4.6 CULTURAL RESOURCES

Issues & Supporting Information Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

4.6.1 Environmental Setting

4.6.1.1 Cultural Overview

Archaeology and Regional Prehistory

Archaeological investigations in the Delta region began in the early 1890s with the excavations conducted by J. A. Barr and W. H. Holmes; the two amassed considerable collections of artifacts from mounds in the Stockton area, which were eventually donated to the U.S. National Museum (Moratto 1984:177). Found throughout the Delta, mound sites typically contain several strata of cultural deposits covering multiple millennia of occupation. Not surprisingly, early attempts to construct a chronology of the northern San Joaquin Valley were based on the excavations in the Delta region, most notably by Elmer J. Dawson. Dawson recognized cultural change in the strata at his mound site near Lodi and proposed a succession of periods (early, middle, and late) to categorize such change (Moratto 1984:177). Although the importance of his chronology was initially minimized by preeminent archaeologist W. E. Schenck, Dawson's sequence eventually was supported by studies in the Delta and lower Sacramento Valley during the 1930s.

The tripartite chronology has been reworked several times since Lillard, Heizer, and Fenenga (1939) offered their sequence (Early, Transitional, and Late periods) for the Central Valley in the late 1930s. While subsequent chronologies have labeled the three eras differently, each time period does display a common suite of characteristics (Moratto 1984:180–214).

- Early Period/Early Horizon/Windmiller Pattern. Extended burials with westerly orientation are typically accompanied by funerary goods, including shell ornaments and beads. The high frequency of large projectile points indicates that subsistence centered on game. Grinding implements are present but infrequent.
- Transitional Period/Middle Horizon/Berkeley Pattern. Flexed burials with variable orientation are often accompanied by red ochre and sometimes by funerary items. There is a greater reliance on acorns, as suggested by the higher frequency of mortars and pestles compared to the previous period. Projectile points remain large, and bone tools are frequent and well developed.

- Late Period/Late Horizon/Augustine Pattern. Burials are typically flexed with a scarcity of grave artifacts. Subsistence continues to focus on acorns and other plant materials. Projectile points are smaller and marked with serrations. Shell beads and other ornaments are well developed, owing to an intensification of trade.

The above chronology helps consolidate a vast amount of data into a manageable number of time periods, but like any taxonomic division, it implicitly minimizes the importance of differences that exist within each time period and does not account for geographical variability. Such variation confounds attempts to devise an orderly chronology with absolute dates for each time interval. For instance, the earliest component of CA SJO 68 contains mortars, pestles, and a bone awl (typically associated with the Berkeley Pattern), yet the site has been dated to around 4500 B.P., one of the earliest known sites in the Central Valley (Moratto 1984:207). In addition, radiocarbon dates from 31 central California sites indicate that the time ranges of the Windmiller, Berkeley, and Augustine patterns show considerable overlap, especially after 1750 B.P. (see Moratto 1984:200, Figure 5.11). The analysis suggests that the Windmiller and Berkeley Pattern sites in San Joaquin County (CA SJO 145 and 91) were coeval with Augustine sites in Sacramento County between 1750 and 750 B.P. Moreover, consideration of geographical similarities and differences in the archaeological record of California indicates that the east-west flow of goods among the Bay, Delta, and Central Sierra regions was more pronounced than the economic ties between northern and southern valley peoples (Moratto 1984:215).

Habitation in the Central Valley predating the Early Period/Windmiller Pattern is evidenced by assemblages found near the Tulare and Buena Vista lakebeds as well as in the surrounding foothills and mountains. It is likely that most archaeological material in the Delta region dating to this early time is deeply buried under alluvium. Moratto (1984:214) observed that as much as 10 meters of sediments may have accumulated during the past 5,000 years.

Ethnography

The likely inhabitants of the Project vicinity were the Northern Valley Yokuts, whose territory extended south from Bear Creek near Stockton to the south side of the San Joaquin River past Mendota, east to the Sierra Foothills, and west to the Coast Range (Wallace 1978a:462). Specifically, the *Chulamni* tribe occupied the area west of present-day Stockton. Given the fluidity of tribal borders, however, it is possible that the Plains Miwok, located north of the Yokuts, also used the area. Wallace (1978a:462) subsumes the *Chulamni* into the Northern Valley Yokuts but acknowledges that others have considered the tribe as Plains Miwok.

Pettigrew et al. (1994:3 34–3 35) note that the Northern Valley Yokuts occupied year round villages along the San Joaquin River and other major tributaries to exploit riverine resources. The Delta wetlands stocked an array of waterfowl and aquatic resources as well as herds of browsing mammals that frequented the fringes of the marshes. Wallace (1978a:464) states that fish were one of the most important resources procured, with salmon topping the list of preferred varieties. Like all California peoples, prehistoric inhabitants of the Delta also depended on acorns and other plant foods.

The Northern Valley Yokuts were organized into individual autonomous villages composed of single-family structures (Moratto 1988:174). The structures were small and usually built from woven tule mats. Other structures included sweathouses and ceremonial chambers. Villages were established on high ground near drainages and other valley water sources (Moratto 1988:174).

Most stone artifacts were fashioned of chert from nearby coastal sources, and obsidian was imported from other locations (Wallace 1978a:465). Mortars and pestles were the dominant ground stone tools; bone was used to manufacture awls for making coiled baskets. Tule was important in the manufacture of mats and boats, and other materials were acquired by trading with neighboring Miwok and Coastanoans.

As with other Indian groups in the valley, the lifeways of the Northern Valley Yokuts were dramatically altered as a result of contact with Spanish explorers and missionaries, miners, ranchers, and other European immigrants who entered the valley after 1800. Population estimates for the eighteenth century put the number of Yokuts living in the San Joaquin Valley at around 41,000. However, the introduction of European culture and Old World diseases proved devastating to the native population. Traditional lifestyles were diminished and numerous people died from epidemics (Moratto 1988:174).

4.6.1.2 History

Early Exploration and Settlement

The first recorded European encounter with the Yokuts occurred in 1772 when Spanish explorer Pedro Fages led a group of soldiers through Tejon Pass into the San Joaquin Valley (Wallace 1978b:459). During the late 1700s, the Spanish established a string of missions along the California coast. Although initially insulated from the direct impact of the missions, the Northern Valley Yokuts no doubt had some contact with the Spanish. Mission San Jose was founded in 1797, effectively establishing a Spanish presence along the Northern Valley Yokuts' western border. Gabriel Moraga and his band entered the valley in 1806 to locate new lands for missions, find and return runaway Indians, and relocate stolen livestock (Clough and Secrest 1984:25–27). Moraga is credited with naming several valley geographical features, including the San Joaquin and Stanislaus rivers. Although Mexico's independence from Spain ended expansion of the missions in California by the early 1820s, European encroachment on the areas occupied by the indigenous peoples continued. In the late 1820s, fur trappers began their forays into the California interior. Jedediah S. Smith passed through the area during a fur trapping expedition in 1827, and French Canadian trappers of the Hudson's Bay Company established a seasonal base at French Camp just south of present-day Stockton (Shideler 1988:1).

Although relatively short lived, California's Mexican administration (1821–1848) facilitated the economic transition between Spanish mercantilism and Euro-American capitalism. The Colonization Act of 1824 and the Supplemental Regulations of 1828 afforded private individuals—both Mexican nationals and immigrants—the right to obtain title to land (Hackel 1998:132). In 1834, the missions were secularized, effectively freeing up their enormous landholdings to private interest. From this point until California's accession into the Union, the Mexican authorities made over 800 land grants, often designated as "ranchos," to individuals with the intent to settle and improve these parcels (Monroy 1998:180).

In 1844, the government granted William Gulnac, a native of New York, the Campo de los Franceses, a nearly 49,000 acre tract that included French Camp (Smith 2004:148–152). One year later, Gulnac, who was unable to permanently settle on the land, sold the property to Captain Charles H. Weber in exchange for his $60 grocery bill owed at Weber's store in San Jose. Weber, a German immigrant, went on to establish the town of Stockton in 1849. Smith's (2004:158) map of Mexican land grants indicates that the current Project areas were not part of any rancho; prior to the mid 1800s, the marshlands west of Stockton were unsuitable for ranching or agriculture.

The gold rush triggered a mass immigration to California. Stockton, which could be reached via steamboat from San Francisco, served as the port of entry to the gold fields east of the town. As the gold fervor subsided, former miners looked to other pursuits, and Stockton became an important shipping center for wheat, cattle, dairy products, and other goods.

Farming and Development of the Delta

Early attempts by farmers in the 1850s to reclaim the swamplands west of town confirmed the fertility of the soil, but their makeshift levees were largely ineffectual during times of flood (Lortie 1996:4; Maniery 1993:7). Large-scale, long-term reclamation required a capital investment beyond the means of individual landowners. Taking advantage of a series of federal and state reclamation acts, wealthy investors from San Francisco purchased large tracts of swampland at cheap prices with the intent to reclaim them for agricultural purposes. These landowners included George T. Roberts (Roberts Island), Henry Bacon (Bacon Island), James Haggin (Staten Island), T. H. Williams (Victoria Island), and the Sargent brothers (Bouldin and King islands) (Maniery 1993:7). Horse-drawn scrapers were used to build levees and dredge waterways, and much of the labor was provided by former rail workers. Many of these Chinese laborers were then retained to till the newly reclaimed soil. Construction proceeded on a trial-and-error basis, and the first levees often could not protect the reclaimed "islands" (which lay below sea level) during times of flood. By the late 1870s, engineering methods had improved, and reclamation efforts apparently reached at least a moderate level of success. In 1879, Thompson and West acknowledged past difficulties while foreseeing a promising outlook for the reclamation of the Delta: "The results already achieved from the unportentous beginning have been great. What the future may have in store is not hidden behind a shadow, yet its extent is incalculable" (Gilbert 1968:42).

Beginning in the 1890s, however, cracks began to develop not only in the original land monopoly of San Francisco investors but also in the levees themselves. The initial levees made from peat soil were subject to sinking and fracture, and the high waters of winter and spring caused breaches around many of the islands (Maniery 1993:9). Continual repair and maintenance costs led many original landowners to sell their properties. Some of these transactions involved the transfer of title from one San Francisco investor to another, although by the 1910s and 1920s the property in the Delta was being sold or leased in smaller parcels to a larger number of individual farming operations (Lortie 1996:7; Maniery 1993). The introduction of such heavy machinery as the clamshell dredge spurred the construction of new levees and facilitated the maintenance of existing ones; peat was replaced with more stable sediment dredged from river bottoms (PAR Environmental Services 1996:9). Most notably, the California Delta Farms Company, established by Lee Philips in 1907, reclaimed vast acreage for lease to farmers, including George Shima, who raised predominantly potato crops on Bacon, McDonald, and other Delta islands (Maniery 1993:11).

Before the turn of the century, the only means to transport harvested crops off the Delta islands was via boat. Farming operations included landings to assist the loading of cargo onto ships headed for markets in Stockton, Sacramento, and San Francisco (PAR Environmental Services 1996:10–11). The arrival of the railroad in 1900 and the construction of roads and bridges in the 1910s made the region more accessible, which not only reduced freight costs but increased the value of the Delta land.

Within the Project vicinity, small communities arose at or near the convergence of these transportation routes. Located along the waterway known as the Middle River with access to the Atchison, Topeka and Santa Fe Railway, the town of Middle River served as an important

shipping point and the site of an asparagus cannery as early as 1915 (Hillman and Covello 1985:217–218). Similarly, the town of Holt lay at the intersection of the southern end of Whiskey Slough, the Santa Fe tracks, and the Delta Borden Highway (the precursor of State Route 4). Completed in 1915, the highway was the first paved roadway through the Delta and included a series of swing bridges spanning the numerous waterways of the marshlands. Located a few miles upstream from the town of Middle River, the Middle River Bridge (P 39 000474) was built in 1915 as part of this early transportation network; it remains today as a historically and architecturally significant structure (California Department of Transportation 1990:116).

In addition to its importance as a transportation center for agricultural and dairying interests, Holt became the focus of social activity in the Delta (Hillman and Covello 1985:211–214). The town's saloons, a blacksmith, general stores, and other commercial businesses attracted farmworkers from the surrounding areas. A 1910 map shows a spur of the Santa Fe tracks leading to a cannery located along Whiskey Slough, and a 1917 photo depicts multistory restaurants and hotels (Hillman and Covello 1985:212, 214). Continual improvement in transportation networks ironically led to Holt's demise, as local residents found it easier to drive to nearby Stockton. The highway has since been rerouted 0.5 mile south of its original path, and presently little remains of Holt except for a marina on Whiskey Slough and a nearby post office that still bears the town's name.

While engineering methods and technology have come a long way since the mid and late 1800s, rising river levels still pose a very real threat to the levee system. In 1983, waters broke through around nearby Mildred Island; the area has remained submerged. In spring 2004, a breach occurred at the southwest corner of the Upper Jones Tract. The levee has since been repaired, and currently most of the water has been drained from the area.

George Shima—the "Potato King"

Typical of most Central Valley areas, the infusion of immigrant manpower and vision has been integral to the development and modernization of the agriculture industry in the California Delta region. Holt housed an ethnic collage of farmworkers, including Chinese, Portuguese, Italian, and Mexican immigrants (Hillman and Covello 1985:214). In particular, Japanese were the primary work force in the Delta from the early twentieth century until their internment in detention camps during World War II (Maniery and Costello 1986:38–45). For most first generation Japanese immigrants, however, farm labor was not an end in itself but the first step in securing a better life for the worker and his family.

Like Kyutaro Abiko, who established the Yamato Colony in Merced County, George Shima (Kinji Ushijima) came to California from Japan with more aspirations than capital. After laboring in the potato fields, he had saved enough money to lease his own plot in 1893 (Maniery 1993:11). For about a decade, Shima endured economic and natural hardships, often relying upon loans from friends to stave off bankruptcy. In 1902, he teamed with Lee Philips.

Usually, Philips acquired ownership to land, built levees and ditches, and secured an island. He then leased it to Shima, usually under an oral agreement and a hand shake. Shima then provided labor and equipment to burn off vegetation, prepare the land for planting, and farm (Maniery 1993:12).

By 1906, luck and market conditions had finally swung Shima's way. He produced more than 3 million bags of potatoes on 8,000 acres of leased land, which gave one newspaper reason to dub

him the "Potato King" (Maniery 1993:12–13). In 1907, Shima recorded a substantial profit when the price of potatoes soared due to shortages in the market.

Up until 1910, Shima cultivated leased land exclusively. While ownership of an agricultural parcel is perhaps more profitable over the long haul, the lessee of land does enjoy certain benefits: he is not saddled with property costs such as levee maintenance and can devote more of his finances to farming operations since less money is tied up in property investments. In this way, Shima was able to leverage his resources to control thousands of acres of farmland. The lease arrangement with Philips and his California Delta Farms Company worked especially well for Shima, who was able to maintain a constant turnover of land by leasing newly reclaimed areas and terminating the leases on older parcels. Long before the introduction of modern fertilizers, Shima considered that a plot was no longer suitable for potato crops after 3 years of cultivation (Maniery 1993:12). As his empire grew, the Potato King sought to invest his profits in property; he bought an 800 acre farm in 1910 and added another 800 acre lot the following year. In 1913, however, passage of the California Alien Act prohibited the purchase of land by a noncitizen, although Shima and other Japanese could indirectly acquire land through their U.S. born children (Maniery 1993:14). In addition to the lands he leased from the California Delta Farms Company, Shima maintained his own property and leased other plots to individual farmers.

In 1916, Shima leased 5,600 acres on Bacon Island, which had been reclaimed by the California Delta Farms Company the year before (Maniery 1993:15). In general, the management of such vast acreage was structured into camps, each headed by a foreman who oversaw the cultivation of 100 to 500 acres (Maniery 1993:20–22). Located near the waterways, these camps typically contained a foreman's house, cookhouse, and one or more boarding houses; larger camps included other ancillary structures such as a blacksmith or machine shop. Camps housed from 20 to 50 men in small units to as many as 350 to 400 in larger complexes. Based on the size and number of structures, Camp No. 3 (CA SJO 213H)—south of the Old River Project area on Bacon Island—typifies one of the larger complexes, whereas Camp No. 4 (CA SJO 214H), adjacent to the Old River, appears to be one of the smaller settlements.

4.6.1.3 Historic and Prehistoric Resources at the Project Sites

Methods

RECORDS SEARCHES AND BACKGROUND RESEARCH

Because the Project area lies within two different counties, it was necessary to complete records searches of the California Historical Resources Information System at two locations. On September 10, 2008, a records search covering the Project areas in San Joaquin County was performed at the Central California Information Center on the campus of California State University, Stanislaus. On October 3 and 13, 2008, records searches for the Project areas lying in Contra Costa County were conducted at the Northwest Information Center at Sonoma State University. Site record files, maps, and other materials were examined to identify previously recorded resources and prior surveys occurring within the Project areas. The sources included the Historic Property Data File, the National Register of Historic Places, the California Register of Historical Resources, the listings of California Historical Landmarks, the California Inventory of Historic Resources, and the California Points of Historical Interest.

NATIVE AMERICAN CONSULTATION

Native American consultation is an integral and essential part of the Section 106 process (36 CFR 800). In addition, pursuant to State Public Resources Code Section 5097.9 (CEQA regulation), state and local agencies are to cooperate with and assist the Native American Heritage

Commission (NAHC) in its efforts to preserve and protect locations of sacred or special cultural and spiritual significance to Native Americans.

For the current investigation, Native American consultation involved three steps. First, *Æ* contacted the NAHC to request a search of its sacred lands file to identify Native American resources in the study vicinity and to obtain the names and contact information for individuals knowledgeable of such resources. Next, *Æ* mailed letters summarizing the current Project and investigation to individuals identified by the NAHC, soliciting information about the study vicinity in general and the whereabouts of Native American sites in particular. Lastly, approximately 3 to 4 weeks after the letters were sent, a follow-up telephone call was placed to confirm that the correspondence was received and to provide an opportunity for comment.

SURVEY

Æ archaeologist Randy Baloian performed an archaeological field survey of the Project areas on October 2, 2008. The survey entailed walking systematic transects spaced at 15 to 20 meter intervals over the three Project locations.

When an artifact, feature, or isolate was discovered, the surveyor marked its position and closely examined the area to determine if other materials occurred in association. Newly discovered sites and isolates were assigned a temporary field number or name and documented on a California Department of Parks and Recreation forms (DPR 523). Photographs of the resources were taken in the field, and their locations were plotted on the appropriate U.S. Geological Survey 7.5-minute topographic quadrangle(s). Universal Transverse Mercator (UTM) coordinates were obtained using an Etrek Garmin Global Positioning System (GPS) unit. Complete documentation of newly discovered archaeological sites, including confidential location maps, are provided in a separate confidential report. The survey area was photographed using a digital camera to document cultural resources as well as environmental setting and ground visibility at the time of survey. Digital files are archived at *Æ*'s office in Fresno, California.

Records Searches

The records searches conducted by the Central California Information Center (San Joaquin County) and the Northwest Information Center (Contra Costa County) revealed the following information about the Project areas.

CONNECTION SLOUGH PROJECT AREA

In the late 1980s, Maniery et al. (1989) surveyed selected portions of Bacon Island for the Delta Wetlands Project. Subsequent documentation relating to that project included Maniery's (1993) NRHP evaluation of the Bacon Island Rural Historic District and Jones & Stokes' (1995) executive summary of the draft Environmental Impact Report. The investigations recorded and evaluated numerous sites on Bacon Island related to George Shima's agricultural operations during the 1910s and 1920s. The south bank of the Connection Slough site was examined by these studies. Although this area contains no cultural resources, it is within the boundaries of the Bacon Island Rural Historic District (Maniery 1993:Figure 26).

No surveys have been performed on the north bank of the Connection Slough site on Mandeville Island, and no recorded resources occur in or near this area. However, the Central California Information Center indicated that the Mandeville Island School or Venice Mandeville School lies approximately 200 meters northwest of the Project area. The first school in the vicinity was built in 1912 at a location known as Light 11 (San Joaquin County Superintendent of Schools [SJCSS] 1991:142). Twenty years later, a new schoolhouse was constructed on King Island (5 to 10 miles

northeast of Mandeville Island). In 1938, the Mandeville Island School opened its doors when the original school building was moved via barge to Mandeville Island to accommodate the area's growing enrollment. A new structure was completed in 1954, and the older quarters were moved to the end of the yard and converted into a home for the principal. In 1972, the Mandeville Island School was abandoned due to low enrollment (SJCSS 1991:143).

OLD RIVER PROJECT AREA

Like the south bank of the Connection Slough Project area, the east (Bacon Island) portion of the Old River Project area was included in the investigations for the Delta Wetlands Project and lies within the boundaries of the Bacon Island Rural Historic District (Jones & Stokes 1995, Maniery 1993, Maniery et al. 1989). In her evaluation report, Maniery summarized the reasons why the district is eligible for the NRHP:

> Bacon Island Rural Historic District appears eligible for inclusion on the National Register of Historic Places under Criteria A, B, C, and D for the following reasons: 1) it is a representative example of reclamation and agricultural endeavors relating to Japanese Americans between 1913 and 1942; 2) it was used by and associated with George Shima, a pivotal figure in Japanese American history; 3) it is an example of a type of landscape (seen in spatial organization of features and camps) and architectural style not seen in the delta today; and 4) it contains archaeological materials, particularly Japanese manufactured items, with comparative value. While some alterations have occurred since 1942, the district as a whole retains a remarkable degree of integrity of location, design, setting, materials, workmanship, feeling, and association. It represents one of the last examples of early farming ventures in the delta and is important at a state level [Maniery 1993:iii].

Located within the east portion of the Old River Project area, Shima Camp No. 4 (CA SJO 214H) is one of 13 sites that make up the Bacon Island Rural Historic District. The site consists of a 2.5-story boarding house, a single-story boarding house, three outbuildings, and associated artifacts (Maniery et al. 1989). The two worker barracks were probably built around 1915. Situated about 700 meters north of the Old River Project area are the bulldozed remnants of Camp No. 5 (CA SJO 215H). Historical maps also identify the site as Days Landing in 1883 and as the Bee Ranch in 1905, prior to its use as a labor complex beginning in the 1910s (Maniery et al. 1989).

Along with the Maniery et al. (1989) inventory study for the Delta Wetlands Project, which also covered parts of Holland Island, Greenway and Soule (1977) conducted a cultural resources reconnaissance that included the west (Holland Island) portion of the Old River Project area. Although the Northwest Information Center's site maps contain no plotted resources in or near this area, the Historic Property Data File lists the Holland Tract levee as a resource. The data file classifies the levee, which was built in 1910, as ineligible for the NRHP. In addition, the 1916 Byron quadrangle depicts three structures within the Project area that are no longer extant. The Holland Island portion of the Old River Project area does not lie on or near archaeologically sensitive soils.

HOLLAND TRACT AUXILIARY STORAGE AREA

Both Greenway and Soule (1977) and Maniery et al. (1989) covered this 10-acre parcel in their surveys of Holland Island. No recorded resources occur within the auxiliary storage area. The parcel does, however, lie within the vicinity of previously recorded resources and

archaeologically sensitive soils. Located less than 1 mile away, CA CCO 147, 593, and 678 are prehistoric occupation sites containing formed tools, including projectile points, as well as shell beads, ground stone, and human burials. As with many prehistoric resources in the region, the sites are associated with Piper series soils. Commonly surrounded by organic soils, Piper series soils form the basis of mounds, ridges, and other stable land forms. Werner (2005:12–15) noted that consistent with his and other studies, there is a strong correlation between prehistoric archaeological sites and Piper series sand mounds and that such soils typically occur on the edges of the Delta such as in Contra Costa County and in the north San Joaquin Valley. Werner (2005) and Maniery et al. (1989) collectively observed Piper series soils on the Holland, Webb, and Palm tracts west of the Old River but not on the tracts and islands east of the Old River (e.g., Bacon Island). Werner (2005:12) added that over decades, agricultural activity has leveled sand mounds and dispersed and mixed their physical and cultural constituents with surrounding soils, making identification of former mound sites much more complex. Despite this difficulty, the U.S. Department of Agriculture (1977) plotted soil types on the Holland Tract as part of its survey of Contra Costa County. Those maps show that while "Shima Muck"—an organic soil type formed from the remains of reeds and tules—completely underlies the auxiliary storage area, Piper series soils immediately flank the Project area to the east, west, and north.

Native American Consultation

On September 10, 2008, Æ faxed the NAHC a request for a sacred lands file search and asked for the contact information of local Native American representatives. Along with the contact list, the NAHC stated in its October 7, 2008 response that the search failed to indicate the presence of resources in or around the Project areas. The commission added, however, that the absence of information about sites does not necessarily suggest the absence of sites in the Project area.

On October 13, 2008, a letter summarizing Æ investigations was sent to Silvia Burley of the California Valley Miwok Tribe, Matthew Franklin of the Ione Band of Miwok Indians, Andrew Galvan of the Ohlone Indian Tribe, Ramona Garibay of the Trina Marine Ruano Family, Mary Daniels-Tarango and Leland Daniels of the Wilton Rancheria, Katherine Erolinda Perez, and Randy Yonemura. No comments have been received to date.

Figure 4.6-1 Truss Bridge across Connection Slough, looking northwest

Survey

Ground conditions, survey coverage, and results for each location are provided below.

CONNECTION SLOUGH PROJECT AREA

Because Mandeville Island could not be accessed, the survey examined only the south or Bacon Island portion of this Project area. Surface visibility was generally good (75 to 100 percent) along the levee road but decreased to 10 to 50 percent on the slope and level terrain below the crest of the levee. Survey coverage was confined to the areas immediately adjacent to the road by a corn field with dense vegetation that completely obscured ground visibility. No prehistoric resources were observed in this Project area.

A historical bridge stands at the western boundary of this Project area. The iron truss bridge spans about 350 feet across the Connection Slough and links Bacon and Mandeville islands. It is currently in use. A commemorative plaque bolted to the southeast outer diagonal indicates that the structure was commissioned by San Joaquin County and built by Clark and Henery in 1905. The bridge is not listed on the Caltrans Historic Bridge Inventory. Clark and Henery Bridge and Wharf Builders and General Construction was based in Stockton from the 1890s through 1911 (Online Archive of California 2006). Due to its age, the bridge was recorded as a historical resource.

A standing structure was observed from a distance at the location of the Mandeville Island School, but because the complex could not be approached, no details can be reported about this site.

OLD RIVER PROJECT AREA

Much of the east (Bacon Island) portion of the Old River Project area had been recently graded, allowing good to excellent ground visibility (90 to 100 percent). As with the south bank of the Connection Slough Project area, survey coverage was limited to the areas immediately adjacent to the road by a dense corn that completely obscured ground visibility. No prehistoric resources were observed in the Old River project area.

The current survey confirmed that CA SJO 214H, Shima Camp No. 4, lies within the Project area. Compared to Maniery et al.'s (1989) description of the site, the two boarding houses appear to have experienced only minor changes in the past 20 years (Figure 4.6-2). The short stairway leading to the first floor of the 2.5-story residence has been removed. On this same structure, the shingled roof described in the 1989 site record has apparently been replaced with corrugated metal. No observable differences were noted in the single-story residence. Both boarding houses rest on concrete or wooden footing, which elevates them about 2 feet above the ground; as a consequence, the sections of these structures—particularly the 2.5-story building—sag inward or lean in one direction or another. Nevertheless, they are in relatively good condition given their age. Of the three outbuildings identified by Maniery et al. (1989), only the corrugated metal shed remains intact. The wooden structure north of the shed is dilapidated, while the building to the south has been demolished or simply collapsed due to disrepair. Other than crushed brick, no historical artifacts were noted at CA SJO 214H, although the tall grasses that surrounded the structures reduced ground visibility within the site boundaries.

Figure 4.6-2 Shima Camp No. 4 (CA SJO 214H); view to the east

In the west (Holland Tract) portion of the Old River Project area, a short but dense blanket of grass covers the shoulders along the levee road. The vegetation becomes increasingly taller and

thicker with greater distance from the road. Ground visibility ranged from 10 to 75 percent, accordingly.

The surveyor encountered a large metal utility building just west of the levee road (Figure 4.6-3). Measuring approximately 110 feet (north-south) by 35 feet (east-west), the iron-framed structure is clad with corrugated metal and is supported at least in part by a cinder block foundation. The concrete flooring covers most, but not all, of the interior. The structure was built after World War II and appears to date to be historical (i.e., 50 years or older), but its exact age is unknown. A small metal placard on the south end of the structure reads "Soulé Building," suggesting that it may have been constructed by the precursor of Soule Building Systems, a Sonoma County-based firm that specializes in metal structures. Additional research, which is beyond the scope of this investigation, would be needed to determine the date of construction and builder of this structure. For the purposes of this study, however, the Soulé Building is considered a historical resource and has been recorded as such.

HOLLAND TRACT AUXILIARY STORAGE AREA

The 10-acre space proposed for auxiliary storage is currently used as a pasture and lies just east of a pond frequented by migratory birds (Figure 4.6-4). Grasses and other vegetation are tall but sparse, which allowed fairly good ground visibility (75 percent). No cultural resources were identified in this Project area.

Figure 4.6-3 Soulé Building, looking north

Figure 4.6-4 Proposed Auxiliary Storage Area, Located Just East (Left) of Pond; View to the Southeast

4.6.1.4 Paleontological Resources

Both the Old River and Connection Slough Project sites are located within Quaternary (Holocene-age, 10,000 years before present [BP] to present day) alluvial fan and fluvial surface deposits, and Holocene dune sands. These extend to 30 feet below the ground surface. Older Pleistocene-age (1.8 million to 10,000 years BP) alluvial fan and stream terrace deposits underlie the Holocene sediments (Helley et al. 1997). The results of a paleontological literature search indicate no recorded sites within 2 miles of the vicinity of the Project sites (University of California Museum of Paleontology [UCMP] 2008), nor were any paleontological resources identified in Quaternary (Holocene-age) deposits. Given the relatively young age of these deposits, the potential for fossils to be present is low. A variety of common mammal fossils have been found in both Contra Costa and San Joaquin counties in Pleistocene deposits (e.g., bison, deer, mastodon, and equine species).

4.6.2 Regulatory Setting

4.6.2.1 State Regulations

Section 15064.5 of the CEQA Guidelines provides that a project may have a significant environmental effect if it causes "substantial adverse change" in the significance of an historical resource or a unique archaeological resource. Historical resources are defined in the CEQA Guidelines section 15064.5 as any of the following:

1) A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in the California Register of Historical Resources (PRC Section 5024.1, Title 14 CCR, Section 4850 et seq.).

2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3) Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (PRC Section 5024.1, Title 14 CCR, Section 4852), including the following:

    a) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

    b) is associated with the lives of persons important in our past;

    c) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

    d) has yielded, or may be likely to yield, information important in prehistory or history.

The guidelines specify that a lead agency shall identify potentially feasible measures to mitigate significant adverse changes in the significance of an historical resource. The lead agency shall ensure that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions, agreements, or other measures.

The guidelines specify that if an archaeological site does not meet the criteria for being designated a historical resource, but does meet the definition of a unique archeological resource in section 21083.2 of the PRC, impacts to the site shall also shall be treated or mitigated.

If an archaeological resource is neither a unique archaeological nor an historical resource, the guidelines indicate that effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

The CEQA Guidelines refer to whether or not implementation of a project would "directly or indirectly destroy a unique paleontological resource." Additionally, PRC Section 31244 states that "where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required."

4.6.2.2 Federal Regulations

Passage of the National Historic Preservation Act (NHPA) in 1966 established the Federal historic preservation program and made it the policy of the Federal government, in partnership with the states, local governments, Indian tribes, and private organizations and individuals, to preserve, protect, and manage cultural resources for "the inspiration and benefit of present and future generations" (16 USC 470-1, Section 2[3]).

Section 106 of the NHPA directs federal agencies to take into account the effects of their actions on historic properties and to afford the Advisory Council on Historic Preservation an opportunity to comment with respect to the effects of the undertaking. Implementing regulations for section 106 are found at 36 CFR 800, and establish the procedures Federal agencies must follow when assessing the effects of a proposed action on historic properties. The term "historic properties" is defined at 36 CFR 800.16(l)(1) as "….any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places [NRHP]…[and] includes properties of traditional religious importance to an Indian tribe or Native Hawaiian organization that meet the National Register criteria."

To be eligible for listing on the NRHP, a cultural resource must be at least 50 years old (although there are exceptions) and must meet one or more of the eligibility criteria set forth at 36 CFR 60.4 which state:

> The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons that are significant in our past; or (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or (d) that have yielded, or may likely yield, information important in prehistory or history.

Cultural resources are evaluated for potential listing on the NRHP with reference to an historic context and associated research questions, in consultation with the SHPO and/or Tribal Historic Preservation Officer, tribes, and other interested organizations and individuals.

Pursuant to Executive Order (EO) 13007 agencies must also consider the effects of their actions on the physical integrity of sacred sites, and access to and ceremonial use of such sites by Indian religious practitioners. EO 13007 defines a "sacred site" as:

> …any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site.

EO 13007 directs federal agencies "…to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions," to accommodate access to and use of such sites by Native American traditional religious practitioners, and to avoid affecting their physical integrity.

There are no federal regulations specifically relating to paleontological resources.

4.6.3 Impacts and Mitigation Measures

4.6.3.1 No Project

No impacts to cultural resources would occur because no development would occur.

4.6.3.2 2-Gates Project

a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5

Less than Significant. Constructed in 1905, the truss bridge across the Connection Slough was among the first bridges built in the Delta region. It remains intact and in service. In instances where a project has the potential to affect a historical resource, additional investigations are required to evaluate its NRHP/CRHR eligibility and (if eligible) to determine whether the Project would affect the significant qualities of the resource. In the case of the Project, however, such investigations are not warranted since Project effects to the bridge would be negligible if not altogether absent. Construction of the Connection Slough gate would occur more than 0.25 mile to the east and would not cause any direct physical disturbance to the bridge. Moreover, it is unlikely that the Project would have any significant incidental effects. Although the gate would be visible, it is not reasonable to presume that this new element on the landscape would significantly change the surroundings and other intangible elements of the bridge. Thus, no further studies regarding the Connection Slough Bridge are recommended. The Project would not cause a substantial adverse change in the significance of this resource.

The Soulé Building appears 50 years old or older and is thus considered a historical resource. The shed lies within the Project boundaries, but there is little potential that the Project will affect this structure. The proposed lay down area for the Holland Tract side of the Old River Project area lies about 375 feet to the south. Project plans do not involve the removal of the building, and the likelihood of incidental damage is remote given the distance to the lay down area. Additionally, the shed would not be used for storage or any other Project purposes. As with the Connection Slough Bridge, it is not reasonable to presume that the Project would significantly change the surroundings of the shed. Thus, no further studies regarding the Soulé Building are recommended. The Project would not cause a substantial adverse change in the significance of this resource.

Less than Significant with Mitigation Incorporated. As a contributing element of the Bacon Island Rural Historic District, Shima Camp No. 4 (CA SJO 214H) is an NRHP/CRHR eligible resource. The site lies within the Project boundaries and about 100 feet south of the proposed lay down space on the east (Bacon Island) side of the Project area. Project plans do not involve any direct effect or impact to the camp. Moreover, there is little evidence to suggest that archaeological artifacts and features associated with CA SJO 214H extend into the lay down area; it is more likely that such remains would be found within or immediately adjacent to the camp. There is, however, a moderate to high potential for incidental Project effects given the presence of heavy equipment and ground disturbance so close to the site. The proximity of construction may result in the increased accumulation of debris and/or inadvertent damage to the buildings.

Mitigation Measure CR-1: CA SJO 214H will be shown on contractor specifications with the direction that Project activities are to be kept as far away from the site as possible. Additionally, protective fencing will be installed as follows: (1) at the south end of the lay down area; (2) along the east shoulder of the levee road; (3) approximately 100 feet south of the site; and (4) along the western edge of the corn field east of the site. The site also will be monitored periodically (e.g., every week) during construction by the general contractor and its supervisory staff to ensure that the protective measures are effective and that no damage has been sustained to the camp structures.

Less than Significant with Mitigation Incorporated. The north (Mandeville Island) portion of the Connection Slough Project area was inaccessible and therefore was not surveyed. Although it appears unlikely that the Project would result in impacts that would change the significance of the Mandeville Island School site, it is conservatively determined that impacts would potentially be significant.

Mitigation Measure CR-2: The Mandeville Island Portion of the Connection Slough site will be surveyed by a qualified archaeologist prior to the onset of construction. The purpose of this study will be to (1) determine if cultural resources are present in or near the Project area and (2) better define the relationship between the Project boundaries and the Mandeville School complex.

If there is a potential for the Mandeville Island School site to be affected by Project construction activities, the following measure will be implemented.

Mitigation Measure CR-3: The Mandeville Island School site will be shown on contractor specifications with the direction that Project activities are to be kept as far away from the site as possible. Additionally, protective fencing will be installed at locations identified by the archaeologist. The site also will be monitored periodically (e.g., every week) during construction by the general contractor and its supervisory staff to ensure that the protective measures are effective and that no damage has been sustained to the camp structures.

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5

Less than Significant with Mitigation Incorporated. No archaeological resources were identified at the Project sites. Nevertheless, the possibility still exists that cultural deposits may be unearthed during construction given the archaeological sensitivity of the Project area and impacts are conservatively considered potentially significant. Surveys were not conducted at the Mandeville Island portion of the Project area; therefore, the potential for archaeological resources to be present has not been fully assessed. Mitigation CR-2, which requires that this area be surveyed by a qualified archaeologist, is applicable to this impact.

Mitigation Measure CR-4: Due to the presence of archaeologically sensitive Piper series soils immediately adjacent to the Holland Tract storage site, all ground-moving activities and the operation of heavy equipment will be restricted to the 12-acre site to prevent incidental damage to possible archaeological resources.

Mitigation Measure CR-5: Before initiating construction or ground-disturbing activities associated with the Project, all construction personnel will be alerted to the possibility of uncovering buried cultural resources. The general contractor and its supervisory staff will be responsible for monitoring the construction for disturbance of cultural resources. If any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains, are encountered during any development activities, work will be

suspended and DWR and Reclamation will be immediately notified. DWR and Reclamation will retain a qualified archaeologist who will conduct a field investigation of the specific site and recommend reasonable mitigation deemed necessary to protect or recover any cultural resource concluded by the archaeologist to represent historical resources or unique archaeological resources. DWR and Reclamation will be responsible for approval of the recommended mitigation if it is determined to be feasible. DWR and Reclamation will implement the approved mitigation before the resumption of construction activities at the construction site.

After DWR and Reclamation are notified, work may proceed on other portions of the Project sites while mitigation of impacts on archaeological resources is implemented.

Mitigation Measure CR-6: In the event that the archaeological survey of the Mandeville Island site identifies archaeological resources, the area shall be fenced and the site will be avoided.

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

Less than Significant. No unique geologic features are present at the Project sites. The potential for paleontological resources to be present in the areas where ground disturbance would occur is low given the relatively modern age of the soils. Dredging would not extend below -30 feet, and thus would not affect the Pleistocene-age deposits that have the potential to contain fossils. Thus, the potential for unique paleontological resources to be destroyed is low.

d. Disturb any human remains, including those interred outside of formal cemeteries

Less than Significant with Mitigation Incorporated. There is a potential for human remains to occur in the Project area, and this impact is conservatively considered to be significant even though no direct evidence of the presence of human remains was identified.

Mitigation Measure CR-7: In accordance with the California Health and Safety Code, if human remains are uncovered during construction at the Project site, the construction contractors will immediately suspend work within 50 feet of the remains, and the Contra Costa County Coroner will be immediately notified. If the remains are determined by the County Coroner to be Native American, the Native American Heritage Commission (NAHC) will be notified within 24 hours of making that determination (Health and Safety Code Section 7050[c]), and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The NAHC will then assign a Most Likely Descendent (MLD) to serve as the main point of Native American contact and consultation. Following the coroner's findings, the MLD and the archaeologist will determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. DWR and Reclamation will be required to implement any feasible, timely formulated mitigation deemed necessary for the protection of the burial remains. Construction work in the vicinity of the burials will not resume until the mitigation is completed.

4.6.3.3 Cumulative Impacts

The Project would not affect known archaeological resources or human remains, but there is a potential for undiscovered resources to be disturbed by construction. Other projects in the study area also could affect archaeological sites or human remains, and cumulative impacts could be significant. Mitigation measures identified in this MND/EA would ensure that the Project's contribution to this cumulative impact would be reduced to less than significant. The Project could affect historic resources during construction, as could other projects in the study area,

potentially resulting in a significant cumulative impact. Mitigation measures identified in this MND/EA would ensure that the 2-Gates Project would prevent adverse effects to such resources; therefore reducing its contribution to this cumulative impact to less than significant. The Project has a low potential to affect unique paleontological resources, and cumulative impacts would be less than significant.