest, meadows and seeps, and marshes and swamps. (May-Jul)	None. The one wetland present does not pond water for long enough duration to support this species.
California Satintail (*Imperata brevifolia*)	__/__/ 2	Chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), and mesic riparian scrub, 0-500 meters. (Sep-May)	None. No suitable alkali wetland habitat present within the BSA.
Coulter's Goldfields (*Lasthenia glabrata* ssp. *coulteri*)	__/__/1B	Coastal salt marshes and swamps, playas, and vernal pools (Feb-Jun).	None. No suitable salt or alkaline wetland habitat present.
Dissected-leaved Toothwort (*Cardamine pachystigma* var. *dissectifolia*)	__/__/3	Chaparral and lower montane coniferous forests, usually serpentinite and rocky. (Feb-May)	None. No suitable chaparral habitat present within the BSA.
Ferris's Milk-vetch (*Astralagus tener* var. *ferrisiae*)	__/__/1B	Meadows and seeps, valley and foothill grassland. (Apr-May)	None. No suitable alkaline wetland habitat present within the BSA.
Flagella-like Atractylocarpus (*Campylopodiella stenocarpa*)	__/__/ 2	Cismontane woodland, 100-500 meters.	None. No suitable cismontane habitat present within the BSA.
Greene's Tuctoria (*Tuctoria greenei*)	FE/__/1B	Vernal pools. (May-Jul/Sept)	None. The wetland in the BSA does not contain suitable deep vernal pool qualities to support this species.
Hairy Orcutt Grass (*Orcuttia pilosa*)	FE/SE/1B	Deep vernal pools. (May-Sept)	None. The wetland in the BSA does not contain suitable deep vernal pool qualities to support this species.
Hall's Rupertia (*Rupertia hallii*)	__/__/1B	Cismontane woodland, lower montane coniferous forest, 545-2250 meters. (Jun-Aug)	None. No suitable cismontane habitat present within the BSA.

Common Name (*Scientific Name*)	**Status** Fed/State/ CNPS	**Associated Habitats**	**Potential for Occurrence***
Hoover's Spurge (*Chamaesyce hooveri*)	FT/__/1B	Vernal pools. (Jul-Sep/Oct)	None. The wetland in the BSA does not contain suitable deep vernal pool qualities to support this species.
Mildred's Clarkia (*Clarkia mildrediae ssp. mildrediae*)	__/__/1B	Cismontane woodland and sandy, usually granitic lower montane coniferous forest. (May-Aug)	None. No suitable cismontane habitat present within the BSA.
Norris' Beard Moss (*Didymodon norrisii*)	__/__/2	Cismontane woodland and lower montane coniferous forest (intermittently mesic, rocky)	None. No suitable cismontane habitat present within the BSA.
Pink Creamsacs (*Castilleja rubicundula* ssp. *rubicundula*)	__/__/1B	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (serpentine). (Apr-Jun)	None. No suitable seep or wet meadow habitats present within the BSA.
Red Bluff Dwarf Rush (*Juncus leiospermus* var. *leiospermus*)	__/__/1B	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland and vernal pools/vernally mesic habitats. (Mar-May)	None. The wetland in the BSA does not contain suitable mesic or vernal qualities to support this species.
Red Hills Soaproot (*Chlorogalum grandiflorum*)	__/__/1B	Chaparral, cismontane woodland, and lower montane coniferous forest (typically serpentinite or gabbroic soils). (May-Jun)	None. No suitable cismontane habitat present within the BSA.
Round-leaved Filaree (*California macrophylla*)	__/__/1B	Cismontane woodland, valley and foothill grassland (clay). (Mar-May)	None. No suitable heavy clay soils present within the BSA.
Sanford's Arrowhead (*Sagittaria sanfordii*)	__/__/1B	Marshes and swamps, assorted shallow freshwater. (May-Oct)	None. The one wetland present does not pond water for long enough duration to support this species.
Silky Cryptantha (*Cryptantha crinita*)	__/__/1B	Cismontane woodland, lower montane coniferous forest, riparian forest and woodland, gravelly streambeds in valley and foothill grassland. (Apr-May)	None. No suitable streambed habitat present within the BSA.
Slender-leaved Pondweed (*Stuckenia filiformis*)	__/__/2	Marshes and swamps (assorted shallow freshwater). (May-July)	None. The one wetland present does not pond water for long enough duration to support this species.
Slender Orcutt Grass (*Orcuttia tenuis*)	FT/SE/1B	Drying beds of vernal pools and borrow pits. (May-Sep/Oct)	None. The wetland in the BSA does not contain suitable deep vernal pool qualities to support this species.
Veiny Monardella (*Monardella douglasii* ssp. *venosa*)	__/__/1B	Cismontane woodlands. Valley and foothill grasslands in heavy clay soils. (May-July)	None. No suitable heavy clay soils present within the BSA.
White-stemmed Clarkia (*Clarkia gracilis ssp. Albicaulis*)	__/__/1B	Chaparral and cismontane woodland (sometimes serpentine). (May-Jul)	None. No suitable chaparral habitat present within the BSA.
Wooly Rose-mallow (*Hibiscus lasiocarpos var. occidentalis*)	__/__/2	Marshes and swamps (freshwater). (Jun-Sep)	None. The one wetland present does not pond water for long enough duration to support this species.

Common Name (*Scientific Name*)	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence*
INVERTEBRATES			
Conservancy Fairy Shrimp (*Branchinecta conservatio*)	FE/__/__	Moderately turbid, deep, cool-water vernal pool	None. The wetland feature within the BSA does not contain the necessary vernal pool parameters to support this species.
Valley Elderberry Longhorn Beetle *(Desmocerus californicus dimorphus)*	FT/__/__	Blue elderberry shrubs usually associated with riparian areas.	None. No elderberry shrubs, the host plant of this species, occur within the BSA
Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)	FT/__/__	Moderately turbid, deep, cool-water vernal pool.	Low. The wetland feature within the BSA does not contain the necessary vernal pool parameters to support this species.
Vernal Pool Tadpole Shrimp *(Lepidurus packardi)*	FE/__/__	Vernal pools, swales, and ephemeral freshwater habitat.	Low. The wetland feature within the BSA does not contain the necessary vernal pool parameters to support this species.
REPTILES AND AMPHIBIANS			
California Red-legged Frog *(Rana aurora draytonii)*	FT/__/__	Inhabits quiet pools of streams, marshes, and occasionally ponds.	None. No suitable stream habitat present.
Coast Horned Lizard (*Phrynosoma coronatum*)	-- / CSC / --	Occurs in openings in valley foothill hardwood, coniferous, riparian habitats, pine-cypress, juniper, and annual grassland habitats with sandy soils and presence of ants.	None. No suitable sandy soils present.
Giant Garter Snake (*Thamnophis gigas*)	FT/ST/__	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	None. No suitable drainage or pond habitat present.
Northwestern Pond Turtle *(Actinemys marmorata marmorata)*	__/CSC/__	Associated with permanent ponds, lakes, streams, and irrigation ditches or permanent pools along intermittent streams.	None. No suitable pond or stream habitat present.
Western Spadefoot (*Spea hammondii*)	_/CSC/_	Grassland and woodland and vernal pools without aquatic predators for breeding.	Low. The one wetland in the BSA does not support quality vernal habitat for this species.
FISH			
Central Valley Spring-Run Chinook Salmon *(Oncorhynchus tshawytscha)*	FT/ST/__	Sacramento River and tributaries.	None. No suitable stream habitat present.
Central Valley Steelhead (*Oncorhynchus mykiss*)	FT/ST/__	Sacramento and San Joaquin Rivers and their tributaries.	None. No suitable stream habitat present.
Delta Smelt *(Hypomesus transpacificus)*	FT/ST/__	Sacramento-San Joaquin Estuary	None. No suitable stream habitat present.

Common Name (*Scientific Name*)	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence*
Green Sturgeon (*Acipenser medirostris*)	FT/CSC/_	Sturgeon enter freshwaters to spawn. The only recently-documented green sturgeon spawning locations are in the Klamath, Sacramento, and Rogue rivers along the west coast of North America.	None. No suitable stream habitat present.
MAMMALS			
Pallid Bat (*Antrozous pallidus*)	_/CSC/_	Arid and semi-arid habitats; roosts in rock crevices, caves, and mine shafts.	None. No suitable roosting habitat present within the BSA.
Sierra Nevada Red Fox (*Vulpes vulpes necator*)	__/ST/__	Prefer dense forests interspersed with meadows or alpine fell-fields for cover and den sites. Found in alpine dwarf-shrub, wet meadow, sub-alpine conifer, lodgepole pine, red fir, aspen, montane chaparral, montane riparian, mixed conifer, and ponderosa pine habitats typically above 2200m (7000 feet). Open areas are used for hunting.	None. No suitable montane habitats present within the BSA.
Western Mastiff Bat (*Eumops perotis californicus*)	__/CSC/_	Common species of low elevations in California. Crevices in steep cliff faces or in the roof eaves of buildings of two or more stories (needs vertical faces to take flight).	None. No suitable roosting habitat present within the existing buildings or the natural habitats in the BSA.
Western Red Bat (*Lasiurus blossevillii*)	_/CSC/__	Roosting habitat includes forest and broadleaf woodlands from sea level to coniferous forest. Feeds over grasslands, shrublands, open woodlands, and croplands. Known to occur from Shasta County to the Mexican border – often in riparian habitats.	None. No suitable forested habitats present in the BSA.
BIRDS			
American Peregrine Falcon (*Falco peregrinus anatum*)	__/SE/__	Woodland, forest and costal habitats including riparian and wetland areas. Requires bodies of water in open areas with cliffs and canyons nearby.	None. No suitable nesting or foraging habitat present in the BSA.
Bald Eagle (*Haliaeetus leucocephalus*)	__/SE/__	Lakes, rivers, estuaries, reservoirs and some coastal habitats.	None. No suitable nesting or foraging habitat present in the BSA.
Bank Swallow (*Riparia riparia*)	__/ST/__	Nests in steep riverbank cliffs, gravel pits, and highway cuts.	None. No suitable nesting or foraging habitat present in the BSA.
Burrowing Owl (*Athene cunicularia*)	__/CSC/_	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat.	Moderate. Sub-marginal nesting and foraging habitat present, and a CNDDB occurrence is located within 5 miles of the BSA.
California Black Rail (*Laterallus jamaicensis coturniculus*)	__/ST/__	Yearlong resident of saline, brackish, and fresh emergent wetlands in the San Francisco Bay Area, Sacramento-San Joaquin Delta, coastal Southern California, the Salton Sea and lower Colorado River area.	None. No suitable nesting or foraging habitat present in the BSA.
Swainson's Hawk (*Buteo swainsoni*)	MBTA/ST /__	Nests in isolated trees or riparian woodlands adjacent to suitable foraging habitat	Moderate. Sub-marginal foraging habitat present, and

Common Name (*Scientific Name*)	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence*
		including grasslands or suitable grain or alfalfa fields, or livestock pastures.	a CNDDB occurrence is located within 10 miles of the BSA.
Tri-colored Blackbird (*Agelaius tricolor*)	_/CSC/_	Nests in dense blackberry, cattail, tules, willow, or wild rose within emergent wetlands throughout the Central valley and foothills surrounding the valley.	None. No suitable nesting or foraging habitat present in the BSA.
Western Yellow-billed Cuckoo *(Coccyzus americanus occidentalis)*	FC/SE/__	Structured dense riparian forest, generally willows.	None. No suitable nesting or foraging habitat present in the BSA.
Migratory Birds and Raptors	MBTA	Nest and forage in a variety of habitats including hardwood woodlands, coniferous forests, meadows, grasslands and riparian.	Moderate. Sub-marginal nesting habitat present for ground nesting species.

CODE DESIGNATIONS

FE = Federally-listed Endangered
FT = Federally-listed Threatened
FC = Federal Candidate Species
BCC = Federal Bird of Conservation Concern
MBTA = protected by the federal Migratory Bird Treaty Act

SE = State-listed Endangered
ST = State-listed Threatened

CSC = CDFG Species of Special Concern
FP = CDFG Fully Protected Species
SNC= CDFG Sensitive Natural Community

CNPS 1B = Rare or Endangered in California or elsewhere
CNPS 2 = rare or Endangered in California, more common elsewhere
CNPS 3 = More information is needed
CNPS 4 = Plants with limited distribution

***Potential for occurrence:** for plants it is considered the potential to occur during the survey period; for birds and bats it is considered the potential to breed, forage, roost, over-winter, or stop-over in the BSA during migration. Any bird or bat species could fly over the BSA, but this is not considered a potential for occurrence. The categories for the potential for occurrence include:
None: The species or natural community is known not to occur, and has no potential to occur in the BSA based on sufficient surveys, the lack of suitable habitat, and/or the BSA is well outside of the known distribution of the species.
Low: Potential habitat in the BSA is sub-marginal and the species is not known to occur in the vicinity of the BSA. Protocol-level surveys are not recommended.
Moderate: Suitable habitat is present in the BSA and the species is known to occur in the vicinity of the BSA.
High: Habitat in the BSA is highly suitable for the species and there are reliable records close to the BSA, but the species was not observed.
Known: Species was detected in the BSA or a recent reliable record exists for the BSA.

Within the BSA, the only portion of the site that has optimal soils for BCM to occur does not contain any wetland features. The one wetland feature in the BSA is located in gravelly loam soils that are not as frequently associated with BCM habitat. Furthermore, the wetland is not a natural wetland since the wetland was created following the placement of a large amount of fill abutting the wetland to the northwest. This has caused the wetland to exhibit non-vernal characteristics including not ponding for long enough duration and different plant community composition with a dominance of grasses. Therefore it is not likely BCM would occur within the BSA.

4.5.2 Invertebrates

Two federally listed vernal pool invertebrate species, the vernal pool fairy shrimp and vernal pool tadpole shrimp, have a low potential to occur within the BSA.

The vernal pool fairy shrimp has known populations that extend from Stillwater Plain in Shasta

County through most of the length of the Central Valley to Pixley in Tulare County. Along the central coast, they range from northern Solano County to Pinnacles National Monument in San Benito County. Four additional, disjunct populations exist: one near Soda Lake in San Luis Obispo County, one in the mountain grasslands of northern Santa Barbara County, one on the Santa Rosa Plateau in Riverside County, and one near Rancho California in Riverside County. The vernal pool fairy shrimp occupies a variety of different vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. Although the species has been collected from large vernal pools including one exceeding 25 acres, it tends to occur in smaller pools that remain inundated for a minimum of 9 weeks (USFWS 2005). It is most frequently found in pools measuring less than 0.05 acre. These are most commonly in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands. Vernal pool fairy shrimp have been collected from early December to early May. For vernal pool fairy shrimp, water temperatures of approximately 50°F or lower are needed to hatch and a minimum of 6 inches of ponded water for approximately 9 consecutive weeks is needed, depending on the temperature, to complete its life cycle (USFWS 2007 and 2005). Based on these lifecycle requirements, it is not likely that vernal pool fairy shrimp would utilize the wetland on the site since the wetland does not pond for long duration at a depth of 6 inches due to the deep soils present and the seepage of water through the fill pile. Though water is pumped out of the Cal Water well located adjacent to the BSA, the pumping activities are not regularly conducted and the ponded water drains quickly from the site (see photographs in **Attachment A** depicting the speed at which the wetland drains). Due to the quick draining soils, the wetland feature is characterized by saturated soils with only the lowest point in the wetland ponding water at very shallow depths.

The vernal pool tadpole shrimp is a small crustacean in the Triopsidae family. Their diet consists of organic debris and living organisms, such as fairy shrimp and other invertebrates. They inhabit vernal pools containing clear to highly turbid water, ranging in size from 54 square feet in the former Mather Air Force Base area of Sacramento County, to the 89-acre Olcott Lake at Jepson Prairie. The vernal pool tadpole shrimp is known from 18 populations in the Central Valley, ranging from east of Redding in Shasta County south to the San Luis National Wildlife Refuge in Merced County, and from a single vernal pool complex on the San Francisco Bay National Wildlife Refuge in the City of Fremont, Alameda County. Vernal pool tadpole shrimp mature more slowly than fairy shrimp and are longer lived. They are typically found in pools deeper than 12 centimeters (Jones & Stokes 2006) and take a minimum of 25 days to mature, with reproduction occurring at the mean age of 54 days (USFWS 2005). Optimal hatching occurs between 50°F and 59°F with hatching rates significantly less at temperatures above 68°F (USFWS 2005). As with vernal pool fairy shrimp, the habitat requirements for the vernal pool tadpole shrimp do not occur within the wetland located within the BSA. The wetland drains too quickly for vernal pool tadpole shrimp to complete their lifecycle. Therefore, it is not likely that vernal pool tadpole shrimp would be present.

4.5.3 Reptiles and Amphibians

The only special-status reptile or amphibian species with potential to occur in the BSA is the western spadefoot toad. The western spadefoot toad is in the family Pelobatidae and is distinguishable from other toads by its vertically elliptical pupils, teeth in the upper jaw, smooth

skin, and sharp-edged "spades" on the hind feet. The species ranges in size from 1.5 to 2.5 inches. Adults will forage on insects, worms and other invertebrates. The typical breeding season is from January to May in seasonal pools. Eggs are laid on plant stems or dead plant material in the bottom of pools. Larval development will take from 3 to 11 weeks and must be completed before pools dry. The western spadefoot toad is found from Tehama County to San Diego County, typically below 3000 foot elevation, but has been found as high as 4500 feet. It requires wetland habitats, primarily seasonal features, for reproduction and adjacent open upland areas with short grasses and sandy or gravelly soils for feeding and burrowing (USFWS 2005).

Due to the small size of the wetland within the BSA and the poor quality of adjacent upland habitat surrounding the wetland because of the tall grasses and steep terrain from the placement of fill material, it is highly unlikely that western spadefoot toads would occur within the BSA.

4.5.4 Fish

No special-status fish species have the potential to occur within the BSA due to the lack of stream habitat present.

4.5.5 Mammals

No special-status mammal species have potential to occur within the BSA. The disturbed annual grassland and urban habitats present in the BSA are not suitable for secretive mammal species such as the red fox and the various bat species listed in **Table 1**. The BSA does not contain any trees and the existing building on the site is a metal structure used frequently by humans and not suitable for bat roosting habitat.

4.5.6 Birds

Special-status bird species with potential to occur within the BSA include burrowing owls, Swainson's hawks and ground nesting migratory bird species. The burrowing owl and other ground nesting migratory bird species have a moderate potential to nest and forage within the BSA and the Swainson's hawk has a moderate potential to forage within the BSA. No other special-status bird species were considered to have potential to nest on the site since no trees are present within the BSA.

Burrowing owls inhabit dry, open grasslands. Nests are usually in small burrows that have been constructed and abandoned by small mammals such as ground squirrels or badgers, however, they have also been known to use man-made structures including cement culverts, cement, asphalt or wood piles, and openings under pavement. The breeding season for burrowing owls is from late March through May, and they often reuse burrows year after year. They perch on top of the burrows and other low structures to forage and watch for other predators. Their diet consists of insects, small reptiles or amphibians and small mammals. Burrowing owls also prefer open habitats where the grasses and other vegetation are short in height. The BSA only provides marginal habitat for burrowing owls since few mammal burrows were observed within the BSA, much of the BSA is already disturbed and urbanized, the undeveloped areas of the BSA contain tall grasses that deter burrowing owls since they don't typically inhabit areas with vegetation

taller than 24 inches, the fill present in the northwest corner of the BSA does not contain friable material and would not be used by burrowing owls to nest, and they do not establish burrows in areas that can become inundated with water like the area surrounding the wetland on-site. Also, the closest known CNDDB record of burrowing owls is located approximately 2 miles from the BSA. Based on the small area of feasible habitat for burrowing owls and the high amount of human disturbance within the BSA, it is not likely for burrowing owls to utilize the BSA.

Swainson's hawk is a long-distance migrant with nesting grounds in western North America. The Swainson's hawk population that nests in the Central Valley winters primarily in Mexico, while the population that nests in the interior portions of North America winters primarily in Argentina. Swainson's hawks arrive in the Central Valley between March and early April to establish breeding territories, and breeding occurs from late March to late August, peaking in late May through July. In the Central Valley, Swainson's hawks nest in isolated trees, small groves, or large woodlands, next to open grasslands or agricultural fields. This species typically nests near riparian areas; however, it has been known to nest in urban areas as well. Nest locations are usually in close proximity to suitable foraging habitats, which include fallow fields, irrigated pastures, alfalfa and other hay crops, and low-growing row crops. Swainson's hawks leave their breeding grounds to return to their wintering grounds in late August or early September (Bloom and DeWater 1994). Swainson's hawks' largest threats are loss of habitat and poisoning due to pesticide use in South America, where they winter. No trees or shrubs occur within the BSA, therefore, there is no potential for Swainson's hawks to nest within the BSA. There is potential, however, for Swainson's hawks to nest within 10 miles of the BSA and a moderate potential for Swainson's hawks to forage within the BSA. There is only a moderate potential for Swainson's hawks to forage within the BSA since the closest known CNDDB record of Swainson's hawks is more than 5 miles from the BSA, and there is not a significant amount of natural land left in the BSA that would provide habitat for Swainson's hawks prey species and few mammal burrows were observed within the BSA.

Migratory birds and raptors in the orders Falconiformes (hawks, eagles, and falcons) and Strigiforms (owls) are protected in varying degrees under California Fish and Game Code, Section 3503.5, the Migratory Bird Treaty Act (MBTA), and CEQA. The project site currently provides suitable nesting and/or foraging habitat for several of these species. Direct take of active nests, eggs, or birds is prohibited by CDFG and measures must be taken to minimize disturbance. Therefore, a qualified biologist should conduct a pre-construction migratory bird/raptor survey during April-May, or no more than 30 days prior to construction activities, to determine the presence/absence of nesting birds in the BSA. Should nesting migratory birds or raptors be observed, appropriate spatial and temporal buffers will be required by MBTA and/or CDFG.

5. REGULATORY FRAMEWORK

The following describes federal, state, and local environmental laws and policies that are relevant to the CEQA review process.

5.1 Federal Endangered Species Act

The United States Congress passed the federal ESA in 1973 to protect those species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

Under the ESA, species may be listed as either "endangered" or "threatened." Endangered means a species is in danger of extinction throughout all or a significant portion of its range. Threatened means a species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. All species of plants and animals, except non-native species and pest insects, are eligible for listing as endangered or threatened. The USFWS also maintains a list of "candidate" species. These are species for which there is enough information to warrant proposing them for listing, but that have not yet been proposed. "Proposed" species are those that have been proposed for listing, but have not yet been listed. The ESA makes it unlawful to "take" a listed animal without a permit. "Take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." Through regulations, the term "harm" is defined as "an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."

5.2 California Endangered Species Act

The CESA is similar to the ESA, but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFG when preparing documents to comply with the CEQA. The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, "species of special concern" receive consideration by CDFG. Species of special concern are those whose numbers, reproductive success, or habitat may be threatened.

5.3 Migratory Bird Treaty Act

The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA. Thus, vegetation

removal and ground disturbance in areas with breeding birds should be conducted outside of the breeding season (approximately March 1 through August 31 in the Central Valley). If vegetation removal or ground disturbance activities are conducted during the breeding season, then a qualified biologist must determine if there are any nests of bird species protected under the MBTA present in the construction area prior to commencement of construction. If active nests are located or presumed present, then appropriate avoidance measures (e.g. spatial or temporal buffers) must be implemented.

5.4 California Fish and Game Code

The CFGC (§3503) states that "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." "Take" includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

5.5 Rare and Endangered Plants

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California (CNPS 2001). Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The CNPS listings categorize plants as follows:

- List 1A: Plants presumed extinct in California;
- List 1B: Plants rare, threatened, or endangered in California or elsewhere;
- List 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- List 3: Plants about which we need more information; and
- List 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGC §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFG. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFG and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and Game Code §1913 exempts from the "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way." Very few of the plants constituting List 3 and List 4 meet the definitions of §1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and few, if any, are eligible for state listing. Therefore, List 3 and List 4 plant species are not required to be considered in the preparation of environmental documents relating to CEQA unless they are considered locally or regionally significant.

5.6 CEQA Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGC dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFG (e.g. candidate species, species of concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

5.7 Public Resources Code Section 21083.4

As part of the determination made by a County as to whether a project is required to prepare an environmental impact report or negative declaration, "A county shall determine whether a project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment" (Public Resources Code (PRC) Section 21083.4(b)). If a county determines that there may be a significant effect to oak woodlands, the county shall require mitigation as identified in PRC Section 21083.4(b).

5.8 Waters of the United States

The USACE and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into jurisdictional waters of the United States, under the Clean Water Act (§404). The term "waters of the United States" is an encompassing term that includes "wetlands" and "other waters." Wetlands have been defined for regulatory purposes as follows: "those areas that are inundated or saturated by surface 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 (33 CFR 328.3, 40 CFR 230.3). Wetlands generally include swamps, marshes, bogs, and similar areas." Other waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4).

The USACE may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits are general permits issued to cover particular fill activities. All nationwide permits have general conditions that must be met for the permits to apply to a particular project, as well as specific conditions that apply to each nationwide permit.

5.9 Clean Water Act §401

The Clean Water Act (§401) requires water quality certification and authorization for placement of dredged or fill material in wetlands and Other Waters of the United States. In accordance with the Clean Water Act (§401), criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board (SWRCB), Division of Water Quality. The resulting requirements are used as criteria in granting National Pollutant Discharge Elimination System (NPDES) permits or waivers, which are obtained through the Regional Water Quality Control Board (RWQCB). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

5.10 Streambed Alteration

The CDFG is a trustee agency that has jurisdiction under the CFGC (§1600 *et seq.*). The California Fish and Game Code (§1602), requires that a state or local government agency, public utility, or private entity must notify CDFG if a proposed project will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds... except when the department has been notified pursuant to §1601." If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFG may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFG identifying the approved activities and associated mitigation measures.

6. CONCLUSIONS AND RECOMMENDATIONS

One plant species, the federally listed BCM, has a low potential to occur within the BSA. Due to the lack of suitable soils and associate plant species within the one wetland on the site, it is not likely that BCM would occur in the wetland. However, due to the close proximity of CNDDB records of BCM to the BSA, the CEQA lead agency may still require protocol-level surveys for BCM within the BSA if impacts to the wetland on the site are proposed.

Based on the hydrology of the wetland on the site, it is not likely that the wetland supports the necessary lifecycle requirements for the vernal pool fairy shrimp or vernal pool tadpole shrimp. Also, the closest know CNDDB occurrence of listed vernal pool invertebrates is approximately 2 miles from the BSA. If impacts to this wetland are proposed, informal consultation with the USFWS may be required to confirm the lack of potential to impact listed invertebrate species.

Due to the moderate potential for ground nesting birds, including the burrowing owl, to utilize the BSA and the moderate potential for Swainson's hawks to forage within the BSA, pre-construction surveys for ground nesting birds and raptors must occur if vegetation removal or ground disturbance is proposed during the breeding season for these species (typically March 1 through August 31). The pre-construction survey must be conducted by a qualified biologist and include a survey within the BSA for ground nesting species and a survey within a ½ mile radius surrounding the BSA to determine if any raptor species including Swainson's hawks are nesting in the area. If active nests of burrowing owls or other protected ground nesting bird species are found, a no-disturbance buffer will be established around the nest and no construction activities or material storage will be allowed in the buffer zone until any young have fledged. If active nests of Swainson's hawks are found, mitigation measures consistent with the *Staff Report Regarding Mitigation for Impacts to Swainson's Hawk (Buteo swainsoni) in the Central Valley of California* (Staff Report, CDFG 1994) should be incorporated. The Staff Report also describes the compensatory mitigation requirements for the loss of Swainson's hawk foraging habitat. However, the proposed project will not permanently impact potential Swainson's hawk foraging habitat within the BSA since the two small areas of existing disturbed annual grassland will not be paved. The northwestern corner of the BSA will be filled with dirt, but no permanent structures will be placed in this area, and the eastern portion of the BSA will be used for material storage. Neither of these uses will permanently impact foraging habitat, therefore, no compensatory mitigation for loss of foraging habitat will be required.

The filling activities proposed in the northwestern portion of the BSA will likely impact the one seasonal wetland on-site. If it is determined that the seasonal wetland is under the jurisdiction of the USACE, a Nationwide Permit from the USACE will be required if more than 1/10 acre of the wetland is impacted. If it is determined that the seasonal wetland is isolated and not under the jurisdiction of the USACE, a RWQCB Water Quality Certification may still be required if more than 2/10 acre of impacts occur.

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Appendix A
USFWS Species List

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 121001022224

Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

Branchinecta conservatio
- Conservancy fairy shrimp (E)
- Critical habitat, Conservancy fairy shrimp (X)

Branchinecta lynchi
- Critical habitat, vernal pool fairy shrimp (X)
- vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
- valley elderberry longhorn beetle (T)

Lepidurus packardi
- Critical habitat, vernal pool tadpole shrimp (X)
- vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
- green sturgeon (T) (NMFS)

Hypomesus transpacificus
- delta smelt (T)

Oncorhynchus mykiss
- Central Valley steelhead (T) (NMFS)
- Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
- Central Valley spring-run chinook salmon (T) (NMFS)
- Critical Habitat, Central Valley spring-run chinook (X) (NMFS)
- Critical habitat, winter-run chinook salmon (X) (NMFS)
- winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Rana draytonii
- California red-legged frog (T)

Reptiles

Thamnophis gigas
- giant garter snake (T)

Plants

Chamaesyce hooveri
- Critical habitat, Hoover's spurge (X)
- Hoover's spurge (T)

Limnanthes floccosa ssp. californica
- Butte County (Shippee) meadowfoam (E)
- Critical habitat, Butte County (Shippee) meadowfoam (X)

Orcuttia pilosa
Critical habitat, hairy Orcutt grass (X)
hairy Orcutt grass (E)

Orcuttia tenuis
Critical habitat, slender Orcutt grass (X)
slender Orcutt grass (T)

Tuctoria greenei
Critical habitat, Greene's tuctoria (=Orcutt grass) (X)
Greene's tuctoria (=Orcutt grass) (E)

Candidate Species

Birds

Coccyzus americanus occidentalis
Western yellow-billed cuckoo (C)

Quads Containing Listed, Proposed or Candidate Species:

HAMLIN CANYON (576B)
CHICO (577A)
ORD FERRY (577B)
COHASSET (592B)
PARADISE WEST (592C)
CAMPBELL MOUND (593A)
RICHARDSON SPRINGS NW (593B)
NORD (593C)
RICHARDSON SPRINGS (593D)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be

carried to their habitat by air currents.

- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal

behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be December 30, 2012.

Appendix B
CNDDB Species List

California Department of Fish and Game
Natural Diversity Database
Santos/Ryan Avenue Project
Richardson Springs and 8 Surrounding Quadrants

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	Ahart's buckwheat *Eriogonum umbellatum var. ahartii*	PDPGN086UY			G5T2	S2	1B.2
2	Ahart's paronychia *Paronychia ahartii*	PDCAR0L0V0			G2	S2	1B.1
3	American peregrine falcon *Falco peregrinus anatum*	ABNKD06071	Delisted	unknown code...	G4T3	S2	
4	Antioch Dunes anthicid beetle *Anthicus antiochensis*	IICOL49020			G1	S1	
5	Boggs Lake hedge-hyssop *Gratiola heterosepala*	PDSCR0R060		Endangered	G2	S2	1B.2
6	Brazilian watermeal *Wolffia brasiliensis*	PMLEM03020			G5	S1.3	2.3
7	Butte County checkerbloom *Sidalcea robusta*	PDMAL110P0			G2	S2	1B.2
8	Butte County fritillary *Fritillaria eastwoodiae*	PMLIL0V060			G3Q	S3	3.2
9	Butte County meadowfoam *Limnanthes floccosa ssp. californica*	PDLIM02042	Endangered	Endangered	G4T1	S1	1B.1
10	Butte County morning-glory *Calystegia atriplicifolia ssp. buttensis*	PDCON04012			G5T3	S3	4.2
11	California beaked-rush *Rhynchospora californica*	PMCYP0N060			G1	S1.1	1B.1
12	California black rail *Laterallus jamaicensis coturniculus*	ABNME03041		Threatened	G4T1	S1	
13	California linderiella *Linderiella occidentalis*	ICBRA06010			G3	S2S3	
14	California satintail *Imperata brevifolia*	PMPOA3D020			G2	S2.1	2.1
15	Central Valley Drainage Fall Run Chinook	CARA2442CA			G?	SNR	
16	Central Valley Drainage Hardhead/Squawfish Stream	CARA2443CA			G?	SNR	
17	Coastal and Valley Freshwater Marsh	CTT52410CA			G3	S2.1	
18	Conservancy fairy shrimp *Branchinecta conservatio*	ICBRA03010	Endangered		G1	S1	
19	Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1			G4T3	S2.1	1B.1
20	Ferris' milk-vetch *Astragalus tener var. ferrisiae*	PDFAB0F8R3			G1T1	S1	1B.1
21	Great Valley Cottonwood Riparian Forest	CTT61410CA			G2	S2.1	
22	Great Valley Mixed Riparian Forest	CTT61420CA			G2	S2.2	
23	Great Valley Valley Oak Riparian Forest	CTT61430CA			G1	S1.1	
24	Great Valley Willow Scrub	CTT63410CA			G3	S3.2	
25	Greene's tuctoria *Tuctoria greenei*	PMPOA6N010	Endangered	Rare	G1	S1	1B.1

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
26	Hall's rupertia *Rupertia hallii*	PDFAB62010			G3	S3	1B.2
27	Hoover's spurge *Chamaesyce hooveri*	PDEUP0D150	Threatened		G2	S2	1B.2
28	Mildred's clarkia *Clarkia mildrediae ssp. mildrediae*	PDONA050Q2			G3T3	S3	1B.3
29	Norris' beard moss *Didymodon norrisii*	NBMUS2C0H0			G3G4	S3S4	2.2
30	Northern Hardpan Vernal Pool	CTT44110CA			G3	S3.1	
31	Northern Volcanic Mud Flow Vernal Pool	CTT44132CA			G1	S1.1	
32	Red Bluff dwarf rush *Juncus leiospermus var. leiospermus*	PMJUN011L2			G2T2	S2.2	1B.1
33	Red Hills soaproot *Chlorogalum grandiflorum*	PMLIL0G020			G3	S3	1B.2
34	Sacramento anthicid beetle *Anthicus sacramento*	IICOL49010			G1	S1	
35	Sanford's arrowhead *Sagittaria sanfordii*	PMALI040Q0			G3	S3	1B.2
36	Sierra Nevada red fox *Vulpes vulpes necator*	AMAJA03012		Threatened	G5T3	S1	
37	Swainson's hawk *Buteo swainsoni*	ABNKC19070		Threatened	G5	S2	
38	Yuma myotis *Myotis yumanensis*	AMACC01020			G5	S4?	
39	adobe-lily *Fritillaria pluriflora*	PMLIL0V0F0			G3	S3	1B.2
40	bald eagle *Haliaeetus leucocephalus*	ABNKC10010	Delisted	Endangered	G5	S2	
41	bank swallow *Riparia riparia*	ABPAU08010		Threatened	G5	S2S3	
42	brownish beaked-rush *Rhynchospora capitellata*	PMCYP0N080			G5	S2S3	2.2
43	burrowing owl *Athene cunicularia*	ABNSB10010			G4	S2	SC
44	chinook salmon - Central Valley spring-run ESU *Oncorhynchus tshawytscha*	AFCHA0205A	Threatened	Threatened	G5	S1	
45	coast horned lizard *Phrynosoma blainvillii*	ARACF12100			G4G5	S3S4	SC
46	flagella-like atractylocarpus *Campylopodiella stenocarpa*	NBMUS84010			G5	S1?	2.2
47	giant garter snake *Thamnophis gigas*	ARADB36150	Threatened	Threatened	G2G3	S2S3	
48	great blue heron *Ardea herodias*	ABNGA04010			G5	S4	
49	great egret *Ardea alba*	ABNGA04040			G5	S4	

	Common Name/Scientific Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
50	hairy Orcutt grass *Orcuttia pilosa*	PMPOA4G040	Endangered	Endangered	G1	S1	1B.1
51	hoary bat *Lasiurus cinereus*	AMACC05030			G5	S4?	
52	osprey *Pandion haliaetus*	ABNKC01010			G5	S3	
53	pallid bat *Antrozous pallidus*	AMACC10010			G5	S3	SC
54	pink creamsacs *Castilleja rubicundula ssp. rubicundula*	PDSCR0D482			G5T2	S2	1B.2
55	round-leaved filaree *California macrophylla*	PDGER01070			G2	S2	1B.1
56	silky cryptantha *Cryptantha crinita*	PDBOR0A0Q0			G2	S2	1B.2
57	silver-haired bat *Lasionycteris noctivagans*	AMACC02010			G5	S3S4	
58	slender Orcutt grass *Orcuttia tenuis*	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
59	slender-leaved pondweed *Stuckenia filiformis*	PMPOT03090			G5	S1S2	2.2
60	tricolored blackbird *Agelaius tricolor*	ABPBXB0020			G2G3	S2	SC
61	valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened		G3T2	S2	
62	veiny monardella *Monardella venosa*	PDLAM18082			G1	S1.1	1B.1
63	vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened		G3	S2S3	
64	vernal pool tadpole shrimp *Lepidurus packardi*	ICBRA10010	Endangered		G3	S2S3	
65	western mastiff bat *Eumops perotis californicus*	AMACD02011			G5T4	S3?	SC
66	western pond turtle *Emys marmorata*	ARAAD02030			G3G4	S3	SC
67	western red bat *Lasiurus blossevillii*	AMACC05060			G5	S3?	SC
68	western spadefoot *Spea hammondii*	AAABF02020			G3	S3	SC
69	western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Candidate	Endangered	G5T3Q	S1	
70	white-stemmed clarkia *Clarkia gracilis ssp. albicaulis*	PDONA050J1			G5T2	S2.2?	1B.2
71	woolly meadowfoam *Limnanthes floccosa ssp. floccosa*	PDLIM02043			G4T4	S3.2	4.2
72	woolly rose-mallow *Hibiscus lasiocarpos var. occidentalis*	PDMAL0H0R3			G4	S2.2	1B.2

Appendix C
CNPS Species List

Inventory of Rare and Endangered Plants

v7-12aug 8-10-12

Status: search results - Mon, Oct. 1, 2012, 16:12 b

{QUADS_123} =~m/593D|577A|577B|592B|592C|576B|593A|593B|5 Search

Tip: Want to search by habitat? Try the **Checkbox and Preset** search page.[all tips and help.]
[search history]

Your Quad Selection: Richardson Springs (593D) 3912177, Chico (577A) 3912167, Ord Ferry (577B) 3912168, Cohasset (592B) 3912186, Paradise West (592C) 3912176, Hamlin Canyon (576B) 3912166, Campbell Mound (593A) 3912187, Richardson Springs NW (593B) 3912188, Nord (593C) 3912178

Hits 1 to 31 of 31

Requests that specify topo quads will return only Lists 1-3.

To save selected records for later study, click the ADD button.

ADD checked items to Plant Press | check all | check none

Selections will appear in a new window.

open	save	hits	scientific	common	family	CNPS
	☐	1	**Astragalus tener var. ferrisiae**	Ferris' milk-vetch	Fabaceae	List 1B.1
	☐	1	**California macrophylla**	round-leaved filaree	Geraniaceae	List 1B.1
	☐	1	**Campylopodiella stenocarpa**	flagella-like atractylocarpus	Dicranaceae	List 2.2
	☐	1	**Cardamine pachystigma var. dissectifolia**	dissected-leaved toothwort	Brassicaceae	List 1B.2
	☐	1	**Castilleja rubicundula ssp. rubicundula**	pink creamsacs	Orobanchaceae	List 1B.2
	☐	1	**Chamaesyce hooveri**	Hoover's spurge	Euphorbiaceae	List 1B.2
	☐	1	**Chlorogalum grandiflorum**	Red Hills soaproot	Agavaceae	List 1B.2
	☐	1	**Clarkia gracilis ssp. albicaulis**	white-stemmed clarkia	Onagraceae	List 1B.2
	☐	1	**Clarkia mildrediae ssp. mildrediae**	Mildred's clarkia	Onagraceae	List 1B.3
	☐	1	**Cryptantha crinita**	silky cryptantha	Boraginaceae	List 1B.2
	☐	1	**Didymodon norrisii**	Norris' beard moss	Pottiaceae	List 2.2
	☐	1	**Fritillaria eastwoodiae**	Butte County fritillary	Liliaceae	List 3.2
	☐	1	**Fritillaria pluriflora**	adobe-lily	Liliaceae	List 1B.2
	☐	1	**Gratiola heterosepala**	Boggs Lake hedge-hyssop	Plantaginaceae	List 1B.2
	☐	1	**Hibiscus lasiocarpos var. occidentalis**	woolly rose-mallow	Malvaceae	List 1B.2

	☐	1	**Imperata brevifolia**	California satintail	Poaceae	List 2.1
	☐	1	**Juncus leiospermus var. leiospermus**	Red Bluff dwarf rush	Juncaceae	List 1B.1
	☐	1	**Lasthenia glabrata ssp. coulteri**	Coulter's goldfields	Asteraceae	List 1B.1
	☐	1	**Limnanthes floccosa ssp. californica**	Butte County meadowfoam	Limnanthaceae	List 1B.1
	☐	1	**Monardella venosa**	veiny monardella	Lamiaceae	List 1B.1
	☐	1	**Orcuttia pilosa**	hairy Orcutt grass	Poaceae	List 1B.1
	☐	1	**Orcuttia tenuis**	slender Orcutt grass	Poaceae	List 1B.1
	☐	1	**Paronychia ahartii**	Ahart's paronychia	Caryophyllaceae	List 1B.1
	☐	1	**Rhynchospora californica**	California beaked-rush	Cyperaceae	List 1B.1
	☐	1	**Rhynchospora capitellata**	brownish beaked-rush	Cyperaceae	List 2.2
	☐	1	**Rupertia hallii**	Hall's rupertia	Fabaceae	List 1B.2
	☐	1	**Sagittaria sanfordii**	Sanford's arrowhead	Alismataceae	List 1B.2
	☐	1	**Sidalcea robusta**	Butte County checkerbloom	Malvaceae	List 1B.2
	☐	1	**Stuckenia filiformis**	slender-leaved pondweed	Potamogetonaceae	List 2.2
	☐	1	**Tuctoria greenei**	Greene's tuctoria	Poaceae	List 1B.1
	☐	1	**Wolffia brasiliensis**	Brazilian watermeal	Araceae	List 2.3

To save selected records for later study, click the ADD button.
ADD checked items to Plant Press | check all | check none
Selections will appear in a new window.

No more hits.

Appendix D

Species Observed in the BSA by NorthStar Biologists.

Plant Species Observed Within the BSA 10/1/12	
Scientific Name	**Common Name**
Centaurea solstitialis	Yellow star thistle
Lactuca serriola	Prickly lettuce
Avena barbata	Wild oats
Festuca perennis (formerly Lolium perenne)	Rye-grass
Chenopodium album	Lamb's quarters
Sorghum halepense	Johnsongrass
Conyza sp.	Horseweed
Trichostemma lanceolata	Vinegar weed
Digitaria sanguinalis	Hairy crabgrass
Eremocarpus setigerius	Doveweed
Brassica sp.	Mustard
Epilobium brachyantherum	Tall willowherb
Poa annua	Bluegrass
Aristida sp.	Three-awn
Polygonum arenastrum	Common knotweed
Cynodon dactylon	Bermuda grass
Matricaria discoidea	Pineapple weed
Kickxia elatine	Sharp-leaved fluellin
Spergularia bocconei	Sandspurry
Elymus caput meduase (formarly Taeniatherum caput-medusae)	Medusahead
Rumex crispus	Curly dock
Centromadia fitchii	Spikeweed
Convulvulus arvensis	Bindweed
Grindelia hirsutula var. davyi	Foothill gumplant
Verbascum blattaria	Moth mullien
Chenopodium botrys	Jerusalem oak
Hordeum marinum gussoneanum	Medeterranean barley
Eleocharis macrostachya	Pale spike rush
Heliotropium europaeum	European heliotrope
Trifolium hirtum	Rose clover
Lotus purshianus	Spanish lotus
Festuca bromoides (formerly Vulpia bromoides)	Six-weeks fescue
Stipa pulcra (formerly Nassella pulcra)	Purple needlegrass
Silybum marianum	Milkthistle
Mollugo verticillata	Indian chickweed
Amsinkia sp.	Fiddleneck
Bromus hordeaceous	Soft chess
Erodium botrys	Filaree
Micropus californicus	Q-tips
Eriogonum sp.	Buckwheat
Plantago sp.	Plantain
Observed Wildlife Species in the Vicinity of the BSA 10/1/12	
Scientific Name	**Common Name**
Phasianus colchicus	Ringnecked phesant

Scientific Name	**Common Name**
Carpodacus mexicanus	House finch
Corvus brachyrhynchos	American crow
Charadrius vociferus	Killdeer
Picoides pubescens	Downy woodpecker
Aphelocoma coerulescens	Scrub jay
Sceloporus occidentalis occidentalis	Western fence lizard

Attachment A
Photographs of the BSA

Photo taken late January 2012 after approximately 8 inches of rain and Cal Water had pumped water

Photo taken one week following the first picture

Photo taken February 7, 2012 (rained 0.08 inches this day per wunderground.com)

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PLANNING SERVICES

December 26, 2018

Mr. George Santos
634 West 4th Avenue
Chico, California 95926

RE: Existing Conditions at the Santos Ryan Avenue Property (APN 047-560-031), Chico, Butte County California (NSE 12-016).

Dear Mr. Santos,

NorthStar biologist, Matt Rogers conducted a review of the existing biological conditions for the Santos Ryan Avenue property (APN 047-560-031) located on the northside of Ryan Avenue, near the Chico Municipal Airport within the Chico City Limits. The review consisted of examination of the previously prepared biological resources assessment (BRA) (dated October 2012), the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB), and current site conditions.

The project area is characterized by disturbed annual grasslands and urban development present within the existing equipment yard. The developed areas consisting of a gravel access road and equipment storage are void of vegetation. A wetland delineation was also prepared in October 2012, and a jurisdictional determination obtained in June 2014. The wetland feature is a non-jurisdictional seasonal wetland located within the northwestern portion of the biological survey area (BSA). This wetland does not exhibit characteristics of a vernal feature as ponding duration is too short. This limits the potential for federally listed vernal pool species to occur.

The type and potential for the special-status species listed in the BRA has not changed since the completion of the document. There are no new special-status species that were not analyzed in the previous document.

Summary

The existing conditions found on-site and analysis of special-status species have not changed since the completion of the BRA previously prepared for the site.

Please feel free to contact me with any questions at (530) 893-1600 ex. 210 or via email at mrogers@northstareng.com

Sincerely,

NorthStar

Matt Rogers
Associate Biologist

111 Mission Ranch Blvd , Suite 100, Chico, CA 95926, Phone: 530.893 1600, Fax: 530 893 2113
info@NorthStarEng.com | www NorthStarEng.com