

taken by companies of men in communal drives, although this custom appears to have applied mainly to the mountain Maidu. Rabbits and some birds were taken by nets. Salmon were harpooned or taken with nets. Hooks were also used to catch fish. Deer and salmon vertebrae were crushed by the natives in mortars and served as a delicacy. Acorns were a staple. In addition to the dwelling, sweat house and dance house structures, acorn granaries were a common sight in villages (Kroeber 1925:409-411).

Published literature is practically mute with respect to Native American use of the Gray Lodge Water Supply Project vicinity. This leaves the archaeological record, which is very sketchy. Archaeological site CA-BUT-326 was identified in the southern portion of the Gray Lodge Water Supply Project vicinity back in 1969. The “site” consisted of a general area in which a surface collection of artifacts was made presumably by the landowner. The artifacts included net sinkers, charmstones and a bowl mortar. The written record form for this particular site indicated that the area was originally tule marsh. The location of the finds is about eight miles west of the Feather River. The site may have been a seasonal fishing, hunting and/or waterfowling location. Senior archaeologist William Olsen has remarked that charmstones are rarely found in the village mounds along the Feather River, rather they have been encountered by archaeologists historically in areas of sloughs and marsh lands (William Olsen, personal communication 12-7-2011).

Archaeologist Makoto Kowta noted that charmstones from the collections of hobbyists and gathered from the low plains between Biggs and the Sacramento River represent a variety of forms. Some were battered and may have been used as bola weights. The bola-like weapon may have been used to hunt geese. Other “charmstones” may have been used as ritual objects (Kowta 1988:233).

The age of the artifacts assigned to the location, CA-BUT-326 has not been determined. The artifacts may be historic, proto-historic or it may date back to the Upper Archaic or even the more ancient Windmiller Pattern of the Middle Archaic (*cf.* Heizer 1949:25).

### **Biggs-Gridley Agriculture and Water Management, 1850-1960**

The Biggs-West Gridley Irrigation District was formed in 1942. The district was formed under the provisions of the Wright Act (1887) which provides the legal basis for the formation of water districts by land owners and water users in California (McGie 1982:7). Irrigation districts are public entities which are generally supported through the sale of bonds. In September 1942 a general election was held in which voters within the proposed district approved the purchase of 28 percent of the original water rights and properties of the Sutter-Butte Canal Company (McGie 1986:56). Eight years earlier the newly-formed Richvale Irrigation District had purchased 26 per cent of the Sutter Butte Canal Company water rights and property (CH2MHill 2009:2-2).

In 1970 the Biggs West Gridley Irrigation District became a part of a four county Joint Water District Board which coordinates the activities among the Butte West Gridley, Richvale, Butte, and Sutter Extension Water Districts; all districts that draw their water



from the Sutter Butte Canal (CH2MHill 2009:2-2). The Joint District has water rights to approximately 160,000 acre-feet of water from the Feather River which is diverted through the Sutter Butte Canal and then distributed through a number of lateral canals, the most important of which are the Belding Lateral which supplies the Ashley, Traynor, Schwind and Green laterals. In turn the Traynor lateral supplies the Gerst, Cassady, Rising River and Spence Laterals (CH2MHill 2009:2-2).

Although the Biggs West Gridley Irrigation District was not established until the mid-twentieth century, its origins can be traced to the mid-nineteenth century and the establishment of agriculture in Butte County. Like many counties in the Central Valley in the late 1850s through the 1870s, Butte County was a center of wheat production. In the 1860s the county became one of the largest grain growing regions in the state with approximately 240,000 acres under cultivation (Mansfield 1918:239). By 1877 it had become the largest wheat producer in California (Mansfield 1918:295).

This growth was substantially aided by the development of railroads. The California Northern Railroad linking Sacramento and Marysville was the first railroad in the county (Mansfield 1918:245). In 1870 a Central Pacific Railroad line to Chico was completed (Mansfield 1918:245). The development of the railroads in turn promoted town building to provide terminals for wheat shipping. Biggs and Gridley both functioned as shipping terminals and experienced substantial growth during the 1870s (Mansfield 1918:290).

Wheat cultivation was a dry-farming activity dependent on rainfall and large land holdings. A severe winter in 1889-1890 followed by two subsequent years of bad weather took an economic toll on the county's wheat farmers, driving some out of business. At the same time two decades of wheat growing had depleted the soil with the consequence that yields successively declined (McGie 1986:133).

While these conditions were important in the decline of grain production in the county, the introduction of orchard crops, such as oranges, olives, peaches, figs and grapes, played a crucial role in shifting the county's agricultural economy toward orchard and vineyard cultivation dependent on irrigation. The first citrus plantings were introduced into the county in the 1880s. Orange cultivation spread quickly in the vicinity of Oroville, Wyandotte, Thermalito, and Palermo. This led to the settlement of the so-called Citrus Colonies, collective agricultural tract developments that were widely publicized to draw investors and agriculturists to the area (McGie 1986:151). In 1887 the first olive groves were planted and by 1889 the first olive pickling factory was established in Oroville, followed in the 1890s by the opening of several olive oil production facilities (Mansfield 1918:323). Successful orchard cropping required far less acreage than grain farming. As a consequence large holdings, such as those of George W. Gridley, the founder of the town that bears his name, began to be broken up (Mansfield 1918:305). The break-up of large holdings and the demand for orchard land brought about a significant increase in land values. Between 1877 and 1884 land in the Oroville and Biggs areas increased from 5 dollars per acre to 25 dollars per acre (Mansfield 1918:305).



Crucial to this shift in the agricultural base of the county and the rise in land value was the introduction of irrigation and the continuous expansion of canals and laterals between the 1880s and the 1940s that made fruit, and later nut and rice, production possible. Interest in irrigation began in the 1880s, and the first irrigation systems were established in the 1890s. Butte County already had an extensive network of ditches and canals dating from the mining era of the 1850s through 1870s. These were originally constructed to bring water to areas of hydraulic mining. When hydraulic mining was outlawed in 1884 many irrigation promoters saw the potential for conversion these developed canal systems to irrigation usage (Mansfield 1918:139). A number of private irrigation companies were formed in the county to purchase these systems and convert them. Among those formed were the Big Bend Company, Dodge Rice Company and the South Feather River Land and Water Company (McGie 1986:192, 194).

The irrigation canals within the Biggs-West Gridley Irrigation District were developed by a combination of irrigation canal construction and the purchase of existing mining canal systems. In the Biggs-Gridley area the first proposals for an irrigation system were made by Thomas Fleming, a local businessman. Fleming's plan was to divert water from the Feather River and channel the diversion to the Biggs-Gridley area. In 1888, he proposed the construction of a "Streeter-Fleming Irrigation Ditch" and in 1891 surveyed the route for such a system (Mansfield 1918:304, 323). At the same time, Duncan McCallum, an Oroville real estate promoter, envisioned a westward diversion of the Feather River to the Biggs-Gridley area that he felt would enhance fruit production and raise land values (McGie 1986:189). McCallum joined forces with Fleming in 1903 and together they formed an investment group known as the Butte County Canal Company. In 1905 they began ditch construction. In June, 1905 they completed a 14 mile long 30 foot wide canal, known initially as the Butte County Canal. By 1911 the canal had been expanded to 57 miles of main canal and 131 miles of laterals (McGie 1986:19). The canal led directly to the establishment of the Mormon Colony at Gridley and to McCallum's predicted further rise in land value (McGie 1986:189). In 1911, the Sutter Butte Canal Company took over control of the Butte County Canal Company. The Butte County Canal was henceforth known as the Sutter Butte Canal (Biggs-West Gridley Water District Board 1983).

Shortly after the completion of the Butte County Canal (1905), McCallum organized a separate partnership to construct a Western Canal from the foothill of the Sutter Buttes. The partnership consisted of McCallum, S.J. Norris and Carlton Gray of the Norris and Gray Mining Company, which owned a large channel left from dredge mining on the Feather River. In 1908, Norris and Gray bought out McCallum and, having acquired right-of-way through the Hamilton Slough west of the Feather River, they in turn sold out to the Brown, Walker, Simmons Syndicate of San Francisco. The Syndicate then sold to Great Western Power, whose directors organized the Western Canal Company and began construction of the canal in 1915 (McGie 1986:191).

By 1920, both the Sutter Butte Canal and the Western Canal appear on county survey maps. However, few of the laterals, which formed a large part of the systems, are delineated (Polk and McCoy 1920).



From the 1920s through the 1950s there was a trend within the county to convert privately owned irrigation systems into public entities through the formation of water districts. The financing for purchasing water rights from the private systems was provided by voter approved bonds. Discussion of the formation of a Biggs-Gridley water district under the provisions of the Wright Act began as early as 1929 (McGie 1986:35). However, no action was taken to form a district until 1942 when voters approved the creation of the Biggs-West Gridley Water District (McGie 1986:56). The newly formed water district undertook a number of improvements in the 1950s and 1960s. These included the enlargement of the railroad siphons at Razorback and Bayless, enlargement of the gates at the Belding Lateral, replacement of all wooden bridges, and the replacement of the Loosy Wier. Cassady Ditch, the southernmost segment of which was constructed in 1967. During this period all waste ways were widened and lined in concrete (Biggs- West Gridley Water District Board 1983). Much of the existing canal system dates from the early 20<sup>th</sup> century, as do features such as weirs, pumps, gates and crossings..In 1970, the Biggs-West Gridley Water District became a member of a four county joint management district. It is the principal supplier of water to the Gray Lodge Wildlife Area.

## RECORDS SEARCH RESULTS

On September 12, 2011, the Northeast Information Center, California Historical Resources Information System completed a records search for the Gray Lodge Water Supply Project as it was envisioned at the time. The records search area encompassed the Belding, Traynor, Cassady, Schwind and Rising River canal laterals on which modifications would be made and a 50 meter radius surrounding the project area. Information center staff conducted the records search by examining the official maps and records for archaeological sites and surveys in Butte County. In addition, the following listings were reviewed by staff:

- National Register of Historic Places listed and determined eligible properties
- California Register of Historical Resources
- California Points of Historical Interest
- California Inventory of Historic Resources
- California Historical Landmarks
- Directory of Properties in the Historic Property Data File for Butte County
- Handbook of North American Indians, Vol. 8, California
- Historic Spots in California

As a result of the records search, information center staff identified one previously recorded Native American site, CA-BUT-326 and one historic site, the Biggs Extension Canal, CA-BUT-3117H, both of which are located adjacent to the current project APE.

Investigating historic maps, information center staff noted that the 1954 USGS Butte City 1952 Gridley quadrangles show the Belding and Traynor laterals located within the project APE. The Sutter Butte Canal, Hamilton Slough, Biggs, Southern Pacific Railroad,

Main Drainage Canal, levees, roads and structures are found in the general vicinity of the APE..

Portions of the project APE were included in six previous studies, according to the information center's letter report. The studies range in age from a 1996 cultural resources inventory by Basin Research Associates to a 2008 cultural resources reconnaissance survey of Gray Lodge Wildlife Area by Golden Hills Consulting and a 2008 cultural resources inventory of rural highways in Butte, Colusa, El Dorado, Glenn, Nevada, Placer, Sacramento, Sierra, Sutter, Yolo and Yuba Counties by Far Western Anthropological Research Group (see Appendix B: Records Search Results).

When the project was expanded to provide alternatives to widening portions of Cassady lateral, Gerst and Sheppard canal laterals were added to the project design, along with two alternative new canal construction alignments, each of which would connect Sheppard lateral to Cassady lateral. Also, five staging areas were added to the project. To accommodate these additions, a supplemental records search was requested of the Northeast Information Center.

On December 12, 2011, the information center completed the supplemental records search, which encompassed the entire project APE and a one half mile radius to accommodate any further changes in design. As a result of that search, no prehistoric cultural resources were identified in addition to CA-BUT-326, the locus of isolated artifacts previously identified in the vicinity of the proposed new segment of canal for Alternative 2 (Alt-2). The information center also reported that no historic sites have been reported in the project area. However, CA-BUT-2892H, an irrigation ditch with associated structures, was previously recorded within the half-mile radius of the project APE.

One short segment of the project APE was inspected in 2008 by Golden Hills Consulting for cultural resources: An approximately one mile reach of Cassady lateral located within the Gray Lodge Wildlife Area including the remainder of Section 7 southeast of the Cassady lateral. No cultural resources were identified. Special attention was given to locating a prehistoric site recorded in 1969 by archaeologist Peter Jensen. The site was described as located in the northeast quarter of the section immediately south of Section 7 (well outside the current APE) and was reportedly one-half square mile in area and yielded net sinkers, charmstones, bowl mortars and pestles. However, the original record form was incomplete and the Golden Hills consultant concluded that the site may have been located elsewhere or disturbed beyond recognition (Golden Hills Consulting 2008).

## **NATIVE AMERICAN COORDINATION**

On August 8, 2011, the Native American Heritage Commission responded to the consultant's request for a search of its sacred lands file and list of Native American contacts. The sacred lands file search encompassed Township 17North, Range 1East: Section 1; Township 17North, Range 2East, Sections 3, 7, 8, 9, 10, 17, 18; Township 18North, Range 1East, Sections 25, 36; Township 18North, Range 2East,: Sections 1, 2,



11, 14, 15, 22, 23, 25, 27, 28, 29, 30, 31, 34, 36; Township 18North,. Range 3East, Sections 5, 6.

The file search failed to indicate the presence of Native American cultural resources in the immediate project area. Commission staff enclosed a list of 15 Native American contacts and recommended soliciting information from those individuals and groups. The contacts included: Cultural Resources Representative, Berry Creek Rancheria of Maidu Indians, Oroville; Dennis E. Ramirez, Chairperson, Mechoopda Indian Tribe of Chico Rancheria, Chico; Kyle Self, Chairperson, Greenville Rancheria of Maidu Indians, Greenville; Clara LeCompte, Maidu Nation, Susanville; Ren Reynolds, Butte Tribal Council, Oroville; Gary Archuleta, Chairperson, Mooretown Rancheria of Maidu Indians, Oroville; Lorena Gorbet, Maidu Cultural and Development Group, Greenville; Patsy Seek, Chairperson, Konkow Valley Band of Maidu, Oroville; Eileen Moon, Vice Chairperson, Tsi-Akim Maidu, Grass Valley; James Sanders, Tribal Administrator, Mooretown Rancheria of Maidu Indians, Oroville; Jim Edwards, Chairperson, Berry Creek Rancheria of Maidu Indians, Oroville; Art Angle, Vice Chairperson, Enterprise Rancheria of Maidu Indians, Oroville; Glenda Nelson, Chairperson, Enterprise Rancheria of Maidu Indians, Oroville; Mike DeSpain, Director OEPP, Mechoopda Indian Tribe of Chico Rancheria, Chico; April Wallace Moore, Colfax.

The sub-consultant posted a letter to each of the above contacts describing the proposed project and requested information on any known or suspected sites of significance to Native Americans that may be affected by the project. The sub-consultant included a map showing the location of the project area.

When Gerst and Sheppard laterals and potential new canal alignments (Alt-1 and Alt-2) were added to the project description, the sub-consultant submitted an additional request to the Commission for a sacred lands file search to incorporate Township 17North, Range 2East, Sections 4 and 5. Although five staging areas had been subsequently added to the project description, they were located in areas included in the Commission's first sacred lands file search.

On November 28, 2011, the Commission completed the supplemental file search, which failed to indicate the presence of Native American cultural resources in the immediate project area. The sub-consultant anticipated that the list of Native American contacts would be the same as in the original response from the Commission. Therefore, the sub-consultant had mailed an addendum to the original letter with revised project location map to the same individuals and groups named above.

One response was received as a result of the mailings. Mr. Michael DeSpain, Director-OEPP, Mechoopda Indian Tribe of Chico Rancheria responded in a November 28, 2011 letter. Mr. DeSpain indicated that he was not aware of any cultural resources in the project area. However, if during the project any cultural resources are discovered, Mr. DeSpain asked that all activities stop and a funded monitor be placed on site for the remainder of the project. Mr. DeSpain also indicated the tribe's position that extreme care be taken to preserve all watersheds, all riparian habitat conservation areas and to prohibit any project

activities that would diminish water quality. He closed by asking the sub-consultant to also contact Berry Creek, Mooretown and Enterprise rancherias, as the project location may also be their ancestral area.

As no further responses were received, the sub-consultant attempted to contact the others listed by the commission by means other than U.S. mail. On December 8, 2011, the sub-consultant attempted to reach each contact by telephone or email. There were two additional responses. Ms. Patsy Seek, Chairperson, KonKow Valley Band of Maidu responded by telephone. Ms. Seek indicated that she has lived in the area all her life and does know that Native people lived in the general project area. She was specific about Native American occupation along Butte Creek. However, regarding the intervening low plains encompassing the project area, she was non-specific, citing the many changes to the landscape from residential and commercial construction to agriculture. Ms. Seek asked to be notified if any Native American cultural resources are found during the project.

Goody Mix replied via email on behalf of the Berry Creek Rancheria of Maidu Indian. In that written response Goody Mix did not know of any cultural resources, but asked to be apprized of the project's progress. A late response from Enterprise Rancheria voiced general, but no specific concerns (see "Appendix C: Native American Coordination).

## **FIELD METHODS**

The field team was supervised by Ric Windmiller, R.P.A. with more than 40 years experience directing archaeological, paleontological and historic architectural studies. Windmiller's field team included historian Michael Jaskinski on loan from the Cultural Resources Section of State Parks Northern Service Center, Steven Laumann and Cathryn Chatterton, the latter each with 10 years experience assisting in archaeological field surveys. Laumann is also certified as a concrete inspector with expertise in identifying the relative age of various types of concrete. As dates of construction on the concrete structures in the canal laterals either could not be found or were so eroded that they could not be deciphered, Laumann attempted to date the period of construction by visual analysis of the concrete constituents. Unfortunately, this method of dating was not very successful, as some structures with dates inscribed in the concrete contained constituents that normally would have been attributed to much older structures. Cultural resources were recorded on DPR 523 series record forms. Records made of structures (canals) were overseen by Dan Osanna, M.A., Registered Historian 572. Records made for archaeological resources were overseen by Ric Windmiller, M.A., Registered Professional Archaeologist.

The field inspection began with an inspection of the APE along parallel 15 meter transects, which corresponded to the top of the levee on each footprint of the existing canals. The 15-meter transects encompassed an area well beyond the APE boundary on each side of the canals. A total of 92 person-hours was expended on the field survey.



The existing drainage ditch at the outside base of each canal was choked with impenetrable vegetation. Therefore, ground visibility was poor in the drainage ditches. Eighty-two percent of land adjacent to the project canals and staging areas is rice fields. Ground visibility was poor in those areas, as well. A small percentage of the fields adjacent to the drainage ditches and within the APE are leveled pastures (six percent), inundated wetlands (three percent) and leveled orchards (nine percent). Ground visibility on the pastures was poor due to thick pasture grasses. Ground visibility in the wetlands was non-existent due to inundation and dense water plants such as tules and cattails. Ground visibility in the orchard areas was excellent due to weed control and cultivation to minimize irrigation water loss due to evaporation.

The southernmost reach of Cassady lateral is the only relatively large area of land not leveled. Here for approximately three-quarters of a mile, open plains border the canal's levee banks. Ground visibility was approximately 50 percent.

After the project engineers added Alternatives 1 and 2, which occurred after the field inspection phase of the study was largely completed, harvesting was occurring in the rice fields. The corridor of proposed new canal construction was walked for both alternatives through freshly disked rice stubble. Ground visibility was about 50 percent.

The location of the five proposed staging areas was made available at this time and each of the staging areas was traversed on foot along zig-zagging transects 5-15 meters apart. Potential Staging Area One (PSA-1) consists of two separate staging areas, one on either side of Farris Road at Belding lateral. The larger of the two, approximately 300x900 feet, lies in a field of what was then freshly disked rice stubble. Ground visibility was 50 percent. The smaller of the two staging areas is located on the north side of Farris. This latter staging area is about 150 feet on a side and takes up a raised area in the corner of a rice field. This staging area appeared to be used periodically to stage farm equipment. Ground visibility was about 50 percent due to the presence of Bermuda grass.

PSA-2 is located at the northeast corner of Schwind lateral and the Colusa Highway. The field team walked the 300x500 foot area along zig-zagging transects approximately 15 meters apart. The freshly disked rice stubble field provided about 50 percent ground visibility.

PSA-3 is located on the northeast corner of Traynor lateral and Colusa Highway. The staging area abuts the east side of the Traynor lateral on the west and the back yard of the Hughbanks residence on the east. The staging area measures 300 feet long and 200 feet wide and encompasses a virtually impassable thicket of blackberries, dense thistles and other brush. Less than five percent of PSA-3 could be inspected. At the adjacent Hughbanks residence, the landowner reportedly picked up prehistoric artifacts in his graveled driveway. The artifacts may have been brought with the gravel from a remote location. Inspection of the entire parcel where ground visibility permitted did not yield any evidence of a cultural deposit or additional artifacts.



PSA-4 is located at the northeast corner of Belding lateral and Riley Road. A polygon in shape, this staging area is located at the edge of a rice field on raised ground and covered in Bermuda grass with perhaps 50 percent visibility of the ground surface. The staging area covers an area approximately 200x200 feet. Farm machinery is parked on a small portion of the potential staging area. The location was inspected along zig-zagging transects approximately 5 meters apart.

PSA-5 is located on the northeast corner of Belding lateral and Afton Road. Measuring 300x200 feet, PSA-5 was situated on freshly disked rice stubble with about 50 percent ground visibility. The field team walked the location along zig-zagging transects about 15 meters apart.

## DESCRIPTION OF THE CULTURAL RESOURCES

Two locations of isolated Native American artifacts were noted in the vicinity of the APE for cultural resources. Seven segments of canal laterals approximately 45 years old or older are also located within the APE.

The California Office of Historic Preservation's Instruction for Recording Historical Resources states: "Any physical evidence of human activities over 45 years old may be recorded for purposes of inclusion in OHP's filing system" (California Office of Historic Preservation 1995:2). The 45-year age criterion was used in the present study to identify cultural resources. However, under "Determination of Eligibility," below, evaluation of significance generally demands a 50 year age criterion.

In addition to the isolates and canal segments the APE includes two concrete bridges previously evaluated by the California Department of Transportation (Caltrans) and seven canal lateral crossings on public roads not previously evaluated by Caltrans (see Appendix D: Confidential Location of Resources and Appendix E: Confidential Record Forms).

### Isolated Artifacts

**CA-BUT-326: Isolated Artifacts.** Archaeological "site," CA-BUT-326 was identified in the general vicinity of Alternatives 2 and 3 (potential route of a new canal between Sheppard lateral and Cassady lateral, and the Cassady lateral alternative. The "site" consisted of a general area in which a surface collection of artifacts was made presumably by the landowner. The artifacts included net sinkers, charmstones and a bowl mortar. The record form for this particular site was completed by archaeologist Peter Jensen in 1969. Jensen indicated on his record forms that the area was originally tule marsh. Today, the location of the isolated finds is a rice field. The area was carefully inspected after the rice stubble had been disked. No artifacts or evidence of a cultural deposit were found.

**Hughbanks Isolated Artifacts.** Three isolated artifacts were identified by the landowner in a portion of a residential lot adjacent to Proposed Staging Area (PSA-) 3. The

landowner recovered three artifacts from his graveled driveway: a small corner notched projectile point with slightly rounded base in red chert; a *Haliotis* shell “button” with two central perforations and; a water-worn, round, thin-lipped *Olivella* shell bead. The residential portion of the lot including the graveled driveway was inspected during the present study. However, no additional artifacts were found and no evidence of any cultural deposit was identified. Most of PSA-3 could not be examined due to the presence of impenetrable brush. However, the small part that was examined did not yield any artifacts or evidence of cultural deposits.

## Structures

**Belding Lateral, Segment A.** This canal lateral is a 9.94 mile earthen canal flanked on each side by a low earthen levee. For most of the lateral’s extent, a narrow single lane dirt road tops each of the two narrow levees. At it’s northeastern end, two miles northeast of Biggs, the Belding/Biggs Extension lateral draws its water from Main Canal about one mile south of Thermolito Afterbay. At the S.R. 99 bridge, two miles northeast of Biggs, Belding lateral is 47 feet wide across the top with moderate sloped banks. Bottom width and depth could not be measured due to high water level. The lateral extends west to the UPRR tracks then south. The segment ends at its confluence with Schwind and Green laterals about one mile west of Ferris Road and one mile north of Colusa Highway. Fifty-six permanent structures, from concrete weirs and syphons to concrete slabs or facings with metal valves to regulate irrigation water to adjacent fields were counted in the 9.94 mile reach of Belding lateral (Segment A). The earliest dated structure in the canal is the syphon that underlies the UPRR tracks 1.75 miles west of S.R. 99. The year “1908” is embossed on the concrete structure. The setting of Belding lateral is agricultural, predominantly rice fields. The canal’s lateral boundary (width) encompasses the canal itself, the low levee on each side of the canal and adjacent drainage ditches. Over the years newer structures have been added and older structures enlarged, altered or removed.

**Schwind Lateral, Segment A.** This segment of Schwind lateral, an earthen canal, conveys irrigation water from Belding lateral on the north and extends south to West Liberty Road for a distance of approximately 2.1 miles. The lateral averages 30 feet wide across the top. Depth and bottom width were not measured due to high water level in the lateral. A narrow levee parallels each side of the lateral. The top of each levee supports a narrow, unpaved, single lane dirt road. The canal segment’s structures include five concrete weirs, one weir with integrated concrete slab farm bridge, the two lane concrete Colusa Highway at Schwind lateral crossing, a concrete farm bridge, 17 gate valves in concrete facings built into the sides of the canal, one concrete flume crossing over an unnamed east-west lateral, a concrete pump station and a concrete culvert with earth fill. The few construction dates found on the concrete structures are 1963(?), 1952, 1956, 1985 and 1998.

**Traynor Lateral, Segment A.** This segment of Traynor lateral originates at its confluence with Belding Lateral approximately two miles southwest of Biggs and extends 3.33 miles south to West Liberty Road where Cassidy Lateral begins about one mile southwest of



Gridley. Traynor lateral was constructed prior to 1952 as observed on historic maps. Traynor lateral is an earthen canal approximately 28 feet wide across the top at its origin on Belding lateral. Narrow earthen levees support a narrow dirt road on each side of the canal. Depth and bottom width of the lateral could not be measured, as the canal was filled with water. Associated with the canal are concrete weirs, concrete slab bridges, concrete pump platforms and concrete facings or upright slabs with gate valves built into the canal's banks to irrigate adjacent fields. The canal's setting is predominantly agricultural. Lateral boundaries (width) of the canal include the footprint of the canal itself, its two adjacent levees and parallel drainage ditches at the base of the levees. Alterations include the replacement of wooden farm bridges with concrete slab bridges, the addition of newer gate valves for irrigation and addition of other concrete structures dating from the late 1950s and early 1960s and possibly later. Most of the concrete structures do not display construction dates. Very little information was found for this and the other laterals from any source.

**Gerst Lateral, Segment A.** This segment of Gerst lateral is an earthen canal approximately 1.61 miles long. Gerst lateral draws water from Traynor lateral approximately one mile west of Gridley. Gerst lateral provides irrigation water largely to adjacent rice fields. One relatively small area on the south side of Gerst lateral near its connection with Traynor is orchard. The top width of Gerst lateral is approximately 30 feet. Bottom width and depth could not be determined. Irrigation water to adjacent fields is controlled by 19 separate gate valves built into the canal's levees. Each of the two parallel narrow levees on either side of the canal support a narrow single lane dirt road. Six poured concrete weirs control the flow of water within the canal. Three single lane concrete slab farm bridges provide access to both levee roads and to adjacent fields. One piece of dimension lumber serves as a footbridge across the canal. Lateral boundaries of the canal (width) include the canal itself and the narrow levee on each side of the canal and adjacent drainage ditches. The few construction dates marked in the concrete of the various structures are: 1959(?), 1971, 1994 and 1995.

**Sheppard Lateral.** This lateral is a relatively short (1.55 miles), narrow earthen canal that draws its water from Gerst lateral. Sheppard lateral provides water to surrounding rice fields. The lateral is located approximately three miles west of Gridley and within one half mile north of West Liberty Road. The top width of the canal is 18 feet. Bottom width is 4.5 feet. The steep-sided canal is approximately six feet deep. Sheppard lateral provides irrigation water to the adjacent rice fields controlled by nine separate gate valves built into the canal's levees. Each of the two parallel narrow levees on either side of the canal support a narrow single lane dirt road. Four earth-filled culverts and concrete slab farm bridge provide access to fields on either side of the canal, as well as to the opposing levee roads. At the west end of the lateral, water is directed into a steel pipe ending in a concrete box structure adjacent to a north-south ditch. Lateral boundaries of the canal (width) include the canal itself and the narrow levee on each side of the canal. No construction dates were found on any of the canal's concrete structures.

**Cassady Lateral, Segment A.** Cassady lateral is an earthen canal approximately 26 feet wide across the top at its widest point within the 3.1 mile length of Segment A. The canal



is flanked by low earthen levees on both sides with a combination of maintained and unmaintained single lane dirt roads atop the narrow levees. Segment A of the lateral begins at the lateral's origin on the Traynor lateral and ends at the culvert under West Evans-Reiner Road. A portion of the setting is farm land, mostly rice fields on either side of the lateral. The southernmost reach of Segment A lies within the Gray Lodge Wildlife Area consisting of wetlands and livestock grazing land. Permanent in-ground structures associated with the canal segment include metal valves set in upright concrete slabs or facings on both banks of the lateral to provide irrigation water to adjoining fields or other canals, concrete weirs, concrete slab farm bridges, culverts and related structures. The few construction dates found on the structures are 1958(?) and 1995. On most of the structures, the dates were either not found or illegible. Condition of the structures is variable; some are relatively new, built within the past 10 or 20 years. Boundaries of the resource include the canal and its two levees and drainage ditches.

**Rising River Lateral, Segment A.** This segment of the Rising River lateral is 1.45 miles long beginning at its confluence with Cassady lateral on the south side of West Liberty Road about two miles southwest of Gridley and ending at West Evans-Reiner Road on the north boundary of Gray Lodge Wildlife Area. Rising River lateral provides irrigation water to adjacent rice fields as well as to the wildlife area. The top width of the canal at its confluence with Cassady lateral is approximately 26 feet wide with moderately sloped banks. As the canal was filled with water, no bottom width or depth measurement was possible. On either side of the canal is a narrow earthen levee topped with a narrow one lane dirt road. The 1.45 mile segment includes two concrete weirs, four concrete structures with gate valves to irrigate fields on both sides of the canal, a concrete slab farm bridge for vehicular access to both sides of the canal, a wooden bridge with concrete abutments for ATV access to both sides of the canal and a two lane concrete slab bridge at West Evans-Reiner Road. Lateral boundaries of the canal (width) include the canal itself and the narrow levee on each side of the canal.

**S.R. 99 at Belding Lateral/Biggs Extension Canal Bridge #12-0004.** Two lane, concrete tee-beam bridge built in 1921, widened in 1950.

**Farris Road (north) at Belding Lateral Bridge #12C-0123.** Two lane concrete bridge built in 1985.

**Afton Road at Belding Lateral Crossing.** Two lane asphalt paved crossing with concrete sides. Steel guard rails with wooden posts bolted to concrete sides. No construction date. Crossings without a bridge number are considered "culverts" by Caltrans (Daryl Noble, personal communication 12-19-2011).

**Riley Road at Belding Lateral Crossing.** Two lane crossing with concrete sides. No construction date. No bridge number. Crossings without a bridge number are considered "culverts" by Caltrans.



**Farris Road (south) at Belding Lateral Crossing.** Two lane asphalt paved crossing with concrete sides. No bridge number. Crossings without a bridge number are considered “culverts” by Caltrans.

**Colusa Highway at Schwind Lateral Crossing.** Two lane asphalt paved crossing with concrete sides. No bridge number. Steel guard rails with wooden posts bolted to concrete sides. Crossings without a bridge number are considered “culverts” by Caltrans.

**Colusa Highway at Traynor Lateral Crossing.** Two lane asphalt paved crossing with concrete sides. Steel guard rails with wooden posts bolted to concrete sides. No bridge number. Crossings without a bridge number are considered “culverts” by Caltrans.

**West Liberty Road at Traynor Lateral Crossing.** Two lane asphalt paved crossing with concrete sides. Construction date of 1920 inscribed in concrete. No bridge number. Crossings without a bridge number are considered “culverts” by Caltrans.

**West Evans-Reimer Road at Rising River Lateral Crossing.** Two lane crossing with low concrete sides. No construction date noted. No bridge number. Crossings without a bridge number are considered “culverts” by Caltrans.

### **District(s)**

A district is a significant concentration of objects, sites, buildings and/or structures that are related historically by function, theme, plan or physical development (Townsend *et al.* 1993:9-11).

No previously recorded historic districts were identified by the Northeast Information Center either within or adjacent to the project APE. While the canal laterals located within the present APE are historically related, they are only a part of a much larger water control and conveyance system that would comprise a district. However, the sub-consultant’s scope of work did not allow for identification of the larger district of which the laterals identified in the present study could be related elements.

### **DETERMINATION OF ELIGIBILITY**

Generally, a historic site, object, building, structure or district is eligible for listing on the National Register of Historic Places if it is 50 years old or older, possesses integrity of location, design, setting, materials, workmanship, feeling and association, and meets at least one of the following criteria (National Park Service 1991a):

- A. Association with events that have made significant contributions to the broad patterns of United States history.
- B. Association with the lives of people important in United States history.

- C. Embodies the distinctive characteristics of a type, period, or method of construction; or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction;
- D. Has yielded or is likely to yield information important in prehistory or history.

National Register eligibility is equally dependent on the condition or integrity of the cultural resource. Integrity, in this sense, is the authenticity of the cultural resource's historic identity, meaning the survival of those physical characteristics that existed during the historic or prehistoric period from which it dates. The integrity of archaeological resources is generally based on the degree to which the remaining cultural deposit, artifacts or features can provide information important to our understanding of history or prehistory. Integrity is a composite of seven qualities, some of which are more germane than others, depending on the type of cultural resource under evaluation and the criterion of National Register eligibility for which the evaluation is made. The aspects of integrity are: location, design, setting, materials, workman-ship, feeling and association (National Park Service 1991a:4).

Under the California Environmental Quality Act (CEQA), historical resources are recognized as a part of the environment [Public Resource Code §21001(b), §21083.2, §21084(e), §21084.1]. A "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically or archaeologically significant, or important in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military or cultural annals of California (Public Resources Code §5021.1).

The California Register is an authoritative listing and guide for state and local agencies and private groups and citizens in identifying historical resources. This listing and guide indicates which resources should be protected from substantial adverse change. The California Register includes historical resources that are listed automatically by virtue of their appearance on or eligibility for certain other lists of important resources. The Register includes historical resources that have been nominated by application and listed after public hearing. Also included are historical resources listed as a result of an evaluation by specific criteria and procedures adopted by the State Historical Resource Commission.

The criteria used for determining the eligibility of a cultural resource for the California Register are similar to those developed by the National Park Service for the National Register of Historic Places. However, criteria of eligibility for the California Register were reworded to better reflect California history.

Any building, site, structure, object or historic district meeting one or more of the following criteria may be eligible for listing in the California Register:



1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
2. It is associated with the lives of persons important to local, California, or national history;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Eligibility for the California Register also depends on the integrity, or the survival of characteristics of the resource that existed during its period of significance. Eligible historic resources must not only meet one of the above criteria, but also they must retain enough of their historic character or appearance to convey the reasons for their importance, or retain the potential to yield significant scientific or historical information or specific data.

Like the process of evaluating historical resources for National Register eligibility, California Register evaluations include the consideration of seven aspects of integrity: location, design, setting, materials, workmanship, feeling and association. The evaluation of integrity must be judged with reference to the particular criterion or criteria under which a resource may be eligible for the California Register. However, the implementing regulations specifically caution that alterations of a historic resource over time may themselves have historical, cultural or architectural significance.

Most often, historical resources eligible for the California Register will be 50 years old or older. However, the new implementing regulations stipulate that "a resource less than fifty (50) years old may be considered for listing in the California Register if it can be demonstrated that sufficient time has passed to understand its historical importance." If an archaeological resource does not meet the definition of a "historical resource," it may meet the definition of a "unique archaeological resource" under Public Resource Code §21083.2. An archaeological resource is "unique" if it:

1. Is associated with an event or person of recognized significance in California or American history or recognized scientific importance in prehistory;
2. Can provide information that is of demonstrable public interest and is useful in addressing scientifically consequential and reasonable research questions;
3. Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;

4. Is at least 100 years old and possesses substantial stratigraphic integrity;
5. Involves important research questions that can be answered only with archaeological methods.

### **Isolated Artifacts**

**CA-BUT-326: Isolated Artifacts.** Archaeological site CA-BUT-326 was identified in the general vicinity of Alternatives 2 and 3 (potential route of a new canal between Sheppard lateral and Cassady lateral, and the Cassady alternative). The “site” consisted of a general area in which a surface collection of artifacts was made by the landowner. The 1969 record form by archaeologist Peter Jensen did not identify any cultural deposit associated with the location of the finds. Examination of the same area during the present study was also negative. No artifacts or evidence of any cultural deposit was identified. Because no evidence of the site remains at the location of the prior finds, the site cannot be evaluated for National Register of Historic Places or California Register of Historical Resources eligibility. The previous finds at this location do not appear to meet the definition of a “unique archaeological resource” under PRC §21083.2.

**Hughbanks Isolated Artifacts.** Three isolated artifacts were identified by the landowner in a portion of a residential lot adjacent to Proposed Staging Area (PSA-) 3. As no additional artifacts or cultural deposit was identified, the find location cannot be evaluated for National Register or California Register eligibility. The previous finds at this location do not appear to meet the definition of a “unique archaeological resource” under PRC §21083.2.

### **Structures**

**Belding Lateral, Segment A.** The Belding lateral segment is a 9.94 mile earthen canal with 56 associated structures or sets of structures including concrete weirs, syphons, cattle guards, bridges and gate valves to control irrigation water to adjacent fields. Most of the structures associated with the canal were constructed entirely or at least partly with concrete. However, few construction dates scratched into the concrete survive. The poor survival rate is due more to the fact that the markings were only faintly inscribed to begin with—rather than due to their antiquity. Archival resources consulted yielded little information on Belding and other laterals fed by Belding. The earliest construction date (1908) is embossed on the original portion of the concrete culvert under the Union Pacific Railroad tracks about one mile north of Biggs. Within a mile of the culvert on Belding lateral is a steel bridge put up in 1974, a concrete weir constructed in 1968 with later alterations, and the heavily eroded and partially collapsed Razorback Syphon at the Dietzler Ditch crossing. Across the entire lateral, the Biggs-West Gridley Water District replaced wooden bridges with concrete slab bridges during the 1950s and 1960s. Other structures were added or replaced in 1955, 1958 and 1969, according to the few remaining dates inscribed in the concrete structures.



The most likely criterion of National Register eligibility for Belding lateral would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. For example, an analysis of 22 water systems in the California Office of Historic Preservation's statewide inventory as of mid-1995 showed that 21 were eligible under Criterion A (JRP Historical Consulting Services and California Department of Transportation 2000:92). However, Belding lateral was only one of many laterals that conveyed water for the growth of irrigation agriculture in southern Butte County and archival sources lack detail on many of these laterals including Belding. As National Register Bulletin 15 cautions: "Mere association with historic events or trends is not enough, in and of itself, to qualify under Criterion A: the property's specific association must be considered important as well" (National Park Service 1991a:12).

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. Generally this criterion applies to properties that illustrate rather than commemorate a person's important achievements. The importance of the individual must be established, the length of time and nature of the association with the property must be established and other properties linked to the individual(s) must be considered. With respect to Belding lateral, no scholarly judgement can be made to support eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective. In addition, significant alterations have been made to Belding lateral over the years by different contractors that, if taken in total, no specific individual can be credited with the current configuration of the lateral.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering in the case of canals and canal structures. Belding lateral is not the earliest, nor a distinctive representative of canal design or engineering in local, California or national history. For example, there does not appear to be any significant difference in design, materials and construction of the older concrete structures and the newer fixtures in Belding lateral. The most significant change over the years appears to have been the replacement of wooden bridges with concrete slab bridges spanning the lateral. The use of reinforced concrete was introduced to the United States from Europe in the mid-1870s. Its first use in bridge work in the country was in 1889. The earliest date on the concrete structures associated with this segment of Belding lateral is 1908. Therefore, the concrete structures associated with Belding lateral and built by various contractors have only a weak association with similar structures during the rise of reinforced concrete construction in California. In fact, concrete structures are more numerous in California than they are in other states (California Department of Transportation 1990:71).

Criterion D applies to having yielded or the likelihood of yielding information important in history. A property is eligible for the National Register under this criterion if it has been used as a source of data and contains more yet to be retrieved data—and the information must be considered important. According to the JRP and Caltrans study in 2000, a property eligible under Criterion D must be or must have been the principal source of the important information (JRP Historical Consulting Services and California Department of



Transportation 2000:94). Such is not the case with Belding lateral. In fact, current designs are based on older designs of the canal itself, as well as its associated structures.

It is the authors' opinion that Belding lateral is not eligible for the National Register under any criterion of eligibility. For the same reasons, Belding lateral is not eligible for the California Register under any criterion of eligibility.

**Schwind Lateral, Segment A.** This segment of Schwind lateral, an earthen canal, conveys irrigation water from Belding lateral. The canal segment's structures include five concrete weirs, one weir and integrated concrete slab bridge, the two lane concrete Colusa Highway at Schwind lateral crossing (culvert), a concrete farm bridge, 17 gate valves in concrete facings built into the sides of the canal, one concrete flume crossing over an unnamed east-west lateral, a concrete pump station and a concrete culvert with earth fill. Construction dates on the concrete structures are 1963(?), 1952, 1956, 1985 and 1998.

Although the lateral is at least 50 years old, its structure as an earthen canal and its associations (concrete weirs, concrete slab bridges and other in-canal structures) are not fundamentally different from those of Belding lateral. In fact, the two laterals are very similar in their design and associations. For many of the same reasons, Segment A of Schwind lateral is not eligible for the National Register.

The most likely criterion of National Register eligibility for Schwind lateral would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, Schwind lateral was only one of many laterals that conveyed water for the growth of irrigation agriculture in southern Butte County and archival sources lack details on construction and alterations over the years. As National Register Bulletin 15 cautions: "Mere association with historic events or trends is not enough, in and of itself, to qualify under Criterion A: the property's specific association must be considered important as well" (National Park Service 1991a:12).

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made for eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective. In addition, significant alterations have been made to Schwind lateral over the years by different contractors so that no specific individual can be credited with the current configuration of the lateral.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering in the case of canals and canal structures. Schwind lateral is not the earliest, nor a distinctive representative of canal design or engineering in local, California or national history. For example, with respect to the concrete weirs and other features, there is only a weak association with similar structures during the rise of reinforced concrete construction in California.

Criterion D applies to having yielded or the likelihood of yielding information important in history. According to the JRP/Caltrans study, a property eligible under Criterion D must



be or must have been the principal source of the important information (JRP Historical Consulting Services and California Department of Transportation 2000:94). Such is not the case with Schwind lateral. In fact, current designs are based on the older design of the canal, as well as its associated structures.

It is the sub-consultant's opinion that Schwind lateral is not eligible for the National Register under any criterion of eligibility. For the same reasons, Schwind lateral is not eligible for the California Register under any criterion of eligibility.

**Traynor Lateral, Segment A.** This segment of Traynor lateral originates at its confluence with Belding lateral approximately two miles southwest of Biggs and extends for a distance of 3.33 miles. Traynor lateral was constructed prior to 1952 as observed on historic maps. Again, the most likely criterion of National Register eligibility for the lateral would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, Traynor lateral was only one of many laterals that conveyed water for the growth of irrigation agriculture in southern Butte County and archival sources lack details on construction and alterations over the years.

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made for eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective. In addition, significant alterations have been made to Traynor lateral over the years by different contractors so that no specific individual can be credited with the current configuration of the lateral.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering in the case of canals and canal structures. Traynor lateral is not the earliest, nor a distinctive representative of canal design or engineering in local, California or national history. For example, with respect to the concrete weirs and other features, there is only a weak association with similar structures during the rise of reinforced concrete construction in California.

Criterion D applies to having been the principal source, or likely to be the principal source of information important in history. Such is not the case with this segment of Traynor lateral. In fact, current designs are based on older designs represented by Traynor and its associated structures.

Therefore, it is the sub-consultant's opinion that Traynor lateral, Segment A is not eligible for the National Register under any criterion. For the same reasons, Traynor lateral is not eligible for the California Register under any criterion of eligibility.

**Gerst Lateral, Segment A.** This segment of Gerst lateral is an earthen canal approximately 1.61 miles long. Gerst lateral draws water from Traynor lateral approximately one mile west of Gridley and supplies water to Sheppard lateral.

Construction dates marked in the concrete of the various structures are: 1959(?), 1971, 1994 and 1995.

The most likely criterion of National Register eligibility for the lateral would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, Gerst lateral was only one of many laterals that conveyed water for the growth of irrigation agriculture in southern Butte County and archival sources lack details on construction and alterations over the years.

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made to support eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective. In addition, significant alterations have been made to Gerst lateral over the years by different contractors so that no specific individual can be credited with the current configuration of the lateral.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering in the case of canals and canal structures. Gerst lateral is not the earliest, nor a distinctive representative of canal design or engineering in local, California or national history. For example, with respect to the concrete weirs and other features, there is only a weak association with similar structures during the rise of reinforced concrete construction in California.

Criterion D applies to having been the principal source, or likely to be the principal source of information important in history. Such is not the case with this segment of Gerst lateral. In fact, current designs are based on earlier designs represented by Gerst lateral and its associated structures.

Therefore, it is the sub-consultant's opinion that Gerst lateral, Segment A is not eligible for the National Register under any criterion. For the same reasons, Gerst lateral is not eligible for the California Register under any criterion of eligibility.

**Sheppard Lateral.** This lateral is a relatively short (1.55 miles), narrow earthen canal that draws its water from the Gerst lateral. In addition to gate valves controlling water to adjacent rice fields, Sheppard lateral has four earth-filled culverts and a concrete slab farm bridge to provide access to fields on either side of the canal, as well as to opposing levee roads. At the west end of the lateral, water is directed into a steel pipe ending in a concrete box structure adjacent to a north-south ditch. Although no construction dates were found on any of the canal's concrete structures, Sheppard lateral is illustrated on a 1954 USGS topographic map.

The most likely criterion of National Register eligibility for the lateral would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, Sheppard lateral was only one of many laterals that conveyed water for the growth of irrigation agriculture in southern Butte County and archival sources lack details on construction and alterations over the years.



Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made to support eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective. In addition, significant alterations have been made to Sheppard lateral over the years by different contractors so that no specific individual can be credited with the current configuration of the lateral.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering in the case of canals and canal structures. Sheppard lateral is not the earliest, nor a distinctive representative of canal design or engineering in local, California or national history. For example, with respect to the concrete weirs and other features, there is only a weak association with similar structures during the rise of reinforced concrete construction in California.

Criterion D applies to having been the principal source, or likely to be the principal source of information important in history. Such is not the case with this segment of Sheppard lateral. In fact, current designs are based on earlier designs as represented by Sheppard lateral and its associated structures.

Therefore, it is the sub-consultant's opinion that Sheppard lateral, Segment A is not eligible for the National Register under any criterion. For the same reasons, Sheppard lateral is not eligible for the California Register under any criterion of eligibility.

**Cassady Lateral, Segment A.** Cassady lateral is an earthen canal approximately 26 feet wide across the top at its widest point within the 3.1 mile length of Segment A. The canal takes water from Traynor lateral and delivers it to the Gray Lodge Wildlife Area, as well as to agricultural fields along the way. Permanent in-ground structures associated with the canal segment include metal valves set in upright concrete slabs or facings on both banks of the lateral to provide irrigation water to adjoining fields or other canals, concrete weirs, concrete slab farm bridges, culverts and related structures. Cassady lateral is illustrated on 1952 and 1954 maps from Traynor lateral to the north boundary of the Gray Lodge Wildlife Area. However, the southernmost three quarters of a mile of Segment A, which is located on the wildlife refuge was probably constructed on or after 1967.

The most likely criterion of National Register eligibility for that portion of the lateral 50 years old or older would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, Cassady lateral was only one of many laterals that conveyed water for the growth of irrigation agriculture in southern Butte County and archival sources lack details on construction and alterations over the years.

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made to support eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective. In addition, significant alterations



have been made to Cassady lateral over the years by different contractors so that no specific individual can be credited with the current configuration of the lateral.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering in the case of canals and canal structures. Cassady lateral is not the earliest, in fact a portion of the lateral is probably less than 50 years old, nor is Cassady lateral, Segment A, a distinctive representative of canal design or engineering in local, California or national history. For example, with respect to the concrete weirs and other features, there is only a weak association with similar structures during the rise of reinforced concrete construction in California.

Criterion D applies to having been the principal source, or likely to be the principal source of information important in history. Such is not the case with this segment of Cassady lateral. In fact, current designs are based on older designs represented by the canal itself and its associated structures.

Therefore, it is the sub-consultant's opinion that Cassady lateral, Segment A is not eligible for the National Register under any criterion. For the same reasons, Cassady lateral is not eligible for the California Register under any criterion of eligibility.

**Rising River Lateral, Segment A.** This segment of the Rising River lateral is 1.45 miles long beginning at its confluence with Cassady lateral about two miles southwest of Gridley and ending at the north boundary of Gray Lodge Wildlife Area. Rising River lateral also provides irrigation water to adjacent rice fields. The 1.45 mile segment includes two concrete weirs, four concrete structures with gate valves to irrigate fields on both sides of the canal, a concrete slab farm bridge for vehicular access to both sides of the canal, a wooden bridge with concrete abutments for ATV access to both sides of the canal and a two lane concrete culvert at West Evans-Reimer Road. Rising River Segment A is illustrated on 1952 and 1954 USGS topographic maps.

The most likely criterion of National Register eligibility for the lateral would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, Rising River lateral was only one of many laterals that conveyed water for the growth of irrigation agriculture in southern Butte County and archival sources lack details on construction and alterations over the years.

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made to support eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective. In addition, significant alterations have been made to Rising River lateral over the years by different contractors so that no specific individual can be credited with the current configuration of the lateral.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering in the case of canals and canal structures. Rising River lateral is not the earliest, nor a distinctive representative of canal



design or engineering in local, California or national history. For example, with respect to the concrete weirs and other features, there is only a weak association with similar structures during the rise of reinforced concrete construction in California.

Criterion D applies to having been the principal source, or likely to be the principal source of information important in history. Such is not the case with this segment of Rising River lateral. In fact, current designs are based on older designs as represented by the canal itself and its associated structures.

Therefore, it is the sub-consultant's opinion that Rising River lateral, Segment A is not eligible for the National Register under any criterion. For the same reasons, Rising River lateral is not eligible for the California Register under any criterion of eligibility.

**S.R. 99 at Belding Lateral Bridge #12-0004.** Determined not eligible for the National Register in Caltrans bridge inventory.

**Farris Road (north) at Belding Lateral Bridge #12C-0123.** Determined not eligible for the National Register in Caltrans bridge inventory.

**Afton Road at Belding Lateral Crossing.** No bridge number available. No listing on Caltrans state or local bridge inventory. Assuming that the crossing is 50 years old or older, the most likely criterion for National Register eligibility would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, the concrete canal crossing (culvert) is only one of many in southern Butte County and archival sources lack details on construction and alterations over the years.

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made to support eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering of canal structures. The Afton Road at Belding lateral is not the earliest, nor a distinctive representative of canal structures with respect to design or engineering in local, California or national history. There is only a weak association with similar structures during the rise of reinforced concrete construction in California.

Criterion D applies to having been the principal source, or likely to be the principal source of information important in history. Such is not the case with this canal crossing. In fact, current designs are based on older designs as represented by the structure itself.

Therefore, it is the sub-consultant's opinion that the culvert structure is not eligible for the National Register under any criterion. For the same reasons, the culvert structure is not eligible for the California Register under any criterion of eligibility.

**Riley Road at Belding Lateral Crossing.** No bridge number available. No listing on Caltrans state or local bridge inventory. Assuming that the crossing is 50 years old or older, the most likely criterion for National Register eligibility would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, the concrete canal crossing (culvert) is only one of many in southern Butte County and archival sources lack details on construction. No alterations are apparent.

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made to support eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering of canal structures. The Riley Road at Belding lateral is not the earliest, nor a distinctive representative of canal structures with respect to design or engineering in local, California or national history. There is only a weak association with similar structures during the rise of reinforced concrete construction in California.

Criterion D applies to having been the principal source, or likely to be the principal source of information important in history. Such is not the case with this canal crossing. In fact, current designs are based on older designs as represented by the structure itself.

Therefore, it is the sub-consultant's opinion that the culvert structure is not eligible for the National Register under any criterion. For the same reasons, the culvert structure is not eligible for the California Register under any criterion of eligibility.

**Farris Road (south) at Belding Lateral Crossing.** No bridge number available. No listing on Caltrans state or local bridge inventory. Assuming that the crossing is 50 years old or older, the most likely criterion for National Register eligibility would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, the concrete canal crossing (culvert) is only one of many in southern Butte County and archival sources lack details on construction. No alterations are apparent.

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made to support eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering of canal structures. The Farris Road (south) at Belding lateral is not the earliest, nor a distinctive representative of canal structures with respect to design or engineering in local, California or national history.



There is only a weak association with similar structures during the rise of reinforced concrete construction in California.

Criterion D applies to having been the principal source, or likely to be the principal source of information important in history. Such is not the case with this canal crossing. In fact, current designs are based on older designs as represented by the structure itself.

Therefore, it is the sub-consultant's opinion that the culvert structure is not eligible for the National Register under any criterion. For the same reasons, the culvert structure is not eligible for the California Register under any criterion of eligibility.

**Colusa Highway at Schwind Lateral Crossing.** No bridge number available. No listing on Caltrans state or local bridge inventory. Assuming that the crossing is 50 years old or older, the most likely criterion for National Register eligibility would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, the concrete canal crossing (culvert) is only one of many in southern Butte County and archival sources lack details on construction. No alterations are apparent.

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made to support eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering of canal structures. The Colusa Highway at Schwind lateral is not the earliest, nor a distinctive representative of canal structures with respect to design or engineering in local, California or national history. There is only a weak association with similar structures during the rise of reinforced concrete construction in California.

Criterion D applies to having been the principal source, or likely to be the principal source of information important in history. Such is not the case with this canal crossing. In fact, current designs are based on older designs as represented by the structure itself.

Therefore, it is the sub-consultant's opinion that the culvert structure is not eligible for the National Register under any criterion. For the same reasons, the culvert structure is not eligible for the California Register under any criterion of eligibility.

**Colusa Highway at Traynor Lateral Crossing.** No bridge number available. No listing on Caltrans state or local bridge inventory. Assuming that the crossing is 50 years old or older, the most likely criterion for National Register eligibility would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, the concrete canal crossing (culvert) is only one of many in southern Butte County and archival sources lack details on construction. No alterations are apparent.

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made to support eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective.

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Criterion D applies to having been the principal source, or likely to be the principal source of information important in history. Such is not the case with this canal crossing. In fact, current designs are based on older designs as represented by the structure itself.

Therefore, it is the sub-consultant's opinion that the culvert structure is not eligible for the National Register under any criterion. For the same reasons, the culvert structure is not eligible for the California Register under any criterion of eligibility.

**West Liberty Road at Traynor Lateral Crossing.** No bridge number available. No listing on Caltrans state or local bridge inventory. A faintly inscribed date of 1920 was identified on the concrete siding. Assuming a 1920 construction date, the most likely criterion for National Register eligibility would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, the concrete canal crossing (culvert) is only one of many in southern Butte County and archival sources lack details on the construction of this particular culvert. No alterations are apparent.

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made to support eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering of canal structures. The West Liberty Road at Traynor lateral is not the earliest, nor a distinctive representative of canal structures with respect to design or engineering in local, California or national history. There is only a weak association with similar structures during the rise of reinforced concrete construction in California.

Criterion D applies to having been the principal source, or likely to be the principal source of information important in history. Such is not the case with this canal crossing. In fact, current designs are based on older designs as represented by the structure itself.



Therefore, it is the sub-consultant's opinion that the culvert structure is not eligible for the National Register under any criterion. For the same reasons, the culvert structure is not eligible for the California Register under any criterion of eligibility.

**West Evans-Reimer Road at Rising River Lateral Crossing.** No bridge number available. No listing on Caltrans state or local bridge inventory. Assuming that the structure is 50 years old or older, the most likely criterion for National Register eligibility would be Criterion A: association with events that have made a significant contribution to the broad patterns of our history. However, the concrete canal crossing (culvert) is only one of many in southern Butte County and archival sources lack details on the construction of this particular culvert. No alterations are apparent.

Under Criterion B, eligibility for the National Register depends on an association with the life or lives of person(s) significant in history. However, no scholarly judgement can be made to support eligibility under Criterion B, as our research has not yielded enough specific information to achieve sufficient perspective.

Criterion C applies to properties that are significant for their physical design or construction including architecture and engineering of canal structures. The West Evans-Reimer Road at Rising River lateral is not the earliest, nor a distinctive representative of canal structures with respect to design or engineering in local, California or national history. There is only a weak association with similar structures during the rise of reinforced concrete construction in California.

Criterion D applies to having been the principal source, or likely to be the principal source of information important in history. Such is not the case with this canal crossing. In fact, current designs are based on older designs as represented by the structure itself.

Therefore, it is the sub-consultant's opinion that the culvert structure is not eligible for the National Register under any criterion. For the same reasons, the culvert structure is not eligible for the California Register under any criterion of eligibility.

### **District(s)**

A district is a significant concentration of objects, sites, buildings and/or structures that are related historically by function, theme, plan or physical development (Townsend *et al.* 1993:9-11).

No previously recorded historic districts were identified by the Northeast Information Center either within or adjacent to the project APE. While the canal laterals located within the present APE are historically related, they are only a part of a much larger water control and conveyance system that would comprise a district. As such a district has not yet been formally identified and evaluated, the sub-consultant cannot evaluate the eligibility of the canal laterals identified in the current APE as contributing or non-contributing resources