

1 **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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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3 **4.6.1 Environmental Setting**

4 **4.6.1.1 Cultural Overview**

5 ***Archaeology and Regional Prehistory***

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

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

- 21 • Early Period/Early Horizon/Windmiller Pattern. Extended burials with westerly orientation
 22 are typically accompanied by funerary goods, including shell ornaments and beads. The high
 23 frequency of large projectile points indicates that subsistence centered on game. Grinding
 24 implements are present but infrequent.
- 25 • Transitional Period/Middle Horizon/Berkeley Pattern. Flexed burials with variable
 26 orientation are often accompanied by red ochre and sometimes by funerary items. There is a
 27 greater reliance on acorns, as suggested by the higher frequency of mortars and pestles

1 compared to the previous period. Projectile points remain large, and bone tools are frequent
2 and well developed.

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

7 The above chronology helps consolidate a vast amount of data into a manageable number of time
8 periods, but like any taxonomic division, it implicitly minimizes the importance of differences
9 that exist within each time period and does not account for geographical variability. Such
10 variation confounds attempts to devise an orderly chronology with absolute dates for each time
11 interval. For instance, the earliest component of CA_SJO_68 contains mortars, pestles, and a
12 bone awl (typically associated with the Berkeley Pattern), yet the site has been dated to around
13 4500 B.P., one of the earliest known sites in the Central Valley (Moratto 1984:207). In addition,
14 radiocarbon dates from 31 central California sites indicate that the time ranges of the
15 Windmill, Berkeley, and Augustine patterns show considerable overlap, especially after 1750
16 B.P. (see Moratto 1984:200, Figure 5.11). The analysis suggests that the Windmill and
17 Berkeley Pattern sites in San Joaquin County (CA_SJO_145 and _91) were coeval with Augustine
18 sites in Sacramento County between 1750 and 750 B.P. Moreover, consideration of geographical
19 similarities and differences in the archaeological record of California indicates that the east-west
20 flow of goods among the Bay, Delta, and Central Sierra regions was more pronounced than the
21 economic ties between northern and southern valley peoples (Moratto 1984:215).

22 Habitation in the Central Valley predating the Early Period/Windmill Pattern is evidenced by
23 assemblages found near the Tulare and Buena Vista lakebeds as well as in the surrounding
24 foothills and mountains. It is likely that most archaeological material in the Delta region dating
25 to this early time is deeply buried under alluvium. Moratto (1984:214) observed that as much as
26 10 meters of sediments may have accumulated during the past 5,000 years.

27 ***Ethnography***

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

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

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

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

10 As with other Indian groups in the valley, the lifeways of the Northern Valley Yokuts were
11 dramatically altered as a result of contact with Spanish explorers and missionaries, miners,
12 ranchers, and other European immigrants who entered the valley after 1800. Population estimates
13 for the eighteenth century put the number of Yokuts living in the San Joaquin Valley at around
14 41,000. However, the introduction of European culture and Old World diseases proved
15 devastating to the native population. Traditional lifestyles were diminished and numerous people
16 died from epidemics (Moratto 1988:174).

17 **4.6.1.2 History**

18 ***Early Exploration and Settlement***

19 The first recorded European encounter with the Yokuts occurred in 1772 when Spanish explorer
20 Pedro Fages led a group of soldiers through Tejon Pass into the San Joaquin Valley (Wallace
21 1978b:459). During the late 1700s, the Spanish established a string of missions along the
22 California coast. Although initially insulated from the direct impact of the missions, the Northern
23 Valley Yokuts no doubt had some contact with the Spanish. Mission San Jose was founded in
24 1797, effectively establishing a Spanish presence along the Northern Valley Yokuts' western
25 border. Gabriel Moraga and his band entered the valley in 1806 to locate new lands for missions,
26 find and return runaway Indians, and relocate stolen livestock (Clough & Secrest 1984:25–27).
27 Moraga is credited with naming several valley geographical features, including the San Joaquin
28 and Stanislaus rivers. Although Mexico's independence from Spain ended expansion of the
29 missions in California by the early 1820s, European encroachment on the areas occupied by the
30 indigenous peoples continued. In the late 1820s, fur trappers began their forays into the
31 California interior. Jedediah S. Smith passed through the area during a fur trapping expedition in
32 1827, and French Canadian trappers of the Hudson's Bay Company established a seasonal base
33 at French Camp just south of present-day Stockton (Shideler 1988:1).

34 Although relatively short lived, California's Mexican administration (1821–1848) facilitated the
35 economic transition between Spanish mercantilism and Euro-American capitalism. The
36 Colonization Act of 1824 and the Supplemental Regulations of 1828 afforded private
37 individuals—both Mexican nationals and immigrants—the right to obtain title to land (Hackel
38 1998:132). In 1834, the missions were secularized, effectively freeing up their enormous
39 landholdings to private interest. From this point until California's accession into the Union, the
40 Mexican authorities made over 800 land grants, often designated as “ranchos,” to individuals
41 with the intent to settle and improve these parcels (Monroy 1998:180).

1 In 1844, the government granted William Gulnac, a native of New York, the Campo de los
2 Franceses, a nearly 49,000 acre tract that included French Camp (Smith 2004:148–152). One
3 year later, Gulnac, who was unable to permanently settle on the land, sold the property to
4 Captain Charles H. Weber in exchange for his \$60 grocery bill owed at Weber’s store in San
5 Jose. Weber, a German immigrant, went on to establish the town of Stockton in 1849. Smith’s
6 (2004:158) map of Mexican land grants indicates that the current Project areas were not part of
7 any rancho; prior to the mid 1800s, the marshlands west of Stockton were unsuitable for
8 ranching or agriculture.

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

13 ***Farming and Development of the Delta***

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

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

1 including George Shima, who raised predominantly potato crops on Bacon, McDonald, and other
2 Delta islands (Maniery 1993:11).

3 Before the turn of the century, the only means to transport harvested crops off the Delta islands
4 was via boat. Farming operations included landings to assist the loading of cargo onto ships
5 headed for markets in Stockton, Sacramento, and San Francisco (PAR Environmental Services
6 1996:10–11). The arrival of the railroad in 1900 and the construction of roads and bridges in the
7 1910s made the region more accessible, which not only reduced freight costs but increased the
8 value of the Delta land.

9 Within the Project vicinity, small communities arose at or near the convergence of these
10 transportation routes. Located along the waterway known as the Middle River with access to the
11 Atchison, Topeka and Santa Fe Railway, the town of Middle River served as an important
12 shipping point and the site of an asparagus cannery as early as 1915 (Hillman & Covello
13 1985:217–218). Similarly, the town of Holt lay at the intersection of the southern end of
14 Whiskey Slough, the Santa Fe tracks, and the Delta Borden Highway (the precursor of State
15 Route 4). Completed in 1915, the highway was the first paved roadway through the Delta and
16 included a series of swing bridges spanning the numerous waterways of the marshlands. Located
17 a few miles upstream from the town of Middle River, the Middle River Bridge (P 39 000474)
18 was built in 1915 as part of this early transportation network; it remains today as a historically
19 and architecturally significant structure (California Department of Transportation 1990:116).

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

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

35 ***George Shima—the “Potato King”***

36 Typical of most Central Valley areas, the infusion of immigrant manpower and vision has been
37 integral to the development and modernization of the agriculture industry in the California Delta
38 region. Holt housed an ethnic collage of farmworkers, including Chinese, Portuguese, Italian,
39 and Mexican immigrants (Hillman & Covello 1985:214). In particular, Japanese were the
40 primary work force in the Delta from the early twentieth century until their internment in
41 detention camps during World War II. For most first generation Japanese immigrants, however,

1 farm labor was not an end in itself but the first step in securing a better life for the worker and his
2 family.

3 Like Kyutaro Abiko, who established the Yamato Colony in Merced County, George Shima
4 (Kinji Ushijima) came to California from Japan with more aspirations than capital. After
5 laboring in the potato fields, he had saved enough money to lease his own plot in 1893 (Maniery
6 1993:11). For about a decade, Shima endured economic and natural hardships, often relying
7 upon loans from friends to stave off bankruptcy. In 1902, he teamed with Lee Philips.

8 Usually, Philips acquired ownership to land, built levees and ditches, and secured an island. He
9 then leased it to Shima, usually under an oral agreement and a hand shake. Shima then provided
10 labor and equipment to burn off vegetation, prepare the land for planting, and farm (Maniery
11 1993:12).

12 By 1906, luck and market conditions had finally swung Shima's way. He produced more than 3
13 million bags of potatoes on 8,000 acres of leased land, which gave one newspaper reason to dub
14 him the "Potato King" (Maniery 1993:12–13). In 1907, Shima recorded a substantial profit when
15 the price of potatoes soared due to shortages in the market.

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

32 In 1916, Shima leased 5,600 acres on Bacon Island, which had been reclaimed by the California
33 Delta Farms Company the year before (Maniery 1993:15). In general, the management of such
34 vast acreage was structured into camps, each headed by a foreman who oversaw the cultivation
35 of 100 to 500 acres (Maniery 1993:20–22). Located near the waterways, these camps typically
36 contained a foreman's house, cookhouse, and one or more boarding houses; larger camps
37 included other ancillary structures such as a blacksmith or machine shop. Camps housed from 20
38 to 50 men in small units to as many as 350 to 400 in larger complexes. Based on the size and
39 number of structures, Camp No. 3 (CA_SJO_213H)—south of the Old River Project area on
40 Bacon Island—typifies one of the larger complexes, whereas Camp No. 4 (CA_SJO_214H),
41 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

Records searches for the Project were completed by the Central California Information Center at California State University, Stanislaus on September 10, 2008 and by the Northwest Information Center at Sonoma State University on October 3 and 13, 2008. Site record files, maps, and other materials were examined to identify previously recorded cultural resources (e.g., prehistoric sites, historic sites, historic buildings/structures, and isolated artifacts) and prior surveys conducted within the Project areas. Sources consulted also 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. The records searches identified the following information regarding the three Project areas (Old River, Connection Slough, and the Holland Tract alternate storage area) (Figure 4.6-1).

OLD RIVER PROJECT AREA

The Old River Project Area of Potential Effects (APE) consists of an area approximately 600 feet long and 140 feet wide on either side of Old River (Figure 4.6-2). The APE was previously surveyed. Greenway & Soule (1977) surveyed the Holland Island portion of the Old River Project APE and Maniery et al. (1989) surveyed the Bacon Island and Holland Island portion of the Old River Project for the Delta Wetlands Project. Maniery et al (1989) identified site CA-SJO-214H, Shima Camp No. 4, near, but beyond the Old River Project APE. Maniery et al (1989) also identified the Old River Project area is within the Bacon Island Rural Historic District. Maniery determined the Bacon Island Rural Historic District eligible for inclusion in the NRHP, but the Office of Historic Preservation has not reviewed and concurred with this determination. In addition, the Holland Tract levee, which was built in 1910, is within the Old River Project APE. The Historic Property Data File identifies this levee as not eligible for inclusion in the NRHP.

CONNECTION SLOUGH PROJECT AREA

The APE for the Connection Slough Area consists of an area approximately 600 feet long and 140 feet wide on either side of Connection Slough and an approximately 3-acre area dredged materials disposal site on the northeast corner of Bacon Island (Figure 4.6-1 and 4.6-3). The Mandeville Island portion of the APE has not been previously surveyed, but the APE on Bacon Island was previously surveyed by Maniery et al. (1989) 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. These investigations did not identify any cultural resources in the Connection Slough Project APE, but the section of Bacon Island within the Connection Slough Project APE is within the boundaries of the Bacon Island Rural Historic District (Maniery 1993: Figure 26). Maniery determined the Bacon Island Rural Historic District eligible for inclusion in the National Register of Historic Places (NRHP), but the Office of Historic Preservation has not reviewed and concurred with this determination.

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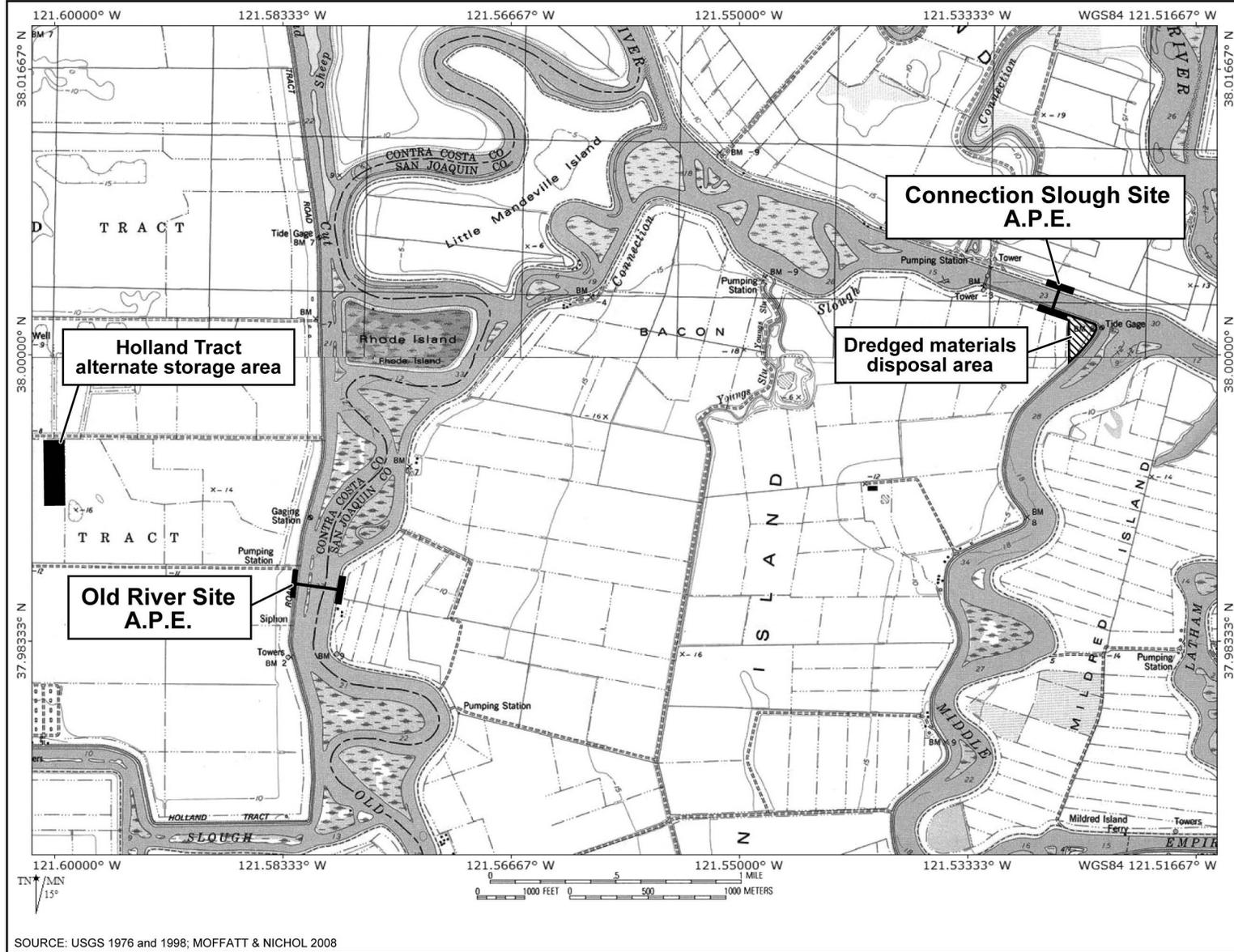


Figure 4.6-1 Location of Areas of Potential Effect

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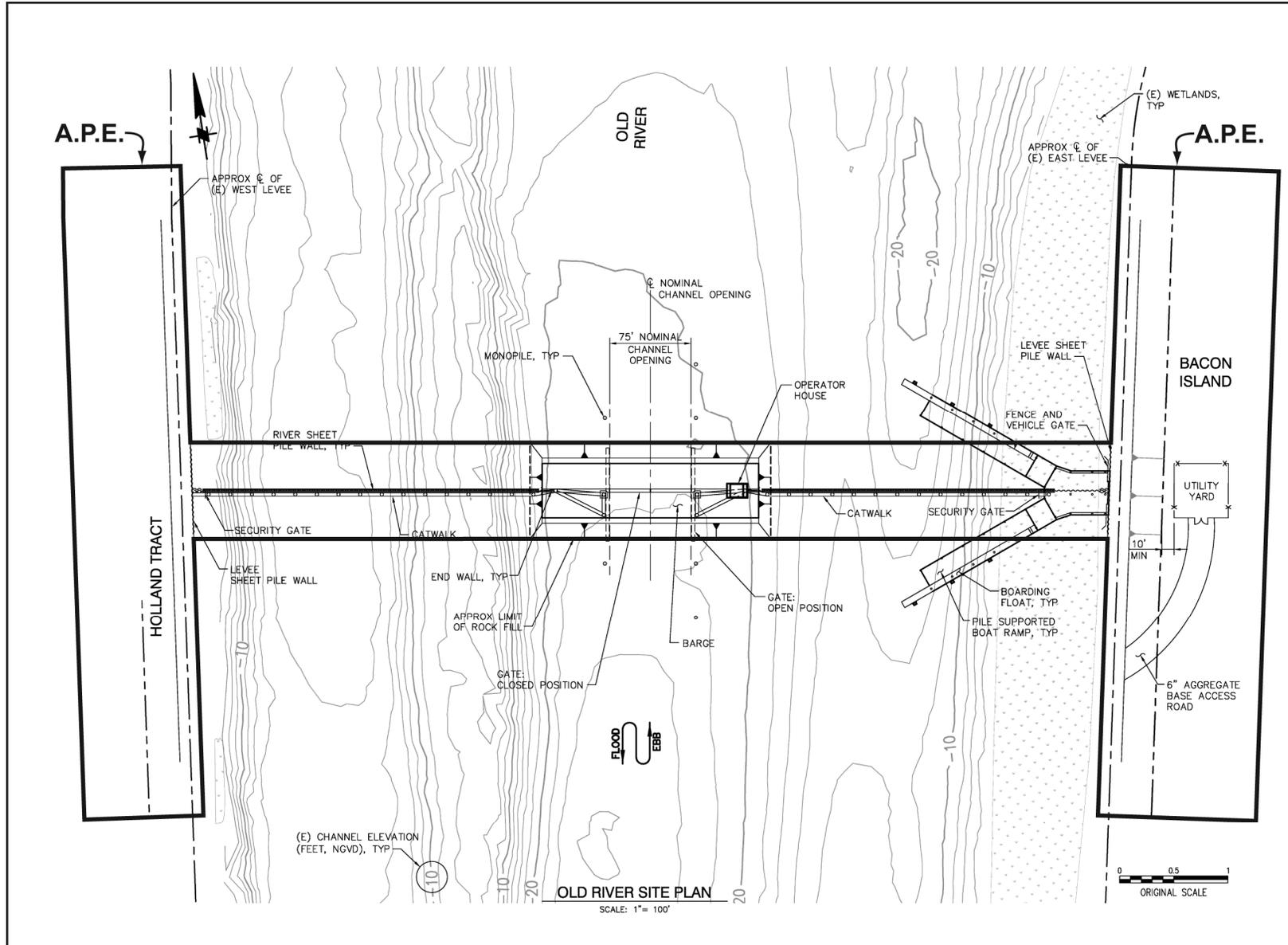


Figure 4.6-2 Old River Site Plan View and APE

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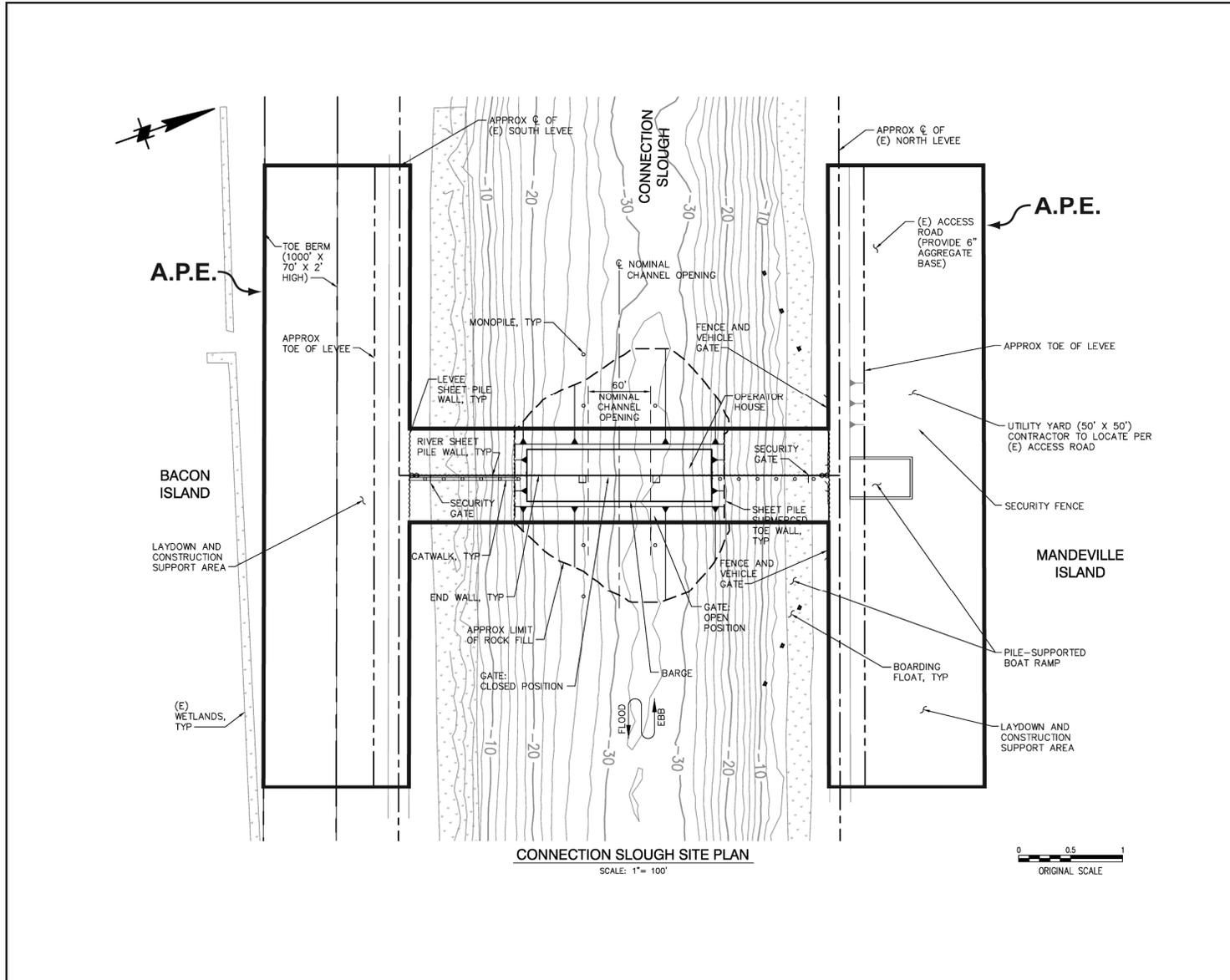


Figure 4.6-3 Connection Slough Site Plan View and APE

1 **HOLLAND TRACT ALTERNATE STORAGE SITE**

2 The Holland Tract alternate storage site APE is an approximately 12-acre area. The APE was
3 previously surveyed. Greenway & Soule (1977) and Maniery et al. (1989) covered the APE as
4 part of their surveys of Holland Island. There are no cultural resources within the Holland Tract
5 Auxiliary Storage Area APE.

6 **NATIVE AMERICAN CONSULTATION**

7 Native American consultation is part of the Section 106 (36 CFR 800) and CEQA processes.
8 Therefore, Æ contacted the NAHC to request a search of its sacred lands file for the Project area
9 and the names and contact information of groups and/or individuals that could provide
10 information relevant to the Project area. Æ contacted the groups and individuals identified by the
11 NAHC by mail regarding the Project and soliciting information regarding the Project area and
12 the location of any sensitive Native American cultural resources within it. Æ also contacted all
13 groups and individuals that were sent letters by telephone to confirm that the correspondence was
14 received and to provide an opportunity for comment. The only comment from the Native
15 American community regarding the Project was sent by the Ione Band of Miwok Indians,
16 indicating that the Project is outside of their Ancestral Territory.

17 The current consultation effort satisfies CEQA, but Reclamation as lead Federal agency will
18 conduct government to government Native American consultation to comply with their Section
19 106 responsibilities related to the Project.

20 **SURVEY**

21 Æ archaeologist Randy Baloian performed a pedestrian surface survey of the Bacon Island
22 portion of the Connection Slough APE, the entire Old River APE, and the entire Holland Tract
23 alternate storage site APE (Figure 4.6-1) on October 2, 2008. The survey consisted of systematic
24 transects spaced at 15 to 20 meter intervals across the three Project sites. The following
25 identified the surface visibility, survey coverage, and survey results for each of the three Project
26 locations.

27 **CONNECTION SLOUGH PROJECT AREA**

28 Mandeville Island was not surveyed because access to the property was not granted by the land
29 owner. The Bacon Island portion of the Project APE was surveyed. Surface visibility on Bacon
30 Island was generally good (75 to 100 percent) along the levee road but decreased to 10 to 50
31 percent on the slope and level terrain below the crest of the levee. Survey coverage was confined
32 to the areas immediately adjacent to the road by a corn field with dense vegetation that
33 completely obscured ground visibility. No cultural resources were observed in the Bacon Island
34 portion of the Connection Slough APE.

35 **OLD RIVER PROJECT AREA**

36 A large part of the Bacon Island portion of the Old River Project APE is recently graded,
37 facilitating good to excellent surface visibility (90 to 100 percent). Survey coverage was limited
38 to the areas immediately adjacent to the road by a dense corn field that completely obscured
39 ground visibility. No cultural resources were observed in the Bacon Island portion of the Old
40 River APE.

1 In the Holland Tract portion of the Old River APE, a short but dense blanket of grass covers the
2 shoulders along the levee road. The vegetation becomes increasingly taller and thicker with
3 greater distance from the road. Surface visibility ranged from 10 to 75 percent in this area. No
4 cultural resources were observed in the Holland Tract portion of the Old River APE.

5 **HOLLAND TRACT AUXILIARY STORAGE AREA**

6 The 12-acre **storage/disposal** APE is currently used as a pasture. Grasses and other vegetation are
7 tall but sparse, and surface visibility was good (75 percent). No cultural resources were identified
8 in **this** APE.

9 **4.6.1.4 Paleontological Resources**

10 Both the Old River and Connection Slough sites are located within Quaternary (Holocene-age,
11 10,000 years before present [BP] to present day) alluvial fan and fluvial surface deposits, and
12 Holocene dune sands. Older Pleistocene-age (1.8 million to 10,000 years BP) alluvial fan and
13 stream terrace deposits underlie the Holocene sediments (Helley et al. 1997). The results of a
14 paleontological literature search indicate no recorded sites within 2 miles of the of the three
15 Project sites (University of California Museum of Paleontology [UCMP] 2008) **nor were any**
16 **paleontological resources identified in Quaternary (Holocene-age) deposits. Given the relatively**
17 **young age of these deposits, the potential for fossils to be present is low. A variety of common**
18 **mammal fossils have been found in both Contra Costa and San Joaquin counties in Pleistocene**
19 **deposits (e.g., bison, deer, mastodon, and equine species).**

20 **4.6.2 Regulatory Setting**

21 **4.6.2.1 State Regulations**

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

- 26 1) A resource listed in, or determined to be eligible by the State Historical Resources
27 Commission for listing in the California Register of Historical Resources (PRC Section
28 5024.1, Title 14 CCR, Section 4850 et seq.).
- 29 2) A resource included in a local register of historical resources, as defined in section
30 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting
31 the requirements of Section 5024.1(g) of the PRC, shall be presumed to be historically or
32 culturally significant. Public agencies must treat any such resource as significant unless
33 the preponderance of evidence demonstrates that it is not historically or culturally
34 significant.
- 35 3) Any object, building, structure, site, area, place, record, or manuscript that a lead agency
36 determines to be historically significant or significant in the architectural, engineering,
37 scientific, economic, agricultural, educational, social, political, military, or cultural annals
38 of California may be considered to be an historical resource, provided the lead agency’s
39 determination is supported by substantial evidence in light of the whole record.
40 Generally, a resource shall be considered by the lead agency to be “historically

1 significant” if the resource meets the criteria for listing on the California Register of
2 Historical Resources (PRC Section 5024.1, Title 14 CCR, Section 4852), including the
3 following:

- 4 a. Is associated with events that have made a significant contribution to the broad
5 patterns of California’s history and cultural heritage;
- 6 b. Is associated with the lives of persons important in our past;
- 7 c. Embodies the distinctive characteristics of a type, period, region, or method of
8 construction, or represents the work of an important creative individual, or possesses
9 high artistic values; or
- 10 d. Has yielded, or may be likely to yield, information important in prehistory or history.

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

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

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

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

28 **4.6.2.2 Federal Regulations**

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

34 Section 106 of the NHPA directs federal agencies to take into account the effects of their actions
35 on historic properties and to afford the Advisory Council on Historic Preservation an opportunity
36 to comment with respect to the effects of the undertaking. Implementing regulations for section
37 106 are found at 36 CFR 800, and establish the procedures federal agencies must follow when
38 assessing the effects of a proposed action on historic properties. The term “historic properties” is
39 defined at 36 CFR 800.16(1)(1) as “....any prehistoric or historic district, site, building, structure,

1 or object included in, or eligible for inclusion in the National Register of Historic Places
2 [NRHP]...[and] includes properties of traditional religious importance to an Indian tribe or
3 Native Hawaiian organization that meet the National Register criteria.”

4 To be eligible for listing on the NRHP, a cultural resource must be at least 50 years old (although
5 there are exceptions) and must meet one or more of the eligibility criteria set forth at 36 CFR
6 60.4 which state:

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

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

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

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

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

35 There are no federal regulations specifically relating to paleontological resources.

36 4.6.2.3 Resolution of Effects

37 Following 36 CFR 800.4, 800.5 and 800.6, Reclamation shall identify historic properties within
38 the APE of an undertaking and apply the criteria of adverse effects to any historic properties
39 within a project’s APE. If the results of the assessment of effects identify that a project would

1 likely result in “No Adverse Effect,” Reclamation shall follow guidance at 36 CFR 800.5 (d) (1).
2 If the results of the assessment of effects identify that a project would likely result in an
3 “Adverse Effect” Reclamation shall follow guidance at 36 CFR 800.5 (d) (2) and continue to
4 consult with the SHPO, Native American groups, and other interested publics to resolve the
5 adverse effect pursuant to 36 CFR 800.6.

6 **4.6.3 Impacts and Mitigation Measures**

7 The impact analysis and recommended mitigation measures presented in this section address the
8 regulatory requirements of CEQA, NEPA, and Section 106 of the NHPA.

9 **4.6.3.1 No Project**

10 No impacts on historic properties, historical resources, unique archaeological resources, or
11 paleontological resources would occur because the Project would not be implemented.

12 **4.6.3.2 2-Gates Project**

13 **a. Cause a substantial adverse change in the significance of a historical resource as defined in** 14 **Section 15064.5**

15 **Less than Significant.** The Old River and Connection Slough APEs are within the Bacon Island
16 Rural Historic District, which appears to be eligible for inclusion in the NRHP. The Bacon Island
17 Rural Historic District also appears eligible for inclusion in the California Register of Historical
18 Resources (CRHR). Regardless, implementation of the Project would not directly affect any
19 historic sites within the district, nor would it affect the integrity or any other characteristics of the
20 district that make it eligible for inclusion in the NRHP or CRHR. This is because the Project
21 primarily would be constructed in waterways bordered by levees and would not introduce any
22 elements into the areas surrounding levees that would compromise the setting, feeling, or
23 association of the district. In addition, the Project is being constructed for demonstration
24 purposes and would be deconstructed upon completion of data collection.

25 **Less than Significant with Mitigation Incorporated.** The levees in the Old River and
26 Connection Slough APE are approximately 100 years old. These levees are not formally
27 recorded, and their eligibility for inclusion in the NRHP and the CRHR has not been determined.
28 For purposes of this impact analysis, however, they are conservatively assumed to be eligible.
29 Implementation of the Project would not alter the overall design or function of the levees, but it
30 would modify the levees by installing sheet pile and boat ramps (Figure 2-9), which is
31 considered a significant impact.

32 **Mitigation Measure CR-1:** The levees in the Old River and Connection Slough APE shall be
33 appropriately documented prior to implementation of the Project using Department of Parks and
34 Recreation site record forms. The eligibility of the levees for inclusion in the NRHP and the
35 CRHR shall also be addressed by an archaeologist or historian meeting the Secretary of Interior’s
36 Professional Qualifications Standards. Implementation of this mitigation measure would result in
37 a finding of “No Effect” or “No Adverse Effect” on the levees and would reduce impacts to less
38 than significant.

1 Less than Significant with Mitigation Incorporated. The Mandeville Island portion of the
2 Connection Slough Project APE was not surveyed. Observation of the Mandeville Island portion
3 of the Connection Slough APE from the opposite bank on Bacon Island did not identify any
4 cultural resources on Mandeville Island, and based on previous and current survey in the area it
5 is not likely that pedestrian surface survey of the APE on Mandeville Island would identify any
6 significant cultural resources. Regardless, there is a possibility that cultural resources are present
7 within the Project APE on Mandeville Island and that implementation of the Project could affect
8 these resources, resulting in a significant impact.

9 Mitigation Measure CR-2: The Mandeville Island portion of the Connection Slough APE shall
10 be surveyed by a qualified archaeologist prior to implementation of the Project. If cultural
11 resources are identified in the area, they shall be adequately recorded and protected following
12 guidelines presented in Section 106 and CEQA. Protective measures may include avoidance,
13 preservation in place, excavation, documentation, curation, data recovery, or other appropriate
14 measures. Implementation of this mitigation measure would reduce impacts to cultural resources
15 within the Project APE on Mandeville Island to less than significant.

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

18 Less than Significant with Mitigation Incorporated. No historical resources or archaeological
19 resources were identified within the Project APE. There is a possibility, however, of
20 unanticipated and accidental archaeological discoveries during ground-disturbing Project-related
21 activities. Any unanticipated and accidental archaeological discoveries during Project
22 implementation have the potential to affect unique archaeological resources. This is considered a
23 significant impact.

24 Mitigation Measure CR-3: If any prehistoric or historic artifacts, or other indications of
25 archaeological resources are found once Project construction is underway, all work in the
26 immediate vicinity must stop and Reclamation and SLDMWA shall be notified immediately. An
27 archaeologist meeting the Secretary of Interior’s Professional Qualifications Standards in
28 prehistoric or historical archaeology, as appropriate, shall be retained to evaluate the finds and
29 recommend appropriate mitigation measures for the inadvertently discovered cultural resources.
30 Reclamation and SLDMWA shall consider the mitigation recommendations of the qualified
31 archaeologist and a measure or measures to address the discovery shall be implemented. Such
32 measures may include avoidance, preservation in place, excavation, documentation, curation,
33 data recovery, or other appropriate measures. In addition, all construction personnel shall be
34 alerted to the possibility of uncovering buried cultural resources and the protocol to address
35 inadvertent discoveries shall be discussed through “tail gate” meetings or other format prior to
36 Project implementation. Implementation of this mitigation measure would reduce impacts to
37 inadvertently discovered archaeological resources to less than significant.

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

40 No Impact. No unique geologic features are present at the Project sites. Pedestrian surface
41 survey of the Project APE and a search of the database at the University of California, Berkeley
42 Museum of Paleontology did not identify any paleontological resources in the Project APE. The

1 potential for paleontological resources to be present in the areas where ground disturbance would
2 occur is low given the relatively modern age of the soils. Additionally, as discussed in Section
3 4.7, Geology and Soils, dredging would occur in peat, sand, and clay, which would not be likely
4 to contain fossils.

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

6 **Less than Significant with Mitigation Incorporated.** Cultural resources investigations for the
7 Project did not identify any human remains or evidence to suggest that human remains may be
8 present within the Project APE. There is a possibility, however, of the unanticipated and
9 accidental discovery of human remains during ground-disturbing Project-related activities. This
10 is considered a potentially significant impact.

11 **Mitigation Measure CR-4:** If human remains are discovered are found once Project
12 construction is underway, all work shall be halted immediately within 50 feet of the discovery,
13 Reclamation and SLDMWA shall be notified, and the County Coroner shall be notified
14 according to Section 5097.98 of the State PRC and Section 7050.5 of California's Health and
15 Safety Code. If the remains are determined to be Native American, the coroner shall notify the
16 Native American Heritage Commission, and the procedures outlined in CEQA Section
17 15064.5(d) and (e) shall be followed. Implementation of this mitigation measure would reduce
18 potential impacts associated with the unanticipated discovery of human remains to less than
19 significant.

20 **4.6.3.3 Cumulative Impacts**

21 The Project would not affect known archaeological resources or human remains, but there is a
22 potential for undiscovered resources to be disturbed by construction. Other projects in the study
23 area also could affect cultural resources (i.e., prehistoric sites, historic sites, historic buildings,
24 and isolated artifacts and features) and human remains, and cumulative impacts could be
25 significant. Mitigation measures identified in this MND/EA (CR-1 through CR-4) would ensure
26 that the Project's contribution to this cumulative impact would be reduced to less than
27 significant. The Project would not affect paleontological resources, and no impacts would occur.