
F-2: Line 407 Cultural Resources Survey

Volume I: Report

**Cultural Resources Survey for the
PG&E Line 407 Project,
Placer, Sacramento, Sutter, and Yolo
Counties, California**

By:
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July 2008

Submitted to:

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Prepared for:

Pacific Gas and Electric Company
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Cultural Resources Survey for the PG&E Line 407 Project, Placer, Sacramento, Sutter, and Yolo Counties, California

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MANAGEMENT SUMMARY

This report presents the findings of a cultural resources study of an approximately 25.5-mile-long gas distribution pipeline that Pacific Gas and Electric Company (PG&E) plans to construct to connect existing lines near the town of Yolo and Fiddymont Road at the western edge of the city of Roseville. The proposed pipeline would pass through portions of Yolo, Sacramento, Sutter, and Placer counties. The project is subject to provisions of the California Environmental Quality Act (CEQA; Public Resources Code, Section 21000 et seq., revised 2005). The line would cross a number of watercourses and may require a Section 404 permit, qualifying it as a federal undertaking. If so, it would also be subject to the provisions of Section 106 of the National Historic Preservation Act (36 CFR 800), which requires that proponents of federal undertakings address potential effects to historic properties.

To meet the requirements of both CEQA and Section 106, TRC contracted with Far Western Anthropological Research Group, Inc. Our study included an archival records search, field inventory, site recordation, Native American consultation, and assessment of the potential for buried archaeological deposits. The methods and results of the study are documented in this report and summarized here for management purposes.

The records searches and field surveys identified 74 cultural resources within the project Area of Potential Effects (APE). Many others were noted on old General Land Office (GLO) plats, historic maps, and other documents but were not found in the field; we presume that these have been destroyed or do not, in fact, lie within the study corridor. The 74 resources of concern include a prehistoric archaeological site north of the town of Yolo, one isolated prehistoric obsidian biface, and 72 sites or features dating to the historic period. The prehistoric archaeological site has not been evaluated for its eligibility to either the National Register of Historic Places or the California Register of Historical Resources, but the isolated biface is categorically exempt and requires no further management or consideration. Historic-period sites and features include one bridge formally determined not eligible to the National Register (Caltrans 2006); 13 resources that are recommended not eligible to the National Register or California Register, and so require no further consideration (if Section 106 applies to the project, this is pending concurrence by the State Office of Historic Preservation); one historic-period house (P-57-000405, the Cramer House) that has been recommended eligible to the National Register; and one National Register Rural Historic Landscape (Reclamation District 1000) with 24 features that overlap the project APE. All RD 1000 features are contributors or potential contributors to the district's National Register eligibility and thus require additional consideration. In addition, there are 33 historic-period resources which have not been evaluated for their National or California Register eligibility.

With the exception of the isolated biface and the ineligible or recommended-ineligible historic-period resources, impacts to these cultural resources should be avoided wherever possible. Where avoidance of unevaluated resources is not feasible, these resources will need to be evaluated. Where features of the National Register Rural Historic Landscape cannot be avoided, it may be necessary to complete Findings of Effects and, where appropriate, to develop measures to mitigate those effects. Similarly, if P-57-000405 (the Cramer House) cannot be avoided, it may be necessary to complete a Finding of Effects, and/or to implement mitigation measures to reduce or eliminate the effects.

Although only one Native American site was found during the survey, it is possible that others lie buried beneath recent alluvial sediments. The most sensitive locations are on levee ridges by the Sacramento River and Cache Creek Slough. Other sensitive areas include APE crossings of Curry Creek and its tributaries, near the east end of the project. These areas, identified in more detail in the Summary and Recommendations section of the report, may also require subsurface backhoe testing by a geoarchaeologist, or monitoring by a qualified archaeologist during construction. It should be noted, however, that backhoe testing before construction begins could avoid costly project delays caused by late discoveries during monitoring. Additional survey may be required if the project plans change to include areas not already inventoried.

In addition to the more general recommendations above, specific recommendations for evaluation strategies for particular archaeological sites, and backhoe trenching for investigating the presence/absence of buried archaeological sites in highly sensitive areas, can be found in the cover letter accompanying this document.

TABLE OF CONTENTS

MANAGEMENT SUMMARY i

INTRODUCTION 1

PROJECT DESCRIPTION..... 3

 Pipeline Segments and Regulator Stations 3

 Construction and Right-of-Way..... 3

NATURAL CONTEXT 4

 Study Area Environment 4

 Geology, Soils, and the Potential for Buried Sites 4

CULTURAL CONTEXT 10

 Historical Context (By Cindy Baker, PAR Environmental Services) 10

 East of the Sacramento River 10

 West of the Sacramento River 11

 The American River Basin, the Natomas Company, and Reclamation District 1000
 (By JRP Historical Consulting) 13

 Ethnographic Context 15

 Trade and Ceremony..... 15

 Ethnohistory 16

 Prehistoric Context 16

 The Early Period (5000-2500 BP)..... 16

 The Middle Period (2500-1000 BP)..... 17

 The Middle/Late Transition (1000-800 BP)..... 17

 The Late Period (800-150 BP) 17

 Summary..... 18

METHODS AND RESULTS 19

 Records Search Methods and Results..... 19

 Native American Consultation 20

 Survey Methods 21

 Survey Findings..... 21

RESOURCE DESCRIPTIONS AND NATIONAL/CALIFORNIA REGISTER
RECOMMENDATIONS (BY MARY MANIERY)..... 30

 Resources West of the Sacramento River 30

 P-57-000566 (By Eric Wohlgemuth) 30

 P-57-000567 30

 P-57-000568 31

 P-57-000569 31

 P-57-000405 (Cramer House)..... 31

 P-57-000406 32

 P-57-000407 32

P-57-000408	32
P-57-000574	33
P-57-000412	33
P-57-000413	33
P-57-000582	33
P-57-000565	34
Wells	34
Culverts.....	35
Ditches and Canals.....	35
Other Water-Supply Features	35
Historic-Period Roads	35
Oak Groves	35
Utility Pole Lines.....	36
Resources East of the Sacramento River.....	36
P-31-000096	36
P-31-003300 and P-31-003301.....	36
P-31-003305	36
P-31-003302	37
P-31-002684	37
P-31-003309 (Eagle Hotel).....	37
P-31-003310 (Isolated Obsidian Biface).....	37
P-31-001137	39
P-31-001135 [CA-PLA-945H].....	39
Historic-Period Roads	39
Historic-Period Railroads	39
SUMMARY AND RECOMMENDATIONS	40
Recommendations.....	40
REFERENCES CITED	46

APPENDICES

- Appendix A. Records Search Results. **CONFIDENTIAL**
- Appendix B. Native American Consultation.
- Appendix C. Site Records. *(Bound separately as Volume II.)* **CONFIDENTIAL**

LIST OF FIGURES

Figure 1. Project Vicinity.	2
Figure 2. Soil Series and Sensitivity for Buried Soils.	8
Figure 3. Surveyed Areas, Resources Encountered, Areas Needing Survey or Monitoring.	25
Figure 4. Obsidian Biface Isolate.	38

LIST OF TABLES

Table 1. Soil Types in the Survey Corridor. 6
Table 2. Water Crossings. 7
Table 3. Records Search Resources within APE. 20
Table 4. Cultural Resources Documented within the APE. 22
Table 5. Survey Findings. 23
Table 6. Resources and Recommendations. 41
Table 7. Areas with Potential for Buried Soils and Cultural Resources. 45

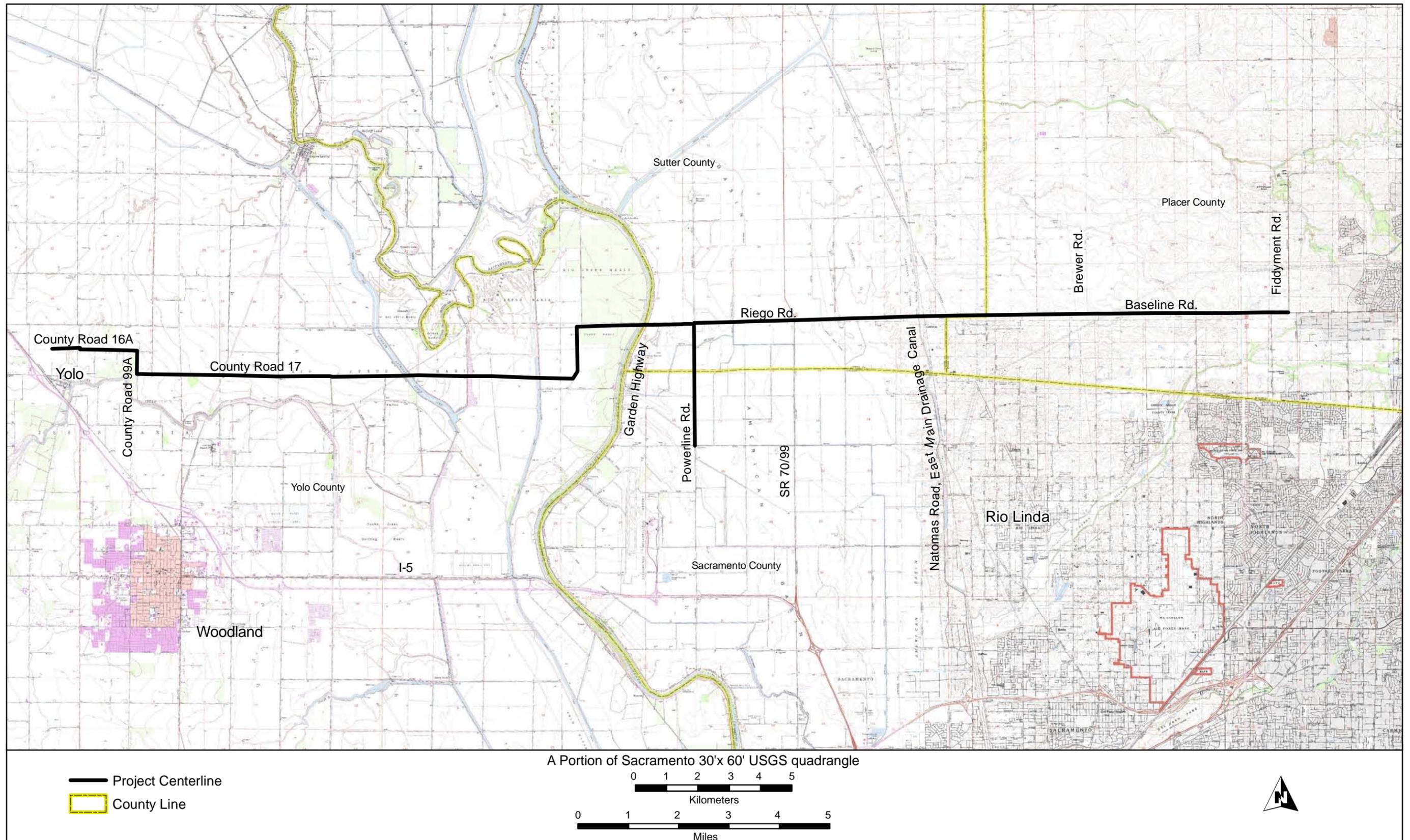
INTRODUCTION

Pacific Gas and Electric Company (PG&E) is planning to construct the Line 406 and Line 407 Pipeline Project in California's Central Valley in Yolo, Sutter, Sacramento, and Placer counties (Figure 1). This document describes the methods and results of a cultural resources inventory for the Line 407 portion of the project, which extends from existing Line 172A near the town of Yolo in Yolo County, east to existing PG&E Line 123 at Fiddymont Road, near the city of Roseville in Placer County. Also included is a new Distribution Feeder Main that extends from Line 407 south, paralleling Powerline Road to the Sacramento Metro Air Park development in Sacramento County. This new pipeline is necessary to meet the demand for additional natural gas supply to serve on-going residential and commercial load growth in the greater Sacramento Valley. The project includes approximately 25.5 miles (41 kilometers) of 30-inch-diameter transmission pipeline, approximately 2.5 miles (four kilometers) of 10-inch-diameter distribution pipeline, and a number of pressure limiting and regulation stations. Service is required between 2010 and 2012, with construction beginning possibly in early 2009.

The project is subject to provisions of the California Environmental Quality Act (CEQA; Public Resources code, Section 21000 et seq., revised 2005), which requires the project proponents to consider potential effects to significant cultural resources from installation of the natural gas pipeline. Significant cultural resources under CEQA are those eligible or potentially eligible to the California Register of Historical Resources, as outlined in Section 5024.1 of the California Public Resources Code.

The line would cross the Sacramento River and a matrix of streams, canals, and irrigation ditches, and the project may need an Army Corps of Engineers (Corps) Nationwide Permit to comply with Section 404 of the Clean Water Act. The possible need for a federal permit may bring the proposed project under the purview of the National Environmental Protection Act (NEPA) and the National Historic Preservation Act (NHPA). Section 106 of the NHPA has similar requirements to CEQA, with significant cultural resources defined as those eligible or potentially eligible to the National Register of Historic Places. This document has been prepared to meet both CEQA and Section 106 standards.

To meet these requirements, TRC contracted with Far Western Anthropological Research Group, Inc., for a cultural resources study, which has included a records search, field inventory, site recordation, Native American consultation, and assessment of the potential for buried archaeological deposits. The methods and results of the study are documented in this report.



A Portion of Sacramento 30'x 60' USGS quadrangle

0 1 2 3 4 5

Kilometers

0 1 2 3 4 5

Miles

Figure 1. Project Vicinity.

PROJECT DESCRIPTION

PIPELINE SEGMENTS AND REGULATOR STATIONS

The new gas transmission pipeline will consist of three segments:

1. Line 407 East (30-inch pipe) will extend west from existing Line 123 on the northwest corner of the intersection of Fiddymont and Baseline roads in Placer County to the intersection of Riego Road and Powerline Road in Sutter County;
2. Line 407 West (30-inch pipe) will extend west from Line 407 East across the Sacramento River to connect with Line 406 north of the town of Yolo in Yolo County; and
3. The 10-inch Powerline Road Distribution Feeder Main will extend south from the western terminus of Line 407 East to the intersection of Powerline Road and West Elverta Road in northern Sacramento County.

The extent of vertical impact will generally be to a depth of eight feet (2.4 meters), but may range up to 11 feet (3.4 meters) in a trench four feet (1.2 meters) wide. Thus the project's vertical Area of Potential Effects (APE) is 11 feet below surface.

PG&E will also construct a number of small pressure-regulation stations in fenced, above-ground yards. These will be located within the 600-foot-wide survey corridor (see below).

CONSTRUCTION AND RIGHT-OF-WAY

Construction of the 30-inch pipeline segments will generally require a 100-foot- (30.5-meter-) wide construction right-of-way. The construction right-of-way may be narrowed in places to avoid environmental impacts; however, additional workspace may be needed at selected locations for stream crossings, road crossings, and in other areas where special construction methods are required. A 50-foot (15.2-meter) permanent easement is required for operation and maintenance of the pipeline. Construction of the 10-inch Distribution Feeder Main along Powerline Road requires a 60-foot- (18.3-meter-) wide right-of-way and a 35-foot- (10.7-meter-) wide permanent easement. In order to encompass all potential right-of-way adjustments and extra work spaces, a survey corridor of 600 feet (180 meters) for cultural resources was established, with 300 feet (90 meters) on either side of centerline along the project alignment.

NATURAL CONTEXT

This section provides a brief description of the natural environment of the project vicinity, followed by overviews of the historic, ethnographic, and prehistoric periods in this area of the lower Sacramento Valley. Rather than repeating broad summaries that have been written countless times in other places, and which are so general as to be of little real research value, we emphasize those aspects of the physical and cultural environments that are most relevant to a study of the cultural resources within the project corridor. For each background topic, we make a primary division within the project area at the Sacramento River, with separate discussions for the areas east and west of the river.

STUDY AREA ENVIRONMENT

The project constitutes an east-west transect through most of the width of the lower Sacramento Valley. East of the river, there is a narrow, half-mile-wide (800 meters) corridor of higher ground along the natural levees bordering the river. This levee ridge formerly supported a riparian strip and grassland community dominated by valley oak (*Quercus lobata*), and the well-drained soils today are farmed for row crops and orchards. East of the levee ridge is the American Basin, now predominately in irrigated rice fields, but formerly a seasonal marshland that flooded during the winter and desiccated in the dry season. The only places suitable for permanent human occupation within the flood basin were a few high spots scattered among the marshes. East of the flood basin, marked by the Southern Pacific Railroad line, are inhospitable dry, rolling grasslands, with trees limited to cottonwood (*Populus fremontii*) and willow (*Salix* sp.) lining the few small ephemeral drainages, notably (in the APE) Curry Creek.

The project area west of the Sacramento River has some parallels to the portion to the east. The higher ground along the levee ridge bordering the river mirrors that east of the river, with the well-drained soils currently farmed in row crops and orchards. The seasonally flooded Yolo Basin west of the natural levees is similar to the American Basin, formerly supporting seasonal and perennial wetlands, but the clay-rich basin soils west of the river are farmed for row crops rather than the ubiquitous rice paddies of the latter.

West of the Yolo Basin, the project corridor runs through deep alluvial sediments deposited by Cache Creek, which runs west-to-east one-quarter to three-quarters of a mile (400 to 1200 meters) south of the project corridor (see Figure 1). Cache Creek, a perennial stream that currently empties into the Yolo Basin, formerly had an alternate channel that flowed north from the town of Yolo. This channel, known as Cache Creek Slough, formed a low, 10-15-foot- (3-4.5-meter-) high ridge (hereafter Yolo Ridge), which extended several miles to the slough's mouth at Knights Landing. The project corridor crosses the levee ridge of Cache Creek Slough and runs along a similar ridge paralleling the current channel of Cache Creek. The project area west of the Yolo Basin was formerly an open valley oak savanna, and currently is in row crops and orchards. The deeper soils west of the Yolo Basin once supported a much more productive habitat than was found on the east side of the Sacramento River.

GEOLOGY, SOILS, AND THE POTENTIAL FOR BURIED SITES

A review of the Geologic Map of the Sacramento Quadrangle (Clark 1979) shows that the proposed pipeline crosses through five different geological formations. The corridor east of the Sacramento River to Curry Creek is made up of Holocene-age alluvial deposits (including levee, channel, and basin alluvium) and the older Riverbank Formation of the middle Pleistocene. The areas of younger alluvial deposit, lain down over the last 10,000 years, have the greatest potential for buried archaeological remains. Where it is exposed at the surface, the Riverbank Formation is very unlikely to contain such remains, because of its age; however, there is the potential for small, localized depositional contexts on the Riverbank Formation where younger sediments may have covered older archaeological deposits.

Exposed at the east end of the project corridor, in the vicinity of Fiddymont Road, is the partially consolidated sand, silt, and gravel of the early Pleistocene-age Turlock Lake Formation. These materials derived mainly from Sierran metamorphic and granitic rocks. As with the Riverbank Formation, these landforms

generally are much too old to contain buried cultural sites; however, there could be small areas, especially along drainages, with younger deposits.

West of the Sacramento River, virtually the entire corridor is Holocene-age alluvial deposits, again including levee, channel, and basin alluvium. The only exception is at the western terminus, where the corridor crosses a strip of late Pleistocene Modesto Formation alluvium following the course of Cache Creek Slough. The Modesto alluvium is clearly buried at considerable depth, as Late Holocene Yolo silt loams, which have documented Holocene buried soils, are mapped as the surface soil units in this area.

Table 1 lists those areas of the project corridor most likely to contain buried soils (which may include buried archaeological deposits); these also are shown on Figure 2. Table 2 lists water crossings and stream terraces where more recent alluvial deposition may have occurred. The most sensitive areas for finding buried archaeological sites are in soil series with documented buried soils in locations adjacent to perennial streams, notably the Sacramento River (Nueva loams on the east bank), and Cache Creek and Cache Creek Slough (Yolo silt loams). Similarly but to a much lesser extent, the historical to modern xerofluvents soils along seasonal Curry Creek are also sensitive for buried archaeological sites.

Table 1. Soil Types in the Survey Corridor.

SOIL SERIES		DESCRIPTION	POTENTIAL FOR BURIED SURFACES
YOLO COUNTY			
<i>Ya, Yb</i>	<i>Yolo silt loam, Yolo silty clay loam</i>	<i>Holocene alluvium with buried soils</i>	<i>High</i>
Ra	Reiff fine sandy loam	Very young soil – no B horizon	Medium
<i>Sp, Sr, Su, Sv, Sw</i>	<i>Sycamore complex</i>	<i>Holocene alluvium with buried soils</i>	<i>High</i>
Tb, Tc, Te	Tyndall fine sandy loam	Old soil – well developed B horizon	Low
Lg	Laugenour very fine sandy loam	Old soil – well developed B horizon	Low
Mb	Maria silt loam	Old soil – well developed B horizon	Low
<i>Sa, Sc, Sg</i>	<i>Sacramento series</i>	<i>Holocene alluvium with buried soils</i>	<i>High</i>
La, Lb	Lang sandy loam	Old soil – well developed B horizon	Low
SACRAMENTO COUNTY			
<i>POWERLINE ROAD FROM ELVERTA ROAD NORTH TO SACRAMENTO/SUTTER COUNTY LINE</i>			
221	San Joaquin-Xerarents Complex (leveled)	Xerarents = very young altered soils developed on fill	Very Low
217	San Joaquin-Galt	Old soil/deep clays; 0-1% slopes	Very Low
115	Clear Lake Clay	Holocene, often with hardpan substratum	Medium
213	San Joaquin Silt Loam	Old soil – well developed B horizon; on low terraces	Very Low
SUTTER COUNTY			
<i>POWERLINE ROAD FROM SACRAMENTO/SUTTER COUNTY LINE NORTH TO RIEGO ROAD</i>			
109	Capay clay	Holocene, often with hardpan substratum	Medium
158	San Joaquin Sandy Loam	Old soil – well developed B horizon; on low terraces	Low
<i>RIEGO ROAD BETWEEN GARDEN HIGHWAY AND LOCUST ROADS</i>			
144, 146	<i>Nueva loam</i>	<i>Holocene alluvium with buried soils</i>	<i>High</i>
141	Marcum clay loam	Deep clays in basins	Low
158	San Joaquin Sandy Loam	Old soil – well developed B horizon; on low terraces	Very Low
112	Clear Lake clay	Holocene, often with hardpan substratum	Medium
114	Clear Lake clay	Holocene, often with hardpan substratum	Medium
137	Jacktone Clay	Deep clays in basins, artificially drained	Low
129	Galt clay	Deep clays in basins	Low
160	San Joaquin-Arents-Durochrepts	Old soil (SJ) interfingered with poorly defined Entisols and Inceptisols (potentially young soils)	Medium
123	Cometa Loam	Old soil, well developed B horizon; on low terraces	Very Low
PLACER COUNTY			
<i>BASELINE ROAD BETWEEN LOCUST AND FIDDYMENT ROADS</i>			
182	San Joaquin-Cometa Sandy Loam	Old soil, well developed B horizon; on low terraces	Very Low
141	Cometa-Fiddymment	Old soil, well developed B horizon; on low terraces	Very Low
142	Cometa-Ramona sandy loam	Old soil, well developed B horizon; on low terraces	Very Low
104	Alamo-Fiddymment	Basin clays and well developed loams on low terraces	Very Low
195	<i>Xerofluvents</i>	<i>Historical to modern alluvium on hardpan substratum; on stream terraces</i>	<i>High</i>
146	Fiddymment Loam	Old soil – well developed B horizon w/ shallow duripan underlain by paralithic contact	Very Low
147	Fiddymment-Kaseberg	Shallow soils, B horizon on indurated sandstone	Low

Table 2. Water Crossings.

DRAINAGE	LOCATION			SOIL #	SOIL NAME	CONDITIONS
	TOWNSHIP, RANGE	SECTION	1/4 OF 1/4			
Cache Creek Slough	T10N, R1E	1	-	n/a	Yolo Silt Loam	Agricultural fields. Sensitive for buried soils and Native American habitation sites.
Sacramento River	T10N, R3E	1	-	144, 146	Nueva Loam	Agricultural fields. Sensitive for buried soils on east bank, and Native American habitation sites on east and west banks.
Old drainage area	T10N, R4E	17	SW of SW	221	San Joaquin Xerarents	Agricultural fields.
	-	18	SE of SE	-	-	-
Unnamed seasonal drainage	T11N, R5E	32	SW & SE of SE	104	Alamo-Fiddymnt;	Entrenched drainage, channeled mostly north of road, somewhat south of road. Alluvial soils could exist adjacent to original drainage.
	-	-	-	142	Cometa-Ramona	Slightly elevated topography on either side. (Area C on Figure 4)
	T10N, R5E	4	SW & SE of NE	104	Alamo-Fiddymnt	
Unnamed seasonal drainage/channel	T11N, R5E	33	SW & SE of SW	104	Alamo-Fiddymnt	1908 Pleasant Grove quadrangle shows a seasonal drainage that stays north of Riego Road. (The 1953 Pleasant Grove quadrangle has no indication of a natural drainage in this location.)
Unnamed seasonal drainage	T11N, R5E	33	SE of SE	104	Alamo-Fiddymnt	Alluvial soils could exist adjacent to original drainage. Slightly elevated topography on either side.
	-	34	SW of SW	182	San Joaquin Cometa	-
	T10N,R5E	3	NW of NE	104	Alamo-Fiddymnt	Alluvial soils could exist adjacent to original drainage. Slightly elevated topography on either side.
	-	2	NW of NW	-	-	-
Curry Creek	T11N, R5E	35	SW of SW	195	Xerofluvents	Relatively undisturbed creek bed. (Area E on Figure 4)
	-	36	SW of SW	182	San Joaquin Cometa	-
	-	-	-	146	Fiddymnt Loam	-
	T10N,R5E	1	North edge	195	Xerofluvents	Relatively undisturbed creek bed. (Area F on Figure 4)

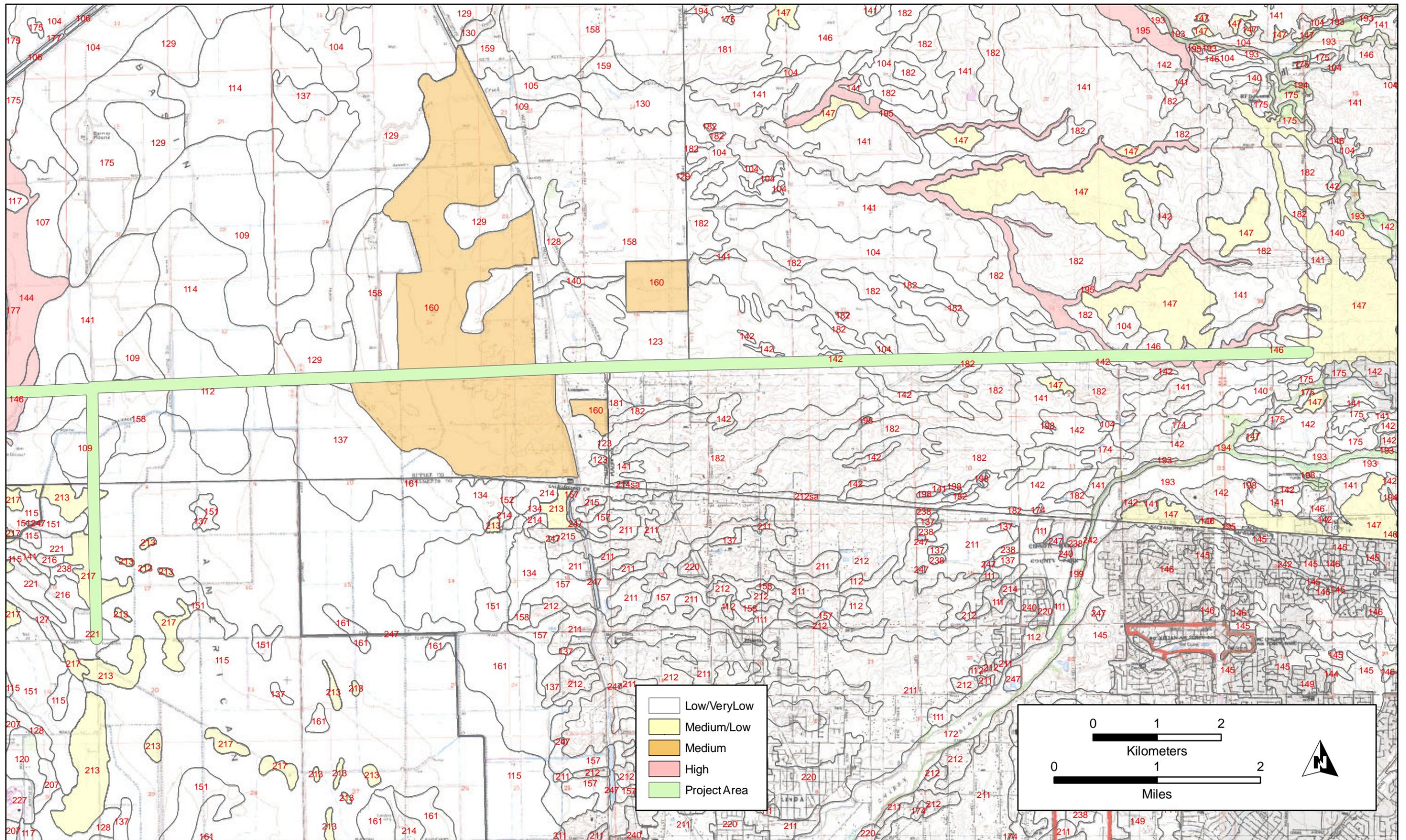


Figure 2b. Soil Series and Sensitivity for Buried Soils.

CULTURAL CONTEXT

In this section we provide overviews of the history, ethnography, and prehistory of this portion of the lower Sacramento Valley, as contexts within which to assess the significance of the cultural resources in the project corridor.

HISTORICAL CONTEXT (By Cindy Baker, PAR Environmental Services)

East of the Sacramento River

This part of the project area falls at the juncture of Sutter, Sacramento, and Placer counties. In Sacramento County, it lies within the historic-period American Township, created by the Court of Sessions in 1851 when it was partitioned from the Sacramento Township (Thompson and West 1880:210). Historic land use in the project area has been characterized by agriculture and transportation. Marginal soil conditions, swampy overflow lands on the west, and limited water on the east have inhibited population growth. Due to poor conditions for both homes and farms, the area was largely undeveloped in the nineteenth century. The western portion was swamp and overflow land used for, at best, minor hops-growing operations, while the eastern area was marginally used for grain (wheat and barley) and hay cultivation (Boyd 1903).

The earliest Euro-American use of the general project vicinity was probably in the late 1840s when the Sacramento Valley swarmed with men searching surface placer deposits for gold. By 1851, the region was sparsely settled and mining was in full swing along many streams crossing the lower foothills to the east (Gudde 1969:99). Miners traveling through the area between Marysville and Sacramento developed a trail that crossed the project area, although no signs of it remain today (General Land Office [GLO] 1855; Lardner and Brock 1924:16).

Agriculture

By 1854 the eastern portion of the project area was sparsely settled, mining was already playing out, and limited homesteading and small-scale ranching had begun. Marginal soil conditions led to farmers experimenting with a variety of operations. Only the most tenacious remained in the area, and many had to rely on large land holdings to support their moderate returns. As a result there are fewer homesteads in the area than can be found in areas with better soils (Maniery and Baker 1995:15; Warner 1913).

The Fiddymment family were the most prominent ranchers in the region. Their ranch was northeast of the eastern terminus of the project corridor and is still depicted today on county maps. Their ranching history is typical of agricultural operations in the project area. Their land holdings at one time were the largest in the area. The Fiddymments moved to the Pleasant Grove District just north of Roseville in 1856 to live and work on their family farming operation (Maniery and Baker 1995:16; Uren 1887). When the soil and natural irrigation proved too poor for farming, they began raising horses and mules, then cattle and sheep. During the 1880s, the Fiddymments continued to expand their ranch, and by the early twentieth century, the land north of Pleasant Grove Creek was used for rangeland (Mr. David Fiddymment, personal communication 2001).

To the south, in northern Sacramento County, David Strauch established an 1,100-acre dairy operation near the present-day community of Elverta. The Strauchs remained on the land until the early twentieth century (Thompson and West 1880:246).

The area west of the Sacramento Northern Railroad was formerly swampy overflow land and remained undeveloped until the early twentieth century. After a destructive flood in 1907, the State Legislature began to establish flood control for the area with levees along the Sacramento River, creating Reclamation District (RD) 1000 in 1911 (Bradley and Corbett 1996:7). RD 1000 was the first and largest of these reclamation districts and the most visible, given its proximity to the state capitol; a more detailed history is provided later in the report.

Transportation

Riego Road was constructed as part of the Natomas Company's original network of roads for the RD 1000 area, along with numerous subdivisions of land that were sold to potential farmers. At that time, smaller

parcels of five to 20 acres were carved out of much larger land holdings. The Sacramento Northern Railroad also took advantage of the newly protected area and constructed an important transportation link between Sacramento and towns to the north, including Marysville and Woodland. This alignment was constructed around 1913 and actually became the eastern boundary of RD 1000 (Bradley and Corbett 1996:68; Marvin and Kaptain 2005).

The Sacramento Northern Railroad was an inter-urban electric railroad that carried both passengers and freight until it was gradually replaced by cars and trucks after World War II. The railroad also played a role in increasing the population centers along their route; those closest to the project area included Rio Linda and Elverta. These small communities were able to grow slightly as the rails connected them to Sacramento. Nonetheless, the project area remained rural (Butler 1924). Today the segment of the railroad within the project area remains abandoned (Baker 1997:5; Marvin and Kaptain 2005).

Post-World War II Development

While the eastern project area remained largely agricultural well into the twentieth century, population growth throughout the state after World War II began to bring changes (Butler 1924; Metsker Map Company 1939). New development began to grow along transportation corridors, including Interstate 80. Increased population and improved transportation created a small housing boom in western Placer County, which has led to increased development of infrastructure, including water and power lines (Metsker Map Company 1939; United States Geological Survey [USGS] 1953, 1967). Beginning in the 1980s, south Placer County began to experience increased development expanding north from Sacramento. In recent years, residential and commercial developers have purchased large portions of the once sparsely populated area and converted it to subdivisions and industrial complexes.

During the 1980s, road widening on State Route 99 resulted in substantial changes to the East Drainage Canal and Riego Road itself (both features of RD 1000). The canal was reconstructed with concrete water diversion structures and a 300-foot- (91.5-meter-) long culvert box under the highway, and Riego Road was also widened at its intersection (Marvin and Kaptain 2005).

By the 1980s, the expansion of both commercial and residential development became rampant throughout the central Sacramento Valley. Today, the area's agricultural past is gradually becoming threatened. With suburban sprawl throughout the region, the farmlands that once characterized the area are quickly disappearing.

West of the Sacramento River

Land use of the project area in rural Yolo County west of the Sacramento River has been characterized by agricultural development, transportation, and land reclamation. The first non-native explorers in the area included Spanish missionaries, American trapper Jedediah Smith, and Hudson Bay Company trappers from Fort Vancouver, the latter of whom named "Cache Creek" (Hoover et al. 1990:533). The Mexican land grants in Yolo County included *Rancho Rio Jesus Maria*, 26,637 acres granted by the Mexican government in 1842 to Thomas Hardy, a Canadian. His land along Cache Creek stretched east to the Sacramento River. After Hardy drowned in 1849, his land was sold by a public administrator in smaller portions, breaking up the original land grant (Hoover et al. 1990:534).

Yolo County was established in 1850. An 1857 General Land Office (GLO) map of the area showed very little development other than the "St. Louis House" and "Greenwood's." While there is no historical record for these houses, they were likely small refreshment stations for travelers on the road from Woodland (GLO 1857a, 1857b). The St. Louis House appears to be related to Charles and Frederick St. Louis, two brothers from Canada who emigrated to California and settled in Yolo County in the early 1850s. Charles died at the age of 104 in 1893, leaving his ranch to his wife Helene. The St. Louis family owned land in the project area as late as 1926 (Gilbert 1879:104).

Agriculture and Settlement

Because of frequent flooding from Cache Creek and the Sacramento River, most historic-period communities in Yolo County were situated on high ground. For instance, the original county seat in Washington

(now West Sacramento) was moved to the fledgling community of Woodland in 1862 after a major flood. The little town of Yolo started as a waystop known as Cockran's Crossing built in 1849 by Thomas Cochran. James Hutton built another hotel there a few years later, and the site became known as Hutton's Ranch or Travelers' Home, and later Cacheville. An 1891 history of Yolo County states, "the county seat was removed to Cacheville [in 1857], which had formerly been called Hutton's Ranch, the post-office being called Yolo" (Gudde 1969:370; Lewis Publication Company 1891; Yolo County 2007).

Cacheville's development was outpaced by nearby Yolo City, as railroad development favored a depot in that town. In 1862 Yolo City became Woodland and was made the county seat. Historic maps from the 1879 DePue history of Yolo County clearly indicate that Cacheville is the present-day town of Yolo, and was likely the early county seat and post office before flooding and the railroad led to Woodland becoming the prominent center (Gilbert 1879; Perazzo 2006). The buildings still standing along the small commercial area in present-day Yolo are clear evidence that it was settled during the nineteenth century.

Ranches began to appear around Yolo during the 1850s, largely devoted to wheat farming. The area looked much as it does today: agricultural fields with isolated farm houses. Two homes in the project vicinity date to this period: the Lewis Cramer house (P-57-000405; in the project APE) and the John Laugenour house (outside the APE). Another house, belonging to Joseph Cooper, was constructed in 1904. George Eustis and later his son James also lived in the area. James built a house just east of Cramer's place during the late 1880s or early 1890s.

Lewis Cramer had emigrated from Kentucky to Yolo County in 1853. He immediately began ranching and had constructed his home on a 100-acre parcel near Cacheville (present-day Yolo) around 1870. By 1879, he owned 3,000 acres used for grazing sheep, hogs, and cattle. By 1891 he had added another 8,000 acres, much of it planted to grain. After heavy losses, he sold off the sheep operation and, by 1906, concentrated on his 140 acres of fruit orchards. The family remains in the same house today (Les 1986:105).

John Laugenour built his home on State Route 113 around the same time, the early 1870s. Laugenour had emigrated from Indiana to Yolo County by 1852 and established his ranch. While he initially ran livestock and raised grain, by the late 1870s he also had dropped the animal husbandry operations and concentrated on grain production. John and his wife, Emma, were notable figures in the area. After major flooding in the project area in 1878, Laugenour bought out many of the neighboring properties. By 1879, they were among the most important landowners in the county and owned much of the project area. Emma, who continued to run the operation as a widow, became active in local community activities; participating in the construction of Mary's Chapel in 1900 and working with Mary's Cemetery Association (Les 1986:95; Walters 1997).

Joseph Cooper bought his property in the project area in 1884 and established a farm and vineyard there. He had migrated from Missouri to California in 1871, leaving a general merchandise store in Yountville before purchasing his farm land in Yolo County. He and his wife raised a family there, all of whom became active in local farming and the community as well (Les 1986:104).

While many of these long-time farmers or their heirs retained ownership as late as 1915, by 1926 the Eustis family had divided and sold much of the land in the project, retaining their homes and some acreage.

Farming has continued to the present with a slow but steady build-up of residential structures largely associated with agricultural production. These consist primarily of additional home sites for growing families and ranch hands, as well as some parcel subdivisions for houses independent of actual growing operations. Historic-period maps indicate these homes have been constructed throughout the remainder of the nineteenth century and throughout the twentieth. The project area has escaped the post-World War II subdivision development phase that occurred elsewhere throughout California, remaining largely in rural agricultural use (GLO 1857b; USGS 1915, 1941).

Transportation

Transportation developments, primarily the railroads, contributed much to the established settlements in the area. In 1869 the California Central Railroad Company constructed rail from Davisville (now Davis) to Woodland and from there to Marysville (Marysville Branch Line) via Knights Landing. Portions of this line were

reconstructed after flooding in 1871 and in 1890. The line was later subsumed by the Southern Pacific Railroad and Union Pacific Railroad companies (Hoover et al. 1990:537-538; Les 1986:23-24).

Reclamation

In its natural state, the Sacramento Valley was flooded annually by the Sacramento River. Natural levees five to 20 feet high and one to ten miles wide developed along its banks, providing some protection to early farming. However, hydraulic mining sediments washed down from the Sierra foothills caused the riverbed to rise, which resulted in increased flooding. Farmers began building levees to protect their crops. In 1855, the Reclamation District Act allowed an individual to buy up to 320 acres of swamp and overflow lands at \$1 per acre with payments over five years, effectively transferring control of reclaimed lands from the State and the counties to the landowners (Dudek and Associates 2005).

By 1891, swamp and overflow land reclamation was underway, leading to the establishment of farms and orchards, especially around the population centers at Woodland, Knight's Landing, Winters, and especially the Capay Valley. The Colusa Drainage Canal is a 10-mile-long project started in 1903 and completed in 1911. The canal is an open drainage that uses a system of concrete flood gates to control releases to the Yolo Bypass. The Colusa Drainage Canal was incorporated into Reclamation District (RD) #2047 (north of the project area) in 1919.

Throughout the project area, property owners sank private wells for their water needs and also built private canals as necessary to bring water they purchased and pumped out of the main canals to their farms. Management of the various reclamation districts that evolved is complicated and divided between private and government regulatory authorities (Dudek and Associates 2005; personal communication with Montag, US Army Corps of Engineers 2007).

The eastern third of the Yolo County part of the project area lies within private reclamation districts. RD 1600 is the largest of these, established in 1913 by local farmers who pooled their tax assessments to create their own drainage system. It is bounded by the Sacramento River on the north and east, the Tule Canal on the west, and another private reclamation district on the south. Other districts include the Sacramento San Joaquin Drainage District, with RD 819 adjacent to the west and RD 820 on the south (Lang, personal communication with Cindy Baker, PAR, 2007; Proctor 1915).

Knights Landing Ridge Cut was added to the reclamation efforts in 1915 as part of the Yolo Bypass flood control project. The cut takes drainage water entering the Colusa Basin to the west through Knights Landing Ridge to the bypass, one of two main bypass systems in the Sacramento Valley that take excess floodwaters from the Sacramento River to relieve strain on its levees (Les 1986:24-25).

Today the western project area remains largely rural, less affected by the population growth throughout California following World War II that was concentrated in towns and small cities. Growth in the project area was limited to single-family homes spread out in clusters along major roads. More recent population growth of Valley communities in the 1980s to present, however, has begun to change the community density and will likely continue to do so in the future (Les 1986:25).

The American River Basin, the Natomas Company, and Reclamation District 1000 (By JRP Historical Consulting)

The American River Basin, the low-lying basin formed between the Sacramento and American rivers, was subject to frequent flooding from these two major rivers and from smaller streams that flowed westerly and spread waters into the lowest parts of the basin. Floodwater filling the basin would often take months to dry up through seepage or runoff, rendering the land useless for either agriculture or grazing, and impacting travel to and from the foothill mining districts (Bradley and Corbett 1996; Hyatt 1931).

Much of the fertile American River Basin land lying immediately adjacent to the rivers passed into private ownership in the 1850s; however, most of the interior basin swampland was sold in the period from 1868 to 1871 in 640-acre or larger parcels. Successful reclamation of these basin lands, however, did not come until the early decades of the twentieth century. Reclamation efforts in the American River Basin increased in the early

1900s, due in part to the attentions of several large landowners in the American River Basin interested in improving the value and productivity of their land.

Landowners in the American River Basin organized and petitioned Sacramento County to establish a local reclamation district, known as the American Reclamation District, in 1906. The engineering and cost studies of the district proposed a single district of 50,000 acres with levees entirely encircling the property, an interior drainage canal, a pumping plant, a network of roads, and a system of irrigation with canals and pumps. To finance this major undertaking, the promoters approached the Natoma Development Company, a subsidiary company to the Natomas Company that had originally formed in 1851 in Sacramento County to supply water for placer mining and irrigation. Over the years, the company developed numerous subsidiaries, branched into a number of businesses including granite quarrying, land development in Folsom and eastern Sacramento County, agricultural production, gold mining, and hydro-electric power, and underwent numerous name changes (Bradley and Corbett 1996).

In 1907, multiple factors indicated that a reclamation district in the American River Basin would meet with success. Sacramento was experiencing a population and economic boom aided in part by Southern Pacific Railroad's expansion of their railroad shops on land bordering the American River. The Northern Electric Railway already ran along the eastern border of the district, and the Western Pacific Railroad was planning to extend its line northerly through the Sacramento Valley in the same vicinity. In addition to these rail outlets, during this time three commercial steamship lines operated on the Sacramento River. The Natoma Development Company saw the prospect of substantial profits in developing the American River Basin land and purchased options to buy 60,000 acres of swamp and overflow land in Sacramento and Sutter counties. The Natoma Development Company merged with Natomas Consolidated of California in 1908. The new company supported the landowners' petition to re-establish a reclamation district under the Green Act of 1868, establishing RD 791 in 1909. The large area was eventually divided into a two reclamation districts separated by a canal. When the legislature established the State Reclamation Board in 1911, the Board recognized and established the two districts: northern district RD 1001, and southern district RD 1000. Reclamation District 1000 was one of the first districts created during this period. RD 1000 and its contributing elements are listed as an historic district on the National Register and are considered a significant rural landscape in the context of Sacramento Valley's early twentieth-century agricultural heritage (Bradley and Corbett 1996).

The Natomas Company was the principal builder of the overall reclamation district infrastructure systems for drainage, roads, land subdivision and sales, and irrigation. These independent systems were linked in concept to the reclamation plan, but were designed and built separately. The RD 1000 Rural Historic Landscape is defined in the documentation for the district as being bounded on the north by the Cross Canal Levee; on the east by the Cross Canal north of Sankey Road and the East Levee south of Sankey Road; on the south by East Levee; and on the west by the Sacramento River Levee. The exterior drainage canals in RD 1000 were built to intercept flood waters and discharge them into the Sacramento River; the interior drainage canals were designed to drain the interior land and carry water southward to pumping plants, which then discharge waters into the Sacramento River. The East Levee was constructed to protect the district on the east and south from the American River and its tributaries; the River Levee was built to protect the district from the Sacramento River. Other features in the vicinity include the exterior East Main Drainage Canal, the interior East Drainage Canal, and Pumping Plant No. 2, which was constructed in 1916 and served both the drainage and irrigation systems. These components are listed as contributing elements of the historic district. The East Levee, East Main Drainage Canal, and the interior East Drainage Canal are all within the current project area.

The irrigation system built by Natomas Company within RD 1000 beginning in the 1920s consisted of five pumps that diverted water from the Sacramento River and Cross Canal, and approximately 150 miles of irrigation canals and feeder ditches that conveyed water to the irrigated fields and small drainage ditches to remove excess water from the fields. Canals and ditches were primarily earthen lined, with only a few miles of main canals and flumes lined with concrete.

The number of reclamation districts developing during the same time period in the surrounding area influenced development of agriculture and land use within RD 1000. After drainage, the land was surveyed and subdivided. To promote RD 1000 by demonstrating land productivity, Natomas Consolidated leased large

acreage blocks for wheat and grain crop production, thus establishing a pattern of large acreage/single crop land use that remains today. Rice is the predominant crop planted within the study area running through RD 1000 bordering Powerline and portions of Riego Road.

ETHNOGRAPHIC CONTEXT

The native Sacramento Valley featured dense populations of complex hunting and gathering peoples. The project area east of the Sacramento River was in the traditional territory of the Nisenan, which extended from the South Fork of the Feather River south to the Middle Fork of the Cosumnes River, and from the Sacramento River east to the Sierran crest (Beals 1933:338-339; Kroeber 1925:391-392; Merriam and Talbot 1974:16-17). The corridor west of the river runs through the former range of the Patwin, who controlled the lowland valleys from Colusa south and west to Vacaville and Napa (Kroeber 1932). While they were different peoples, the Nisenan and Patwin shared many cultural characteristics.

In the rich environment of the Sacramento Valley, both the Nisenan and Patwin lived in more or less permanent villages concentrated along the major rivers and larger creeks. Villages consisted of a cluster of semi-subterranean houses occupied by one or more families, and ranged in size from small hamlets of 25-30 residents to large towns up to 500 or 1,000 persons (Cook 1976:9; Kroeber 1925:831; Wilson and Towne 1978:389). Nisenan villages known from the project vicinity include the communities of *Leuchi* and *Wishuna* east of the river, and *Nawe* west of the river south of Verona, while historical Patwin villages include *Yo'doi* at Knights Landing, and *Churup* at Yolo (Johnson 1978:350; Wilson and Towne 1978:388). The basic unit of political organization is thought to have been the triblet, a territory-holding group of one or more associated villages and smaller temporary encampments.

Befitting their role as the primary food staple, gathering, processing, and maintaining large stores of acorns was the most intensive subsistence activity. While the local valley oak acorns were abundant, black oak (*Quercus kelloggii*) acorns were preferred, and valley dwellers traded with relatives in the foothills to obtain them (Beals 1933:351). In addition to acorns, other nuts, roots, berries, seeds, and greens were collected. Deer was the primary game resource, but antelope, elk, rabbits, squirrels, ducks, geese, and other birds were also taken, particularly in the marshes and wetlands of the flood basins. Fish, particularly salmon and lamprey eels, were essential protein sources. Salmon were taken by the valley people by the use of communally built weirs that spanned the rivers. The rivers also yielded numerous other fish, as well as freshwater clams and mussels (Wilson and Towne 1978:389). Bones from a variety of fish, birds, and mammals, and a wide variety of well-preserved charred plant remains, have been recovered from archaeological sites in the lower Sacramento Valley.

For the current project study, Patwin settlement patterns are relevant. Kroeber's map of principal villages in the Grimes area illustrates that while the population density of this area was high, people were not concentrated in a single large community, but dispersed in several smaller, probably kin-based villages along 1.5 miles of the Sacramento River (1932:260). Information from both lower Putah and Cache creeks show this pattern was not restricted to the Sacramento River. Abundant *Saxidomus* clamshell bead-making debris, a marker of very recent prehistoric and/or historic periods, has been found at three small village middens within a half-mile stretch of Putah Creek in Davis (Milliken and Shapiro 2006; Shapiro and Tremaine 1999), and at three comparable sites along a similar length of Cache Creek in Yolo (Wohlgenuth 1998). Rather than forming large and organized towns, people lived in dispersed, often-nearby communities, probably kin-based, that formed small and discrete archaeological sites.

Trade and Ceremony

Formal trade was practiced between the valley and foothill peoples. Acorns, salt, and beads comprised the major trade items (Beals 1933:365; Kroeber 1932). Valley Nisenan received from foothill groups black oak acorns; sugar pine nuts; manzanita berries; yew wood for bows; yellowhammer and red-headed woodpecker scalps and feathers; dried deer and bear meat; wild cat, mountain lion, and bear hides; rabbit-skin blankets; redbud for baskets; milkweed for fiber; and salt (Beals 1933:365). In return valley Nisenan supplied foothill groups with basket roots, salmon, antelope meat, and valuable shell beads, the latter obtained from the coast through active

trade networks (Beals 1933:365). Clamshell disk beads were equivalent to money, as they had a standard value and acted as currency for most other resources and goods.

The ceremonial system of the native Sacramento Valley was a complex welter of sacred and profane performances known as the Kuksu cult (Loeb 1933). The Kuksu involved spirit impersonations performed in a large, communal structure known as a dance house or round house, and often were sponsored by a secret society. Complex ritual costume concealed the identity of the impersonators. The principal component of the ritual dress and regalia was usually feathers of large or brightly colored birds. Costume and performances were owned privately by individuals who organized and supervised the proceedings. The Kuksu system was most complex and developed in the Sacramento Valley, and has been described as the “high-water mark” of native central California (Loeb 1933).

Ethnohistory

The indigenous patterns of Nisenan and Patwin society were irrevocably changed with the arrival of Euro-Americans in California. Spanish expeditions in 1808 and 1821 were the first incursions into the Sacramento Valley, and each briefly passed through the project area. Patwin from the Winters area were first baptized at Franciscan missions in the Bay Area between 1825 and 1829, and again between 1830 and 1832 (Milliken et al. 2005). The first Patwin from lower Cache Creek were baptized at Mission Sonoma in 1834. As early as the late 1820s, and in numbers by the 1830s, Euro-American trappers operated throughout the Central Valley. They brought many diseases, and in 1833 the Indian population was decimated by a pandemic thought to have been malaria (Cook 1955). This had a devastating effect on Sacramento Valley Indians. Also by this time, Mexico had won its independence from Spain and was instituting new administrative policies in Alta California. Many new land grants were given to private citizens for enormous ranchos and, like the missionaries, the ranchers sought their labor supply in the native villages (Milliken et al. 2005).

The Mexican government also allowed a small number of other nationals to settle, apply for Mexican citizenship, and so become eligible to receive land grants. The earliest land grant in the Sacramento Valley was given to the Swiss immigrant John Sutter, who in 1840 established a fort, which he named New Helvetia, on the south bank of the American River in Nisenan territory. Sutter engaged in cattle ranching, fur trapping, wheat farming and other agricultural pursuits, and also developed a grist mill, sawmill (in the foothills at Coloma), and tannery. Much of his labor was supplied by local Indians, whom he locked in the fort at night so as to have them on the job in the morning (Lienhard 1961:68). The nearest land grant to the Patwin of the project area was made in 1843 to William Gordon, who settled along lower Cache Creek west of Woodland (Thomas Hardy’s 1842 grant was farther up Cache Creek). Nisenan and Patwin from the project area were significantly affected by both Sutter’s and Gordon’s activities.

PREHISTORIC CONTEXT

The archaeological sequence of the lower Sacramento Valley begins at about 5,000 years ago with the Early Period. More ancient peoples surely used the rich resources of the region and established at least temporary camps, but much of the archaeological record of their settlements is buried under several meters of recent Holocene alluvium (e.g., Clark 1979).

The Early Period (5000-2500 BP)

The Early Period (ca. 5000-2500 BP), represented in the Sacramento Valley by the Windmill Pattern, has been identified but only scantily documented in the immediate project vicinity. Early Period artifacts were recovered from very limited excavations at SAC-422, six miles south of the project corridor, where perforated charmstones were found with possible human remains (Shapiro and Maniery 1992). Windmill burials and artifacts are also reported from SAC-164 just north of Sacramento (Simons and Tremaine 2001). The only documented Early Period site excavated recently is COL-247 north of Colusa. This site contained artifacts very similar to Windmill Pattern sites studied in the lower Mokelumne and Cosumnes drainages, such as *Olivella* thick rectangle beads and stemmed dart points. But it is most notable for a well-developed baked clay industry that included small vessels, and impressions of acorns and human fingerprints (White 2003). COL-247 included

a wide range of faunal remains, including a variety of fish, as well as a robust assemblage of charred plant remains with abundant acorn and other nutshell, many small seeds, and a relatively high frequency of root crops (Wohlgemuth 2004).

The Middle Period (2500-1000 BP)

The archaeological record of the Middle Period (ca. 2500-1000 BP) or Berkeley Pattern in the project vicinity is more visible and hence better understood. Middle Period populations were apparently large, judging by large settlements along the river in Sacramento, exemplified by Bouey's (1995) analysis of materials from SAC-43, and Milliken et al.'s (1995) excavations at SAC-42. The study by Bouey and other contributors was the first ever done on a lower-Sacramento Valley mound site using modern analytical techniques (radiocarbon dating, obsidian-hydration dating, stable-isotope analysis, faunal analysis, and examination of plant macrofossils). The researchers determined that SAC-43 had been a year-round, residential base occupied from about 2400 to 600 BP, with an artifact assemblage that included many projectile points, modified-bone and antler tools, and shell beads and ornaments. Various excavations had been done at the site, beginning in the 1930s and continuing into the 1980s; consequently, the provenience control left much to be desired, and Bouey and his colleagues were not able to segregate the remains into discrete temporal components. Even so, they were able to conclude that the data from SAC-43 called into question "the extant cultural-historical system, as well as...essentially all chronological data associated with the central California record" (1995:344).

Milliken et al. (1995) reported on excavations on the periphery of SAC-42, also on the lower Sacramento River and only a few miles from SAC-43. Other archaeologists had worked on the mound itself a decade earlier (Peak and Associates 1984), but Milliken was the first to produce a careful, detailed analysis of the site sediments and artifacts, as well as extended discussions of faunal and charred plant remains. He concluded that "SAC-42 was intensively used as a residential and cemetery site during the last three phases of the Middle Period of the Late Holocene (100 AD-700 AD), and as a camp or satellite habitation site during the Late Period of the Late Holocene (900 AD-1500 AD)" (1995:14.7). The floral and faunal remains indicated that people had lived at the site "at all times of the year except the fall," and certain faunal species suggested "some change in the Delta environment over the past 2,300 years" (1995:14.7).

The Middle Period, however, is poorly documented along lower Cache and Putah Creeks west of the Sacramento River. The only excavated site of this age is SOL-363, a settlement on a levee ridge of an old channel of lower Putah Creek in Dixon (Rosenthal and White 1994). The site is a single-component deposit dating to 1600-1400 BP, based on findings of *Olivella* saddle beads and lanceolate obsidian dart points. But the site is small and produced relatively few artifacts, clearly reflecting a small group of people that contrasts with the larger groups known at Middle Period sites along the Sacramento River. Given such limited sampling of Middle Period sites in this area, it is not certain whether the western tributaries were occupied by large groups, or constituted a more marginal, less densely populated zone during this period.

The Middle/Late Transition (1000-800 BP)

The Middle/Late Transition (ca. 1000-800 BP) is known from an important but undocumented excavation just north of the project area, near the confluence of the Sacramento and Feather rivers at site YOL-13, the Mustang Site. YOL-13 is known predominately for findings of numerous human burials, many with abundant funerary artifacts, including a miniature atlatl that was probably a toy. Little is known about subsistence data or residues of everyday life, as a midden deposit was not associated with the human remains. Unfortunately, excavation findings have never been published, and as a result we know substantially less about this key transitional period in the Sacramento Valley (Moratto 1984).

The Late Period (800-150 BP)

Archaeology of the Late Period (ca. 800-150 BP), or Augustine Pattern, is well-documented along both the Sacramento River and lower Cache and Putah creeks. Late Period components have been described from SAC-29 and SAC-164 in Sacramento, where large groups are reflected in abundant human remains, artifacts, and ecofacts (Olsen 1963; Simons and Tremaine 2001). But the most thoroughly excavated and analyzed collection is

from YOL-69 along Cache Creek near Madison (Wiberg 2005), with similar findings made at two contemporaneous sites along Putah Creek (Shapiro and Tremaine 1999; Milliken and Shapiro 2006) and at YOL-187 along Cache Creek in Yolo (Wohlgemuth 1998). YOL-69 contains abundant *Saxidomus* clam disk beads and small corner-notched obsidian Rattlesnake Series arrow points typical of the terminal prehistoric period, and includes historic-period wire-drilled *Olivella* and glass beads as well. More than 100 human burials were excavated, and a wide range of domestic features also documented. The robust faunal assemblage produced abundant fish as well as artiodactyl bone. Charred acorn nutshell and small seeds were very abundant as well, and Eurasian filaree seeds and wheat grain were identified in several contexts. Perhaps the most intriguing component of the YOL-69 assemblage is on-site manufacturing of obsidian artifacts and clam beads from imported raw materials; caches of unmodified Napa obsidian cobbles and whole marine *Saxidomus* clam shells were found, as well as ample initial reduction and manufacturing debris of obsidian and shell beads. The contrast between Late Period movement of raw obsidian and marine shell and earlier movement of these materials as finished artifacts suggests a fundamental socio-economic reorganization between the Middle and Late periods.

Summary

Since the 1930s, when archaeologists from Sacramento Junior College (now Sacramento City College) first investigated the many prehistoric mound sites along the Sacramento River and its major tributaries, it has been clear that this region has a long and rich history of human occupation. These sites contain a wealth of archaeological materials, and commonly human remains as well. Because of the rapid pace of development over the last 75 years, however, these sites are disappearing at an alarming rate, and with them any hope of truly understanding this prehistory. This means that any intact prehistoric deposits within the project corridor could be quite significant.

METHODS AND RESULTS

The cultural resources study entailed archival research to determine whether any portion of the proposed project corridor had already been surveyed for cultural resources, and whether any such resources had been recorded. It also included consultation with the Native American Heritage Commission and the local Native American community, plus field survey, re-visits to known resources, site recordation, and the preparation of this report.

RECORDS SEARCH METHODS AND RESULTS

For the pipeline corridor east of the Sacramento River, Far Western conducted a records search at the North Central Information Center, California State University, Sacramento, on June 29, 2006, for those portions of the project within Sacramento or Placer County. The Northeast Information Center, California State University, Chico, provided in-house records searches on July 18, 2006, and January 18, 2007, for Sutter County. For the corridor reach in Yolo County west of the river, Far Western conducted a records search at the Northwest Information Center, Sonoma State University, on January 22, 2007, and followed up with an additional records search at the same facility on April 23, 2007. Each records search addressed an area within one-quarter mile of each side of the project centerline within their respective counties. Appendix A contains a list of maps and sources consulted for the records search.

For the project areas east of the Sacramento River, the records searches showed 14 surveys within the boundaries of the study area (Appendix A: Figure A1 and Table A1) that covered approximately 55% of the project corridor. Considerably less research has been conducted west of the river, with only five surveys that encompass less than 10% of the study area. In all, approximately 30% of the study area has been previously surveyed. A review of these previous surveys, however, indicated that several of them cannot be considered adequate, for one (or more) of the following reasons:

- The survey methods do not meet the Secretary of the Interior's Standards and Guidelines for intensive cultural resources inventory.
- The survey reports do not provide clear, unambiguous information on survey methods and coverage, and so cannot be assessed.
- The surveys are more than 20 years old.

Where previous inventories could not be considered adequate, those areas were re-surveyed for the current study.

The records searches also identified 126 known or possible cultural resources within the records search buffer, all but two of which were identified as historic-period sites and features. Two are listed simply as oak stands. A complete list of resources is presented in Appendix Table A1; for the remainder of this section, we focus on the 106 resources which reportedly fall within or immediately adjacent to the 600-foot- (180-meter-) wide APE (Table 3). The vast majority of these resources (n=63) are unrecorded potential sites, plotted on nineteenth-century General Land Office plats and historical USGS topographic quadrangles from 1905 to 1953. These may or may not actually fall within the corridor, depending on how well they have survived modern development.

In all, 24 resources mapped in the APE are associated with RD 1000. As noted above, RD 1000 is a rural historic landscape that is listed on the National Register, and is significant at the state level for the period of 1911 to 1939, as one of the earliest major reclamation districts in Sacramento Valley. It extends from the Sacramento River on the west to the East Main Drainage Canal on the east. The contributing features to the district include levees, canals, and roads which intersect the APE, plus the large-scale land patterns that result from intersection of those features. Named contributing resources to RD 1000 that lie within the project area include, from west to east, the Garden Highway, the Sacramento River Levee, Riego Road, Powerline Road, North Drainage Canal, East Drainage Canal (a portion of Riego Road and of the East Drainage Canal have been given their own primary number [P-51-000115]), North Main Canal, East Levee (CA-SUT-85H), Natomas Road (which is situated on top of the East Levee), and Natomas East Main Drainage Canal. Additionally, 14 unnamed feeder canals of RD 1000 are within the APE. These also are considered potentially contributing resources, specifically as drainage ditches within the areas of contributing land scale land use patterns (Bradley and Corbett 1996:44). All 24

features associated with RD 1000 cross the APE for the current project. The results of the archival records search show that features of RD 1000 are common in the American Basin portion of the project area.

The APE also includes 19 previously recorded historic-period resources consisting of various structures, foundations, trash scatters, and railroad features. Of these, one (the Cramer House, P-57-000405) has been recommended eligible but not formally nominated to the National Register; two have been found not eligible; two railroad grades were found not eligible to the National Register in adjacent counties but have not been evaluated in Sutter County where they cross the APE; and the remaining 14 have not been evaluated for National or California register status. Some of these sites, (particularly residences) have potential for buried features such as privies and wells.

The lack of documented prehistoric resources may be partly due to the fact that prior to modern flood-control measures, much of project corridor was in flood basins and water-poor treeless plains, each poorly suited to occupation. Any prehistoric, and most pre-1930s historic-period, cultural resources probably will be found on high ground like levee ridges, knolls, or terraces; others could be buried under more-recent alluvial deposits.

Table 3. Records Search Resources within APE.

TYPE	COUNT
Roads	36
Structures	26
Canals/ditches/levee	8
Railroads	3
Wells	2
Oak groves	2
Power line	1
Bridge	1
Radio facility	1
Trash scatter	1
Historic-period hotel site	1
RD 1000 Features	24
TOTAL	106

NATIVE AMERICAN CONSULTATION

In July 2006, Far Western contacted the Native American Heritage Commission to request a check of their sacred lands files for any resources within the project area east of the Sacramento River, and a list of individuals with ties to the project area (Appendix C). A response was received from the Heritage Commission October 11, 2006, stating that no sacred lands were located within this area, and providing a list of individuals to contact. Project descriptions and maps, and letters eliciting concerns and issues with the project, were mailed to the suggested contacts in November. When the project became active again in early May 2007, follow-up emails and phone calls were made to these individuals.

For the project area west of the river, Far Western contacted the Heritage Commission in January 2007, requesting similar assistance and information. A response dated January 22, 2007 from the Commission noted no sacred lands in this area, and provided an additional contact list. When the pipeline route was modified, Far Western again contacted the Commission in April 2007. A response received from the Commission May 3, 2007 again noted no sacred lands, and provided an updated contact list. As with the area east of the river, project descriptions and maps, and a request for input regarding the project, were mailed to the suggested contacts in early May.

Far Western made follow-up phone calls after fieldwork was completed in May and June. A summary of consultation history and responses can be found in Appendix C.

SURVEY METHODS

Fieldwork was carried out in 2006 and 2007. On July 25-27 and September 8, 2006, Far Western field director Laura Leach-Palm, M.A., directed survey of a portion of the corridor east of the Sacramento River. She was assisted by crew members William Leyva, B.A., Jeanie Moore, B.A., and (from PAR Environmental Services) Monica Nolte, B.A. On May 7-14, 2007, Far Western field director Eric Wohlgemuth, Ph.D., directed survey of the corridor west of the Sacramento River, assisted by Kristen Revell, B.A., Ashley Lohsey, B.A., Jamie Dotey, B.A., and Monica Nolte. On June 18-21, 2007, Wohlgemuth completed the inventory of previously unsurveyed portions of the corridor east of the river, assisted by Isaac Vega, B.A. The survey corridor was 300 feet (90 meters) on each side of centerline.

Far Western conducted intensive pedestrian survey in areas that had not already been surveyed to current standards. The crew carried small-scale aerial photographs annotated with the survey corridor, and had available records and maps of all previously recorded resources, plus all necessary recording equipment. The crew walked transects 20 meters (66 feet) apart. In areas with poor visibility surveyors made spot-checks approximately every 25 meters (82 feet), by clearing vegetation in a small area to expose soil, and by carefully inspecting rodent back dirt. The survey crew kept notes of survey conditions and resources encountered.

At least 48 hours prior to fieldwork, TRC contacted landowners to confirm permission to enter and to notify them when the survey crew planned to work. We did not survey private property where access was declined; nor did we walk flooded rice fields or areas of very low archaeological sensitivity, such as those flooded prior to reclamation, low-lying and away from water, or highly disturbed.

Locations of previously recorded or potential resources within the survey corridor were re-visited to determine whether cultural remains were still present. In many cases, it was discovered that the resources did not occur within the project APE, or that they had apparently been either misplotted or destroyed. This was most often the case with resources noted on old General Land Office plats, whose scale and lack of detail make features very difficult to identify and re-locate. Where cultural resources were found, they were recorded on California Department of Parks and Recreation form DPR 523 (1998), following *Instructions for Recording Historical Resources* (Office of Historic Preservation 1995). If existing documentation was adequate, or if the resources had been previously evaluated, the resource record was not updated. Historic linear features were recorded only if they possessed integrity; such features lacking integrity (such as modern roads overlain on historic-period roads, or upgraded power lines and railroad grades) or destroyed altogether were not recorded.

For the study area east of the Sacramento River, the American Basin portion was seasonal wetland before 1916, and is now given over predominately to rice farming. Most of the APE in this area was flooded at the time of the survey and so could not be walked; however, the area is considered to be of very low sensitivity for surface and buried cultural resources, and substantial portions have been previously and adequately surveyed. One area east of the Sacramento River could not be surveyed, as landowners denied access to a 200-meter-long area south of Riego Road between the Natomas East Main Canal and the Western Pacific Railroad grade. West of the Sacramento River, and east of the river to Powerline Road, survey was done when most fields were clear of vegetation or in crop seedlings, and the ground surface visibility was excellent.

SURVEY FINDINGS

In this survey Far Western found a total of 76 cultural resources, of which 43 had been previously documented (Table 4, Table 5, and Figure 3). Site record updates were filed for 13 of the previously recorded resources (Appendix C); those not updated include the 24 contributing or potentially contributing features of the RD 1000 Rural Historic Landscape District, as well as segments of the Western Pacific and Sacramento Northern railroads, a canal, a levee, a bridge, and a radio facility. For these resources, the existing site records adequately describe their current conditions. Sixty-three of the resources plotted on historical maps were not relocated during the field inventory.

Table 4. Cultural Resources Documented within the APE.

RESOURCE TYPE	NEWLY RECORDED	PREVIOUSLY RECORDED	TOTAL
Single-family homes	9	8	17
Canals, wells, culverts, and levee	9	4	13
Roads	11	-	11
Railroad grades	-	2	2
Radio facility	-	1	1
Refuse scatter	-	1	1
Bridge	-	1	1
Labor camp	1	-	1
Eagle Hotel	1	-	1
Prehistoric occupation site	1	-	1
Prehistoric isolate	1	-	1
Two native oak stands	-	2	2
SUBTOTAL	33	19	50
RD 1000 FEATURES	-	24	24
TOTAL	33	43	76

Table 5. Survey Findings.

PRIMARY NUMBER	TRINOMIAL OR OTHER DESIGNATION	SITE DESCRIPTION	NATIONAL REGISTER STATUS	SITE RECORD
<i>WEST OF THE SACRAMENTO RIVER (WEST TO EAST)</i>				
P-57-000566	EW-1/H	Prehistoric site with historic well	Unevaluated	New Record
P-57-000567	Site 33	Single family home	Appears not eligible	New Record
P-57-000568	Site 32	Single family home	Appears not eligible	New Record
P-57-000569	Site 31	Single family home	Appears not eligible	New Record
P-57-000570	County Road 98A	Rural road	Unevaluated	New Record
P-57-000571	Road 16A Well	Well	Unevaluated	New Record
P-57-000405	Cramer House	Single family home	Eligible (Les 1986)	Update & Previous
P-57-000406	-	Single family home	Unevaluated	Update & Previous
P-57-000572	County Road 98E	Rural road	Unevaluated	New Record
P-57-000407	-	Single family home	Appears not eligible	Update & Previous
P-57-000408	-	Single family home	Appears not eligible	Update & Previous
P-57-000573	County Road 99A	Rural road	Unevaluated	New Record
P-57-000574	Site 26	Single family home	Appears not eligible	New Record
P-57-000575	County Road 17 west of State Highway 113	Rural road	Unevaluated	New Record
P-57-000132	Valley Oak Grove #12	Native valley oak stand	Unevaluated	Update & Previous
P-57-000576	Road 17 Culvert 2	Culvert	Unevaluated	New Record
P-57-000412	-	Single family home	Appears not eligible	Update & Previous
P-57-000577	Road 17 Well	Well	Appears not eligible	New Record
P-57-000578	Road 17 Culvert 1	Culvert	Unevaluated	New Record
P-57-000579	Ditch 1	Canal	Unevaluated	New Record
P-57-000580	Ditch 2	Canal	Unevaluated	New Record
P-57-000413	-	Single family home	Appears not eligible	Update
P-57-000584	Well 15	Well	Unevaluated	New Record
P-57-000582	Site 14	Agricultural Labor Camp	Appears not eligible	New Record
P-57-000583	Well 13	Well	Unevaluated	New Record
P-57-000140	CA-YOL-183H	Pump (P12) associated with Knights Landing Ridge Cut	Unevaluated	Update & Previous
P-57-000581	Ditch 3	Canal	Unevaluated	New Record
P-57-000519	CA-YOL-212H	Levee	Unevaluated	Previous Only
P-57-000414	Tule Canal	Canal and levee	Unevaluated	Previous Only
P-57-000521	-	Canal system	Unevaluated	Update & Previous
P-57-000565	Site 4	Single family home at "Greenwoods" on 1857 GLO	Unevaluated	New Record
P-57-000132	Mixed Stand #12	Native valley oak stand	Unevaluated	Update & Previous

Table 5. Survey Findings *continued*.

PRIMARY NUMBER	TRINOMIAL OR OTHER DESIGNATION	SITE DESCRIPTION	NATIONAL REGISTER STATUS	SITE RECORD
<i>EAST OF THE SACRAMENTO RIVER (WEST TO EAST)</i>				
-	RD 1000	Rural Historic Landscape District (Garden Highway; Sacramento River Levee; Powerline, Riego and Natomas roads; North Drainage Canal; East Drainage Canal; North Main Canal; East Levee; Natomas East Main Drainage Canal); Segments of Riego Road and the East Drainage Canal (P-51-000115); and East Levee/Natomas East Main Drainage Canal Levee (CA-SUT-85H)	Determined eligible with OHP concurrence (2D2)	Previous Only
-	24C0439	1980 Bridge	Determined ineligible (Caltrans 2006)	Previous Only (missing)
P-51-000096	-	1917 farmstead at 9311 Powerline Road	Unevaluated	Update & Previous
-	CA-SAC-464H	Segment of Western Pacific Railroad	Recommended ineligible in Placer and Sacramento Counties (Waechter et al. 2007)	Previous Only
P-51-000087; P-31-001136	CA-SUT-87H; CA-PLA-946H	Remains of Sacramento Northern Railroad	Recommended ineligible in Placer and Sacramento Counties (Waechter et al. 2007)	Previous Only
P-31-003301	Site 2	Single family home	Appears not eligible	New Record
P-31-003300	Site 1	Single family home	Appears not eligible	New Record
P-31-003303	Elder Road	Rural road	Unevaluated	New Record
P-31-003304	Locust Road	Rural road	Unevaluated	New Record
P-31-003305	Site 34	Single family home	Appears not eligible	New Record
P-31-003302	Site 3	Single family home	Appears not eligible	New Record
P-31-003306	Brewer Road	Rural road	Unevaluated	New Record
P-31-002684	-	Single family home at 9110 Baseline Road	Appears not eligible	Update & Previous
P-31-003307	Palladay Road	Rural road	Unevaluated	New Record
P-31-003308	Country Acres Road	Rural road	Unevaluated	New Record
P-31-003309	-	Eagle Hotel	Unevaluated	New Record
P-31-003310	Isolate 1	Obsidian biface	Ineligible (categorically exempt)	New Record
P-31-001137	-	Small two-room radio facility surrounded by barbed wire security fence	Ineligible (Napoli 2000)	Previous Only
P-31-001135	CA-PLA-945H	Historic trash scatter	Unevaluated	Update & Previous
P-31-003311	Watt/Center Joint Road	Rural road	Unevaluated	New Record
P-31-003312	Walerga Road	Rural road	Unevaluated	New Record

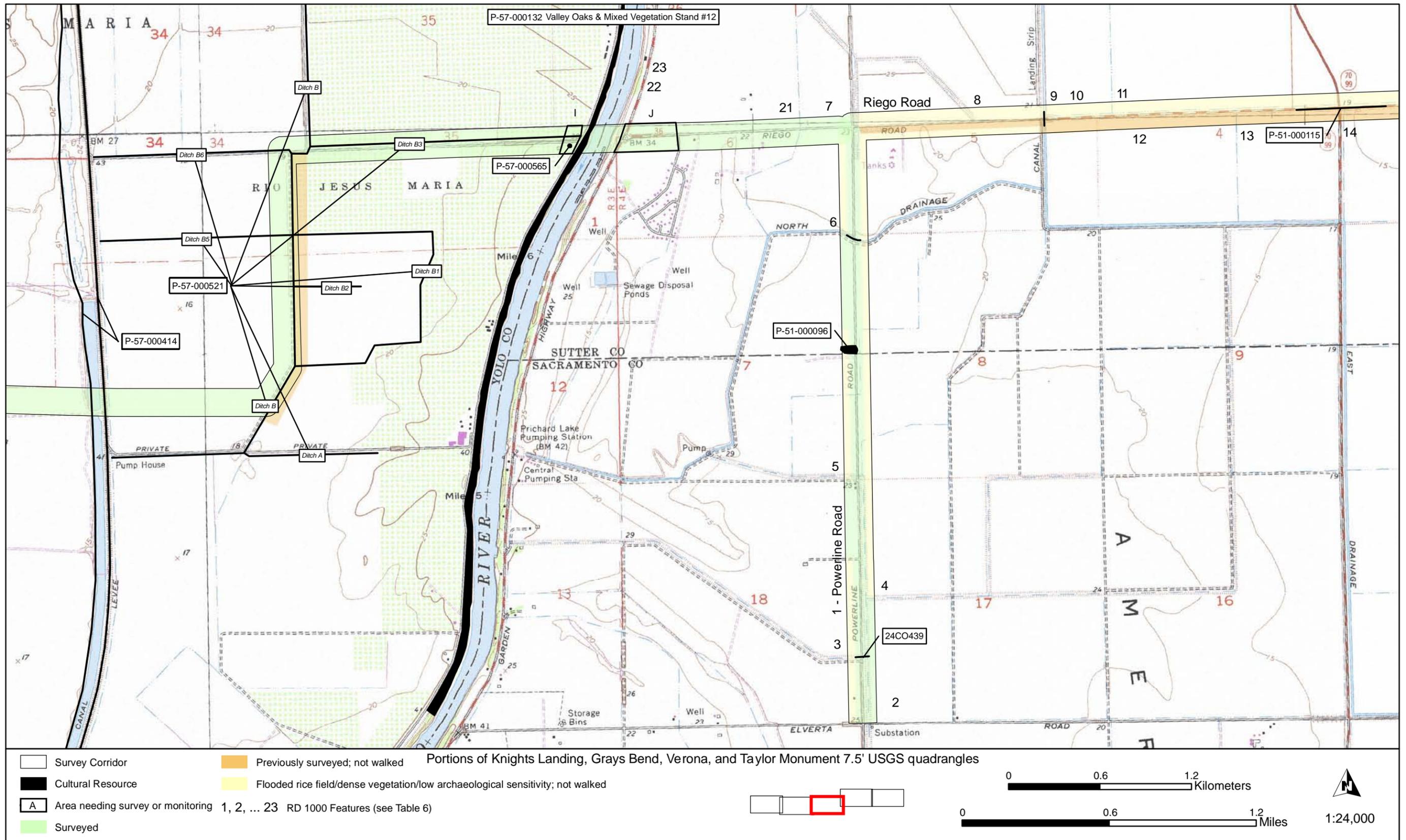


Figure 3c. Surveyed Areas, Resources Encountered, Areas Needing Survey or Monitoring.

CONFIDENTIAL

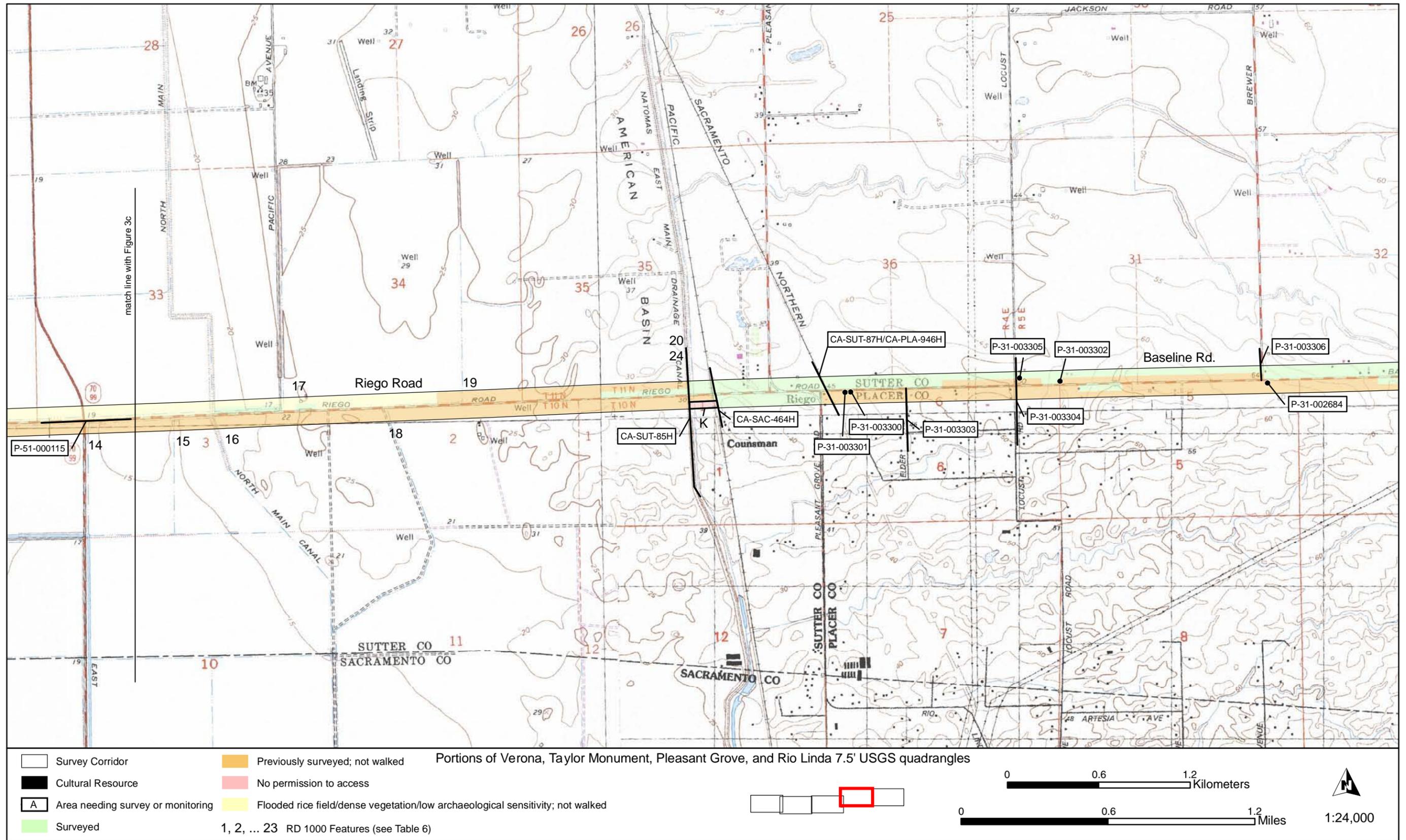


Figure 3d. Surveyed Areas, Resources Encountered, Areas Needing Survey or Monitoring.

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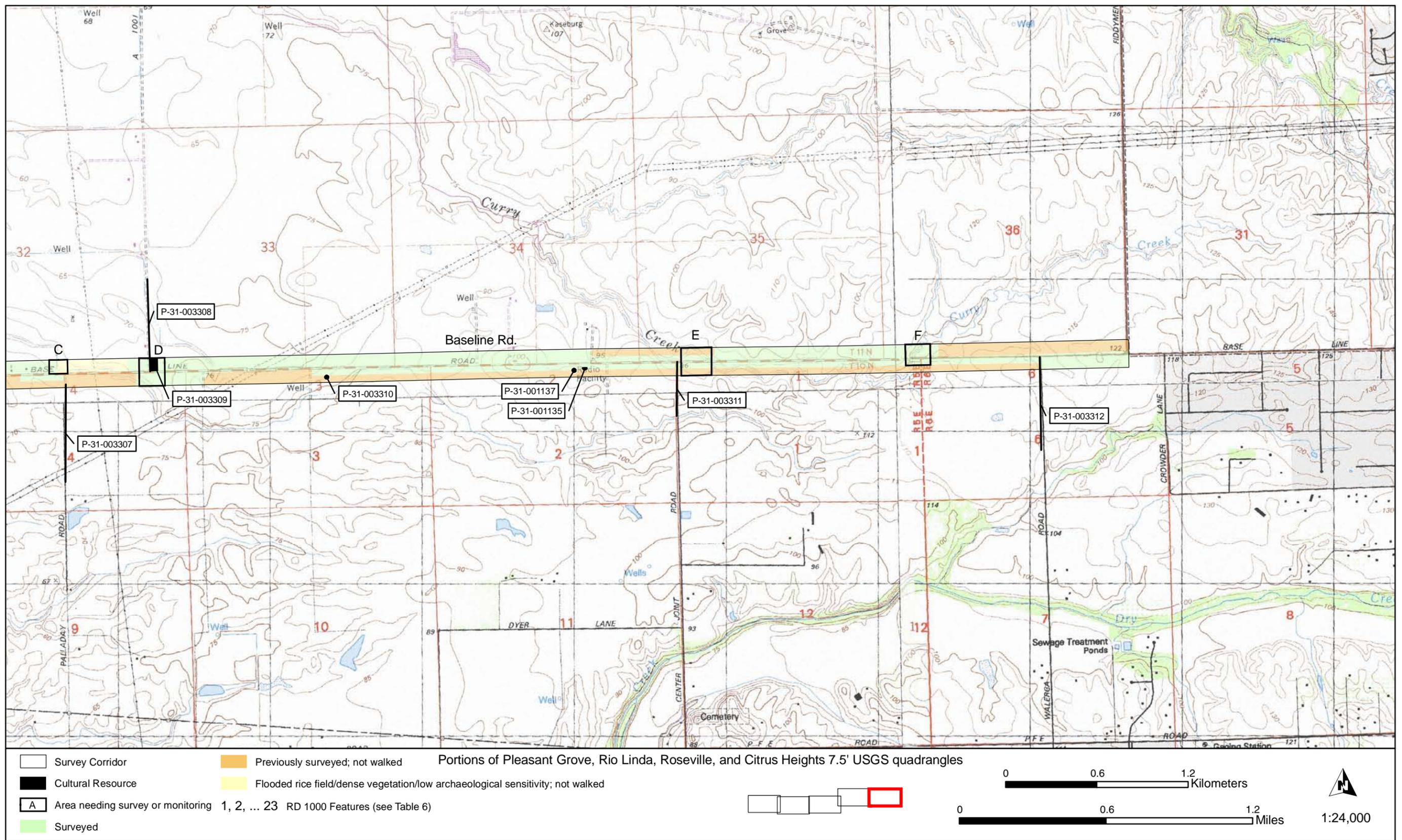


Figure 3e. Surveyed Areas, Resources Encountered, Areas Needing Survey or Monitoring.

CONFIDENTIAL

RESOURCE DESCRIPTIONS AND NATIONAL/CALIFORNIA REGISTER RECOMMENDATIONS (BY MARY MANIERY)

In all, 74 cultural resources were noted within the APE of the current project. Twenty-four of these pertain to RD 1000. As discussed previously, this large Historic Landscape is considered eligible to the National Register. All records on this district and its relevant features are adequate, and it is not discussed further in this section. Of the remaining 50 cultural resources noted within the project corridor, 20 are east of the Sacramento River (not including the 24 features of RD 1000, which have been described above in the Records Search Methods and Results). The remaining 30 resources are west of the river in Yolo County. Some resources are described separately, from west to east; others are grouped together under a particular theme and described as a whole.

RESOURCES WEST OF THE SACRAMENTO RIVER

P-57-000566 (By Eric Wohlgemuth)

Site P-57-000566 is an extensive prehistoric archaeological site with a small historic-period component. It is located on Yolo Ridge along the channel of Cache Creek Slough, one half-mile north of the town of Yolo (see Figure 3a). Prehistoric artifacts were found in farm fields on both sides of County Road 98 and north of County Road 16A. As presently recorded, the site spans about 1,200 meters east-west, and extends an unknown distance north and south of the surveyed 180-meter-wide corridor. The historic-period component is just west of County Road 98 and immediately north of a cluster of buildings along County Road 16A.

The prehistoric site component is a dispersed scatter of fire-altered rock, flaked stone debris, and flaked and ground stone artifacts. The artifact scatter is contiguous over about 42 acres on several adjacent fields of varying elevations, but no artifacts were found in four to six acres of residential property in the center of the site. This suggests that much of the deposit may be buried, as does finding abundant fire-altered rock and some flaked stone in small runoff channels created by irrigation spills between adjacent fields of different elevation east of County Road 98. The dispersed scatter probably represents a blend of multiple archaeological sites located on Yolo Ridge, but there may be intact areas below the plow zone.

It is possible that this site was recorded as YOL-35 by D. Gallup, apparently in the 1930s or 1940s. Gallup reported two sites but only one location, which is east of County Road 98 and about 300 meters north of the site limits that could be defined within the project corridor. As surface artifacts extend north of the project corridor in this area, P-57-000566 could extend as far as the recorded YOL-35 location. Unfortunately, Gallup's site record has virtually no information about what was found at YOL-35, only that each site had been leveled, and that collectors had dug for artifacts there. At this point, there is no way to know if YOL-35 connects with the current site without inventorying the intervening 300 meters.

The historic-period component is an old agricultural well and two concrete drains. The drains are board-formed concrete with medium-sized, mixed-gravel-aggregate concrete. The western drain had a large concrete apron, which has been broken off and moved to the east of the drain.

Neither the prehistoric nor the historic-period component of the site has been evaluated for the National or California Register.

P-57-000567

This property serves as the focal point of a large farming operation. There are two houses, two garages, a carport, a privy, seven sheds, two corrals, a windmill, three wells, a greenhouse, and a chicken coop on the 10-acre parcel. The main house appears to have been built around 1900, likely for James Scarlett, a local farmer. It is at the east end of the property and is a massive Prairie-style two-story square structure with many modifications and additions. The other house is at the far west end of the parcel and is a single-story, rectangular, wood-frame building constructed around the 1930s in a Minimal Traditional style. Other structures more than 50 years of age

include the windmill and wells, the barn and one corral, the privy, the garages, and five of the sheds. The other features are modern additions to the property.

This farmstead appears to have been expanded through the years, including in the 1930s. The main residential structures—the two houses—have been significantly altered. Although the Prairie-style house retains its mass, the window and door fabric and placement, exterior fabric, and addition of a one-story garage/office have significantly altered the original architectural detailing and compromised the overall integrity of the structure. The second house has also been altered and does not retain original integrity. As a result of the changes to the original residential structures, this property no longer retains adequate integrity to qualify for inclusion in the National Register or California Register.

P-57-000568

This property is a single-story residence with a ranch-style appearance but may reflect an adaptation of an earlier house. A structure is depicted at this location on a 1941 USGS map, and the core of the house (a simple rectangular gable-roof structure) may date to this early period. The house was modified after 1960 and expanded to its current ranch-style appearance. Changes included a hipped-roof addition nearly the same size as the original structure, aluminum slider windows, a brick skirt, and board siding. As a result of the changes to the house, this property no longer retains adequate integrity to qualify for inclusion in the National Register or the California Register under any criteria.

P-57-000569

This house is rectangular in mass, with a cross-gable roof clad with composition shingles. Siding on the house is aluminum, with simulated horizontal boards and louvers in the gable ends. The house is on a concrete slab foundation and there are exterior brick chimneys on the west central façade and the north façade. Other structures include a modern metal-clad storehouse and two sheds and a garage that are more than 50 years of age. Alterations include aluminum slider windows and sliding glass doors, creation of a bay window, the addition of an exterior chimney and brick skirt, and replacement of the exterior fabric. The barn and sheds are contemporary with the original house (circa 1910s) but are now clad with metal. The warehouse is less than 20 years old.

While the property is associated with local farming, key elements, such as the house, have been heavily modified and no longer resemble the 1910s farmstead design. The original appearance of the house in particular has been altered by additions, window replacements, and exterior fabric modifications and does not retain original integrity. As a result, this property no longer retains adequate integrity to qualify for inclusion in the National Register or the California Register under any criteria.

P-57-000405 (Cramer House)

This two-story Victorian Italianate house was built around 1870 by Lewis Cramer. It has an irregular plan atop a brick foundation. Exterior walls are wood-lapped siding. Windows are historic-period hooded one-over-one double-hung sash, and there is a two-story bay window on the front side. Three outbuildings also appear to be from the historic period and contemporary to the house.

Development of this portion of Yolo County began in the 1850s with scattered farmsteads associated with wheat and grain farming. According to Les (1986): “Cramer was one of the early pioneers whose diligence resulted in a prosperous farming operation despite the hardships of frontier life.” The house now sits on 28 acres and remains in the Cramer family.

The official 1986 Yolo County survey noted that this house is among the most ornate of the remaining Italianate homes and is one of several that remain from the original pioneers that settled the area following the Gold Rush (Les 1986). Despite a few changes, it retains a sense of time and place and is very distinctive on the rural landscape. It has a high level of integrity of location, setting, design, workmanship, feeling, and association and meets Criterion C of the National Register. It may qualify under criteria A or B as well, given its association the Cramer family for more than 100 years and their role in the development of Yolo County’s farming community. This house is included in local registers and is a landmark in the county. Therefore, this property,

including the house, associated outbuildings, and mature vegetation and landscaping, is recommended as eligible for inclusion in the National Register and/or the California Register. The period of significance extends from ca. 1870, when the house was built, to circa 1925, when Lewis Cramer's son, Charles, took over the property. Significance is at a local level.

P-57-000406

This is a substantial two-story house dating to the early 1900s. The house sits on a stone foundation, and is rectangular in plan with symmetrical massing. There are two historic-period additions, one each on the east and west sides of the house. Several modern barns and a garage have been built east of the house.

Settlement and farming in this area of Yolo County began by 1850s, focusing on animal husbandry and grain production. Following a major flood in 1878 many farmers left the region. This property, part of a 413-acre parcel, was acquired by George B. Eustis and William V. Jubb soon after the flood, likely on speculation. James Eustis was the sole owner of this parcel until at least 1930 and may have been the original owner of the house (Gilbert 1879; Proctor 1915, 1926).

The house, while modified, retains a high level of integrity and is one of the few late nineteenth/early twentieth-century farm houses left in the area. Research to establish comparable properties and determine the uniqueness of this property in the county has not been completed, and the site remains unevaluated.

P-57-000407

This house is a one-story cottage with a modern detached garage and barn. The house sits on a brick foundation with an irregular plan. Windows are historic-period one-over-one double-hung wood sash, in pairs and singles. There is an exterior brick chimney. On the south side is a modern one-story detached garage.

Blosser and Walters (2002a) note that this house was built in the 1910s. It retains little appearance of this early construction date. A massive addition, connecting deck, and some replacement windows, all added since 2002, have overwhelmed the original structure. The barn, however, does reflect an early 1910s construction date, although it has been covered with metal sheeting.

This property, part of a 413-acre parcel, was acquired by George B. Eustis and William V. Jubb soon after the 1878 flood, likely on speculation. Eustis was the sole owner by 1915. He subdivided the large parcel into eight lots by 1926 and two of those were then subdivided into eight additional lots (Gilbert 1879; Proctor 1915, 1926). After the parcel was subdivided this lot was owned by Thornton M. Craig, a local merchant. It is probable that the house was built for Craig between 1915 and 1925.

While the property is associated with local farming, key elements, such as the house, have been heavily modified. The original appearance of the house in particular has been altered by additions and window replacements and does not retain original integrity. As a result of the loss on integrity, this property no longer retains adequate integrity to qualify for inclusion in the National Register or the California Register under any criteria.

P-57-000408

This is a single-family residence and shed. The house is rectangular in plan on a concrete foundation, with wood-shingled exterior walls and many Craftsman elements. Windows are historic-period one-over-one or two-over-one double-hung windows. A recent rectangular corrugated metal shed is located southeast of the house.

This property is on one of the Eustis' subdivided parcels and was bought between 1915 and 1926. It is likely that the house was built during this period. Craftsman cottages were very popular in the 1910s and 1920s and often could be purchased from catalogue or pattern books and then built. Yolo County and the Sacramento Valley have many examples of Craftsman farm houses, and this is not a unique or unusual representation of that style of architecture. While the builder is unknown, this house appears to have been built at a time when large-scale farms were being subdivided and sold as small parcels, a trend common in the region. Therefore, this property is not important to local history or persons and is not an outstanding example of Craftsman architecture. It does not appear to qualify for inclusion in the National Register or the California Register under any criteria.

P-57-000574

This property consists of a house and two barns. The house is surrounded by palms, oaks, conifers, and other trees, hedges, and lawn. A white picket fence separates the property from the road and fields on the north and east. The property is on the east side of agricultural fields and serves as a ranch/farmstead. The house was built before 1905 in a Folk Victorian style. The original house is two-stories, rectangular, and has a gable roof and a side entry. There are two one-story additions, a cross-gable addition on the north side and a one-story wrap-around shed-roof addition on the north and west sides. Siding throughout the structure is channeled horizontal boards.

The house is depicted on a 1905 map and was likely built by the late 1880s. Since then it has had the two single-story additions, and some original window openings have been boarded over. New aluminum sliders are present as well. These alterations have changed the overall appearance and integrity of the house. The outbuildings, while contemporary with the house, have also had alterations, changes in exterior fabric, removal of windows, and other modifications. While the original core of the house is discernable, the additions and window replacements have altered its Folk Victorian character and compromised its overall integrity. As a result, this property no longer retains adequate integrity to qualify for inclusion in the National Register or the California Register under any criteria.

P-57-000412

This property was recorded in 2002 by JRP Historical Consulting. It includes a one-story, single-family Minimal Tradition-style house, a hipped-roof garage, and a shed. The house is rectangular and has board-and-batten siding with a brick skirt, a side gable roof, and aluminum slider windows. This house is depicted on a 1953 USGS quadrangle and, based on architectural style, may have been built as early as the 1930s. A one-room addition is present on the north façade. All windows are replacements, and the front entry has been modified.

This parcel was owned by Laugenour and his descendants (refer to above discussion of agricultural history) from the 1870s to at least 1926 (Ashley 1908; Gilbert 1879; Proctor 1915, 1926). The current house, however, was constructed after the Laugenour family began selling parcels of land in the 1930s and 1940s.

Minimal Traditional-style houses are present throughout the Sacramento Valley and Yolo County and represent a type of “no-frills” style popular during the Depression years. This example has been heavily modified with total window replacements, additions, and fabric modifications. The common style and lack of associated history, combined with compromised integrity, makes this property appear to be ineligible for inclusion in the National Register or the California Register.

P-57-000413

Resource 16 consists of a square, gable-roofed barn. Originally covered with board siding, it is now clad with metal sheets. It retains multi-pane windows and has a newer roll-up metal door on the east gable end. Two trailers are also present on the property.

This parcel appears to have been used for farming or pasturage throughout the first half of the twentieth century and did not contain structures at that time. The current structure is first depicted on a 1953 USGS map; it does not appear on the 1941 map. The 1953 map depicts only the barn, indicating that it likely was used for crop storage instead of a residence or labor camp.

While the property is associated with local farming, the barn represents a post-World War II development. The simplicity of the structure and location at the edge of agricultural fields suggests that it was probably a seasonal facility. There are many similar barns throughout the region, and this example is not unique or outstanding, nor is it an early example of barn architecture. The architecture is simple and unembellished. Therefore, this property does not appear to qualify for inclusion in the National Register or the California Register under any criteria.

P-57-000582

The property at 953580 County Road 17 contains a primary residence, a bunkhouse, trailers, sheds, and shower house and appears to serve as an agriculture labor camp. There are two historic-period structures, the

bunkhouse and the shower house. The bunkhouse is a one-story, rectangular structure with a gable roof covered in sheet metal. Corrugated metal sheets wrap around the base of the building. The siding is board-and-batten. Fenestration is symmetrical and consists of six-pane windows. A small shed-roof addition on the west end appears to be a bathroom. It is clad in corrugated metal sheets. The east end has a centrally placed door and an overhang supported by four posts. The concrete-block shower house is west of the bunkhouse and has a gable roof covered with sheet metal, a door on the north side, exposed rafter tails, and boarded-up louvers in the gable ends.

This parcel appears to have been used for farming or pasturage throughout the first half of the twentieth century and did not contain structures during that period: the current structure is first depicted on a 1953 USGS map; it does not appear on the 1941 map. Based on the use of concrete blocks and the construction style, the bunkhouse and shower house likely were built after World War II but before 1953.

While the property is associated with local farming, the bunk and shower house represent a post-World War II development. The simplicity of the structure and the presence of a communal shower house indicate that the property likely functioned as a labor camp and was probably a seasonal facility similar to its use today. There are many similar camps throughout the region, and this example is not unique or outstanding. The architecture is simple and unembellished, and the bunkhouse has been modified, detracting from its original integrity. Therefore, this property does not appear to qualify for inclusion in the National Register or the California Register under any criteria.

P-57-000565

This property, once called Greenwoods and now Lang Orchard, consists of two single-family homes, a garage, a pole barn, a hay barn, a well, and landscaping. The house at 13018 County Road 117 was built in 1939-1940 by the Langs. It is a one-story brick single-family dwelling with a stepped gable roof clad with composition shingles, and has a brick garage. A second house to the west was built in 2001. Two barns are west of the houses, one a pre-1938 large wood-frame, gable-roof barn now clad with vertical sheets of corrugated metal, the second a gable-roof open-sided structure less than 50 years old. A concrete, board-form well is located south of the brick house.

The 1857 General Land Office plat for this area depicts a house at this location labeled “Greenwoods.” No other historical information was found on this house, but the GLO depiction does indicate that the property was developed early. Walters (1997:34) notes that after a major flood in 1878, most farmers in the area left. Three major landowners—Hershey, Wilcoxson, and Laugenour—bought up much of the abandoned land and used it for pasturage. Charles Luce had purchased this parcel from the Laugenours by 1926 and raised chickens. Frank Lang bought the 142-acre chicken ranch in 1938 and planted walnuts.

When the Langs purchased the property in the late 1930s, the barn was the only structure present. They built the house and garage and put in the well in 1939-1940. A second house was added in 2001 to accommodate their growing family. The property serves as the business and residential center for Lang Orchards, a walnut-farming operation. The walnut orchard surrounds the property.

The brick house and garage have not been altered and are good examples of late 1930s Minimal Traditional farmhouse architecture. Research to establish comparable properties and determine the uniqueness of this property in the county has not been completed. If the house and garage are unique in the area, they may meet Criterion C of the National Register and Criterion 3 of the California Register as a representative example of a type of farmhouse architecture not prevalent in the region. Further research is needed to make this evaluation.

Wells

Four wells were recorded within the project corridor. These range from abandoned wells with dilapidated concrete structures (P-57-000584) to intact, working systems with a pump house, vent, and concrete drain (P-57-000583), an original concrete drain with a new pump (P-57-000571), and a metal stand pipe abandoned in favor of a new well (P-57-000577).

When the Colusa Drain project was completed in 1913 (see *Cultural Context* on page 10), many local farmers pooled their tax assessments to create their own drainage and reclamation systems. Throughout the area owners sank private wells for their water needs and built private canals to bring water they purchased and pumped

out of the main canals to their farms. Wells P-57-000583 and -000584 are included in Reclamation District 820, a small district established soon after completion of the Knights Landing Ridge Cut in 1915. Immediately north is RD 730 (Proctor 1926). The well at Structure 4 is part of RD 1600. These districts are privately owned and operated. The wells along County Road 16A (P-57-000571) and County Road 17 (P-57-000577) do not appear to be associated with a formal irrigation district and are privately owned and operated. The Road 17 Well (P-57-000577) is recommended ineligible to the National and California registers due to a lack of integrity, while the Road 16 Well (P-57-000571) remains unevaluated.

For the wells associated with reclamation districts, at this point RD 820 and 1600 have not been evaluated as a whole. If the overall districts are determined eligible, these irrigation features could be considered a contributing element to a larger irrigation feature and may meet National Register and California Register criteria. Presently, wells P-57-000583 and -000584 remain unevaluated.

Culverts

Two culverts on County Road 17 were newly recorded (P-57-000576 and -000578). Both are old board-form concrete structures still functioning as culverts. They have not been evaluated for the National and California registers.

Ditches and Canals

Six ditches and canals were recorded in the APE, all in eastern Yolo County. All are features that still deliver irrigation water to fields. Two of the ditches were newly recorded west of the Colusa Drain on either side of County Road 17 (P-57-000579 and -000580), and a third (P-57-000581) was newly recorded east of the Colusa Drain. The ditch system previously recorded as P-57-000521 was re-visited and the record updated to include additional distribution ditches. None of these features has been evaluated for the National and California registers. The other two ditches/canals include the Tule Canal and the Colusa Drain itself. These site records were adequate and were not updated for this study.

Other Water-Supply Features

The site record for the Knights Landing Ridge Cut (P-57-000140 [YOL-183H]) was updated to include an historic-period pump at the point where the cut meets the eastern end of County Road 17. The site record for an unnamed private levee (YOL-212H) is adequate, and was not updated as part of this project.

Historic-Period Roads

Four historic-period road alignments were recorded west of the river, all near the western terminus of the project north of the town of Yolo. These are all single-lane paved surfaces, and all are patched and maintained for current use. They include county roads 98A (P-57-000570), 98E (P-57-000572), 99A (P-57-000573), and the portion of County Road 17 west of its intersection with State Route 113 (P-57-000575). New site records were completed for all. They remain unevaluated with respect to the National and California registers.

Oak Groves

Site record updates were filed for two historic-period valley oak groves that are components of resource P-57-000132, historic-period oak groves in Yolo County. One is for Oak Grove 12 along County Road 17, which is now apparently reduced in size from when it was recorded in 1986. The other is for Mixed Oak Stand 12 along the levee fronting the western bank of the Sacramento River. This mixed stand appears largely the same as recorded in 1986. Neither has been evaluated for the National or California registers. Because these natural stands of native oaks are not actually cultural resources, we question the need to consider them as such, and recommend that they be dropped from the list of cultural resources on file at the Information Center.

Utility Pole Lines

Utility poles run along parts of County roads 16A and 17. While these routes are shown on early maps, the poles are tall, modern replacements. Only a few shorter poles were noted along County Road 17. The pole line routes were not formally recorded because of their compromised integrity. These resources are not shown on any tables or maps—this is the only place they are discussed.

RESOURCES EAST OF THE SACRAMENTO RIVER

P-31-000096

This property consists of two single-family residences, four sheds or barns, and a trailer. Blosser and Walters (2002b), who did not have access to the property, estimated the age of the structures to be ca. the 1950s. The update to this record corrects the construction date to 1917; Mr. Gerald Minatre, the current landowner, reports that the house was built in 1917 by the Pullman family (personal communication, 2006). His family bought the land in 1955 and around 1970 enclosed the front porch, which originally had white pillars, making it into another room. The three buildings on the south side of the lot are the house, a two-story gambrel barn, and a one-story building in the southwest corner that was once a bunkhouse and has been converted into an apartment for family members. The site has not been evaluated for the National or California registers.

P-31-003300 and P-31-003301

These are two houses built after World War II but before 1953, likely around 1950, during a time of great expansion in Sacramento County following the war. Each is simple in design, with few architectural embellishments. Alterations to Structure 1 include an aluminum portico with a wooden frame over the front entrance and a small addition to the rear, which do not detract from the overall integrity. Alterations to Structure 2 include replacement of all original windows with modern windows, placement of an aluminum portico with wooden frame over the front entrance, and a small addition to the rear. Dates of the alterations are unknown, but the extensive modifications have resulted in a loss of historical integrity. Replacement of original windows and doors, in particular, has altered the sense of time and place significantly. Neither of these houses appears eligible for the National or California registers.

P-31-003305

This property includes a Minimal Tradition-style house, two barns converted into workshops, three sheds, and a modern log house. The current owners have created an irrigation pond and extensive wetlands landscaping around the new house, with willows, pistachios, pecan trees, camphor trees, and ornamental and native plants and shrubs.

The Minimal Tradition house faces Locust Road and is a single-story rectangular structure with a composition clad gable roof. It has a centered exterior brick chimney on the south side, louvers in the gable ends, exposed rafter tails, and modern aluminum siding. Fenestration is symmetrical and consists of new aluminum sliders and a wood and glass door. A small shed-roof addition sits on the east side of the house. A small plywood-covered shed with a wood-shingle gable roof stands behind the house and may have been an outhouse. The outlying barns and sheds have been enlarged, connected, and otherwise modified since 1980 and have compromised integrity.

According to the current land owners, this house and property were part of the Stolenberg farm in the 1950s through the 1970s. The house is depicted on a 1953 USGS map and may date to the late 1930s. It was built during a time of great expansion in Sacramento County following World Wars I and II. It is simple in design, with few architectural embellishments. The Minimal Traditional-style was very popular in the area after 1935, and numerous examples exist in the county. This house is not architecturally exceptional or unique and has compromised integrity due to replacement of windows and an addition. Most of the associated outbuildings have been altered significantly and do not retain their historical integrity. This property does not appear eligible under National Register Criterion C or California Register Criterion 3. It is not associated with an important event or person in Sacramento County and so does not meet criteria A or B (or criteria 1 or 2). As such it does not appear

eligible for inclusion in the National Register and is not considered an historical resource for the purposes of the California Environmental Quality Act.

P-31-003302

The 1911 Arcade USGS quadrangle shows a structure at this location, but based on architectural style and materials, the current structure was built later, perhaps in the 1920s. It is also depicted on the 1953 USGS quadrangle. Alterations include replacement of all original windows with aluminum sliders, placement of an aluminum awning across the front façade, and three wooden frame additions on three sides to enlarge the structure. Dates of the alterations are unknown, but the extensive modifications have resulted in a loss of historical integrity. Replacement of original windows and doors, in particular, has altered the sense of time and place significantly. Structure 3 does not appear to be eligible to the National Register or the California Register.

P-31-002684

This historic-period structure at the northeast corner of Baseline and Brewer roads was recorded but not evaluated in 2002 by JRP Historical Consulting. It is an irregularly shaped Minimal Traditional house with a composition shingle roof, wooden board-and-batten walls with a brick skirt, and an attached garage. It has been recently modified, as evidenced by sliding aluminum windows and aluminum garage doors.

The house was built during a time of great expansion in Sacramento County following World War II. It is simple in design, with few architectural embellishments. The Minimal Traditional style was very popular in the area immediately following World War II, and numerous examples exist in the county. This house is not architecturally exceptional or unique and has compromised integrity due to replacement of windows and a major addition. It does not appear eligible under National Register Criterion C or California Register Criterion 3. It is not associated with an important event or person in Sacramento County and does not meet criteria A or B (or criteria 1 or 2). As such it does not appear eligible for inclusion in the National Register and is not considered an historic resource for the purposes of the California Environmental Quality Act.

P-31-003309 (Eagle Hotel)

General Land Office plats from the 1850s show the Eagle Hotel and an adjacent barn at what is now the northeast corner of Baseline and Country Acres roads. Road houses were common throughout this period. Many, such as this one, disappeared into obscurity after a few years and left no other historical record. There are no references in either Sacramento or Sutter County history to an Eagle Hotel in this area.

No trace of the hotel architecture remains on the surface, nor could we find any artifacts dating to this period. Surface finds include concrete rubble piles, a refuse pile dating to the 1950s-1970s, a concrete slab with a metal pipe, and planted fruit and shade trees. The only surface feature which may be associated with the Eagle Hotel is an eight-foot-wide, one-foot-deep depression, where recent concrete block fragments have been dumped. With the possible exception of the planted trees, all other artifacts and landscape features appear to date to the early to middle twentieth century. The site has not been evaluated for the National or California Register. However, there is the potential for buried features associated with the historic-period hotel (cellar, privy, well, etc.).

P-31-003310 (Isolated Obsidian Biface)

A bifacially flaked obsidian tool (Figure 4) was found in a very shallow and narrow drainage furrow near the base of a moderate southeast-facing slope, approximately 100 meters (328 feet) west of an unnamed drainage. The tool was made from opaque black obsidian and measured 5.4 centimeters long by 2.6 centimeters wide and 0.8 centimeters thick. The surrounding area was carefully examined, and no other archaeological material was found. Isolates are categorically exempt from the National or California registers.



Figure 4. Obsidian Biface Isolate.

P-31-001137

This is a small, unornamented one-story building used to assist instrument landings at McClellan Air Force Base. It was built after 1952 but was abandoned by 1987, when the Air Force sold the property. The structure was recommended as not eligible for the National Register in 2000 (Napoli 2000).

P-31-001135 [CA-PLA-945H]

A small, historic-period refuse scatter was recorded in 1999 in a plowed field within the current project APE. Artifacts noted included dark-brown earthenware, yellow earthenware, and white ironstone ceramics, as well as clear-glass bottle fragments. The only artifacts that were observed in the dense weeds during current project fieldwork were a faceted aqua glass fragment and a fragment of yellow earthenware ceramic. The site has not been evaluated for the National or California registers.

Historic-Period Roads

East of the Sacramento River, seven road alignments that intersect Riego/Baseline Road are plotted on historic-period USGS quadrangles (1953 or earlier): Elder, Locust, Brewer, Palladay, Country Acres, and Watt/Center Joint roads, and a recently abandoned segment of Walerga Road. Excepting Walerga Road, all roads are modern, paved, currently maintained, and in use. None has been evaluated for the National or California registers. Two of these roads appear to be associated with RD 1000.

Historic-Period Railroads

Two railroads, one still in operation, run roughly north-south along the eastern edge of the American Basin. The Western Pacific Railroad is an extant rail line. The abandoned Sacramento Northern Railroad is about 1,000 feet (300 meters) to the east; all of its rails and ties have been removed. The portions of each in Placer and Sacramento Counties have been recommended not eligible to the National or California registers (Waechter et al. 2007), but the segments of each in Sutter County remain unevaluated.

SUMMARY AND RECOMMENDATIONS

As indicated on Figure 3a-e and in Table 6, there are 48 historic-period cultural resources, one prehistoric archaeological site with an historic-period component, and one prehistoric isolate within the 600-foot-wide survey corridor. Additionally, 24 contributing/potentially contributing features of the RD 1000 Rural Historic Landscape District lie within the survey corridor. These features are numbered in Figure 3a-e, and listed in order from west to east in Table 6, along with our recommendations. They include the Garden Highway and the Sacramento River levee beneath it, Powerline Road and the unnamed canals paralleling or crossing it, Riego/Baseline Road and various associated canals, North Drainage Canal, East Drainage Canal, North Main Drainage Canal, East Levee (SUT-85H), Natomas Road (which is situated on top of the East Levee), and Natomas East Main Drainage Canal.

In addition to the RD 1000 features, P-57-000405 (the Cramer House) has been recommended as eligible for inclusion in the National Register. An additional 33 historic-period resources may meet National and/or California Register criteria but were not formally evaluated at this phase of the research. These include six domestic structures or farmsteads, 12 water-conveyance features, 11 roads, two railroad grades, a refuse scatter, and the reported location of the Eagle Hotel (P-31-003309). The remaining 14 architectural or engineering resources have been extensively modified and do not retain integrity, are not within a formal reclamation district, and/or are of a common architectural style in the region and are not the best example of a type. One bridge has been determined not eligible to the National Register, and the 13 other resources appear ineligible for listing in the National or California registers.

One prehistoric site (P-57-000566) was recorded and has not been evaluated for eligibility. A single prehistoric isolate was also found—by definition isolates do not meet the criteria for listing on the National Register.

RECOMMENDATIONS

If adverse effects to any of the 24 contributing elements of RD 1000 are unavoidable, it will be necessary to prepare a Finding of Effects and develop a plan (in consultation with the lead federal agency and the State Office of Historic Preservation) to mitigate these effects. This is true for P-57-000405 (the Cramer House) as well.

All unevaluated historic-period cultural resources should be avoided during all phases of project construction. If avoidance is not feasible at any or all of these resources, they will need to be evaluated for their National or California register eligibility by a qualified historical archaeologist, historian, or architectural historian. It is likely that most of these resources will be determined ineligible.

Prehistoric occupation site P-57-000566, and the historic-period well at the same location, should be avoided during all phases of project construction. If avoidance is not feasible, the site will need to be evaluated for its National or California Register eligibility by a qualified prehistoric archaeologist, and the well by a qualified historical archaeologist.

No further management is recommended for the 14 sites determined or recommended as not eligible to the National Register, or for the isolated biface.

One area remains to be surveyed, as access was denied for a short stretch south of Riego Road between the Natomas East Main Canal and the Western Pacific Railroad grade (see Area K on Figure 3d). Preliminary designs show the course of the pipeline along the north side of Riego/Baseline Road; if this holds, and no project-related ground-disturbing impact will occur in the unsurveyed area south of the road, there is no need to complete the inventory. If, on the other hand, designs change and the project is routed along the south side of Riego/Baseline Road in this area, this parcel must be surveyed prior to project construction.

Finally, there is potential in eight areas for buried resources not visible from the surface; these areas are noted in Figure 3a-e, and are also listed on Table 7. We recommend the mapped location of P-31-003309 (Eagle Hotel, Area D) be tested by an historical archaeologist for the presence of buried historic-period features; alternatively, project excavation should be monitored by an historical archaeologist. For the other locations, we recommend they be backhoe-tested by a geoarchaeologist, or that a qualified archaeologist or geoarchaeologist be present to monitor all