

wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

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

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

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.
- During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.
- Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

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

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

Candidate Species

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

Species of Concern

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

Wetlands

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

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be April 06, 2012.

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Portrait
Cressey, Stevinson, Turlock & Arean Quadrangles

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1 <i>Ambystoma californiense</i> California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	SC
2 <i>Anniella pulchra pulchra</i> silvery legless lizard	ARACC01012			G3G4T3T4 Q	S3	SC
3 <i>Ardea alba</i> great egret	ABNGA04040			G5	S4	
4 <i>Ardea herodias</i> great blue heron	ABNGA04010			G5	S4	
5 <i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	PDFAB0F8R1			G2T2	S2	1B.2
6 <i>Atriplex cordulata</i> heartscale	PDCHE040B0			G2?	S2.2?	1B.2
7 <i>Atriplex depressa</i> brittlescale	PDCHE042L0			G2Q	S2.2	1B.2
8 <i>Atriplex joaquiniana</i> San Joaquin spearscale	PDCHE041F3			G2	S2	1B.2
9 <i>Atriplex minuscula</i> lesser saltscale	PDCHE042M0			G1	S1.1	1B.1
10 <i>Atriplex persistens</i> vernal pool smallscale	PDCHE042P0			G2	S2.2	1B.2
11 <i>Branchinecta conservatio</i> Conservancy fairy shrimp	ICBRA03010	Endangered		G1	S1	
12 <i>Branchinecta longiantenna</i> longhorn fairy shrimp	ICBRA03020	Endangered		G1	S1	
13 <i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3	
14 <i>Branchinecta mesovallensis</i> midvalley fairy shrimp	ICBRA03150			G2	S2	
15 <i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070		Threatened	G5	S2	
16 <i>Castilleja campestris</i> ssp. <i>succulenta</i> succulent owl's-clover	PDSCR0D3Z1	Threatened	Endangered	G4?T2	S2.2	1B.2
17 <i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2	
18 <i>Dipodomys heermanni dixonii</i> Merced kangaroo rat	AMAFD03062			G3G4T2T3	S2S3	
19 <i>Emys marmorata</i> western pond turtle	ARAAD02030			G3G4	S3	SC
20 <i>Eryngium racemosum</i> Delta button-celery	PDAP10Z0S0		Endangered	G2Q	S2.1	1B.1
21 <i>Lasiurus cinereus</i> hoary bat	AMACC05030			G5	S4?	
22 <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	PDAST5L0A1			G4T3	S2.1	1B.1
23 <i>Lepidium latipes</i> var. <i>heckardii</i> Heckard's pepper-grass	PDBRA1M0K1			G4T1	S1.2	1B.2

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Portrait
Cressey, Stevinson, Turlock & Areal Quadrangles

Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
24 <i>Lepidurus packardii</i> vernal pool tadpole shrimp	ICBRA10010	Endangered		G3	S2S3	
25 <i>Linderiella occidentalis</i> California linderiella	ICBRA06010			G3	S2S3	
26 <i>Monardella leucocephala</i> Merced monardella	PDLAM180C0			GH	SH	1A
27 <i>Mylopharodon conocephalus</i> hardhead	AFCJB25010			G3	S3	SC
28 <i>Navarretia prostrata</i> prostrate vernal pool navarretia	PDPLM0C0Q0			G2	S2	1B.1
29 <i>Neostapfia colusana</i> Colusa grass	PMPOA4C010	Threatened	Endangered	G2	S2	1B.1
30 <i>Northern Claypan Vernal Pool</i>	CTT44120CA			G1	S1.1	
31 <i>Northern Hardpan Vernal Pool</i>	CTT44110CA			G3	S3.1	
32 <i>Orcuttia inaequalis</i> San Joaquin Valley Orcutt grass	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
33 <i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100			G4G5	S3S4	SC
34 <i>Spea hammondi</i> western spadefoot	AAABF02020			G3	S3	SC
35 <i>Taxidea taxus</i> American badger	AMAJF04010			G5	S4	SC
36 <i>Valley Sacaton Grassland</i>	CTT42120CA			G1	S1.1	
37 <i>Vulpes macrotis mutica</i> San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2T3	S2S3	

Appendix B

Photographs



McConnell Lateral, where it is piped under the Livingston Canal, looking north; 12/01/11.
The start point of the McConnell Lateral Pipeline is the dirt road in the foreground.



McConnell Lateral Pipeline alignment, parallel to the Livingston Canal, looking southeast; 12/01/11.



Blue elderberry shrub on the west side of the Livingston Canal, looking northwest; 12/01/11.
The start point of the McConnell Lateral Pipeline is the dirt road in the foreground.



Point where McConnell Lateral Pipeline will spill into the Hammatt Lateral, looking southeast; 12/01/11.



Arena Canal, just south of the Bell Road Siphon looking northeast; 12/01/11.



Large trees with stick nests adjacent to the Arena Canal near Bell Rd., looking northeast; 12/01/11.



Large trees adjacent to the concrete-lined section of the Arena Canal, looking southwest;12/01/11.



South end of the Arena Canal, just north of Sunset Drive, looking north;12/01/11.



Large trees adjacent to the Howard Lateral, looking north towards Sunset Drive;12/01/11.



Howard Lateral, just north of Atwater Jordan Road, looking southeast;12/01/11.

Appendix B

Cultural Records Search

By

Central California Information Center



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NOV 18 2011

Fremming, Parson &
Pecchenino

CENTRAL CALIFORNIA INFORMATION CENTER

California Historical Resources Information System

Department of Anthropology – California State University, Stanislaus

One University Circle, Turlock, California 95382

(209) 667-3307 - FAX (209) 667-3324

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

Date: November 15, 2011

CCIC File #: 8091 I

Rich Barnes
Fremming, Parson & Pecchenino
Consulting Civil Engineers
2816 Park Avenue
Merced, CA 95348-3375

Re: Project: "Arena Canal/Howard Lateral and McConnell Lateral Water Conservation Project"—installation of a pipeline from McConnell Lateral to Hammatt Lateral; and Arena Canal and Howard Lateral Rehabilitation (relining and 3 siphons).

Dear Mr. Barnes,

We have conducted a records search as per your request for the above-referenced project area located on the Cressey, Stevinson, and Arena USGS 7.5-minute quadrangle maps in Merced County.

Search of our files includes review of our maps for the specific project area and the immediate vicinity of the project area, and review of the National Register of Historic Places, the California Register of Historical Resources, the *California Inventory of Historic Resources* (1976), the *California Historical Landmarks* (1990), and the California Points of Historical Interest listing (May 1992 and updates), the Directory of Properties in the Historic Property Data File (HPDF) and the Archaeological Determinations of Eligibility (ADOE) (Office of Historic Preservation current computer lists dated 08-15-2011 and 08-09-2011, respectively), the CALTRANS State and Local Bridge Survey (1989 and updates), the *Survey of Surveys* (1989), GLO Plats, and other pertinent historic data available at the CCIC for each specific county.

The following pages detail the results of the records search:

McConnell Lateral Pipeline

Prehistoric or historic resources within the project area:

Prehistoric or historic archaeological resources: None have been reported to the Information Center.

Historic properties:

- The McConnell Lateral Canal has not yet been formally recorded or evaluated as a potential cultural resource. No records, evaluations, or Determinations of (NRHP or CRHR) Eligibility are on file at the CCIC.
- Hammatt Lateral Canal also has not yet been formally recorded or evaluated as a potential cultural resource. No records, evaluations, or Determinations of (NRHP or CRHR) Eligibility are on file at the CCIC.
- The Livingston Canal appears to be at or directly adjacent to the northern tip of the project area, and directly adjacent to the southern tip. It has been recorded by JRP Historical Consulting for the Almond Road Bridge Project (Byrd and Larson 9/1998 Primary Record, file #P-24-000552). The canal was formally evaluated at 3 points—at Bird Road, Shaffer Road, and Almond Road. It is not clear from the record which of the two crossings at Bird Road is being referenced (it crosses or adjoins Bird Road in two places); one of the possible locations is at the southern tip of the proposed pipeline. The OHP computer printout (HPDF for Merced County, p. 5 and 34) shows that OHP determined that it was not eligible for the NRHP, but it was not evaluated for the CRHR.
- In 10/2010, Michael Brandman Associates submitted to us a record for the Merced Irrigation District, as a potential historic district, appearing to be eligible for the NRHP. This record is CCIC Primary file #P-24-001909. MBA prepared the record in tandem with records and evaluations of the McCoy and Garibaldi Laterals, to provide a context for them within the MID system. At a later point, MBA wished to have the MID record taken out of the CCIC inventory, but the CCIC has retained it for the historic information it contains. It is not likely that it was presented to OHP for an NRHP-eligibility review.

More recently, we have received an update to the MID P-24-001909 file, from another cultural resource management professional, S. Loftus; she questions MBA's statements regarding the integrity of the MID as a whole, especially since the system as a whole was not inventoried or surveyed. Other criticisms are made as well. She gives the MID status code 7N1 (Needs to be Reevaluated).

It should be pointed out that the CCIC is not aware of any current efforts to have the MID formally recognized or listed as an historic district on the state level. OHP has not made any Determination of Eligibility based on the two records mentioned above.

Prehistoric or historic resources within the immediate vicinity of the project area:

None have been reported to the Information Center.

Resources that are known to have value to local cultural groups:

None have been formally reported to the Information Center.

Previous investigations within the project area:

The following survey may have included the project area, or it may have been directly adjacent:

CCIC Report #	Author/Date
ME-634	Napton (1982)
<i>Cultural Resource Reconnaissance of the Livingston Industrial Wastewater Treatment Facilities in Merced County, California.</i>	

The following surveys may have included the southern tip of the project area, or may have been directly adjacent:

ME-2972	Napton (1997)
<i>Cultural Resource Investigations of the Proposed Merced Irrigation District, Atwater-Merced 115-kV Loop, Merced County, California.</i>	

ME-3406	Byrd (1998)
<i>Historic Resource Evaluation Report-Livingston Canal, Merced Irrigation District, Merced County, California</i>	

The project area falls within the following other study on file at the CCIC (not a field survey):

ME-3631	Quad-Knopf (1999)
<i>1999 General Plan, Livingston, California</i> (Cultural Resources section on file at CCIC).	

Previous investigations within the immediate vicinity of the project area:

No others have been reported to the Information Center.

Howard Lateral/Arena Canal Rehabilitation, Relining, and 3 siphons*

*it is not clear from your letter and maps whether the siphons referred to are existing siphons or proposed new siphons (or existing siphons that are going to be modified).

Prehistoric or historic resources within the project area:

Prehistoric or historic archaeological resources: None have been reported to the Information Center.

Historic properties:

- The Howard Lateral Canal has not yet been formally recorded or evaluated as a potential cultural resource. No records, evaluations, or Determinations of (NRHP or CRHR) Eligibility are on file at the CCIC.
- The Arena Canal has not been recorded or evaluated at this location, but it has been documented further to the north/north east (file # P-24-000093; 1994 record by JRP, and 10/2000 record by Caltrans). Both recordings consider this canal ineligible for the NRHP. OHP has not made a determination of eligibility, that we are aware of.
- The discussion of the MID (records filed as P-24-001909) also apply here as well.

Prehistoric or historic resources within the immediate vicinity of the project area:

None have been reported to the Information Center.

Resources that are known to have value to local cultural groups:

None have been formally reported to the Information Center.

Previous investigations within the project area:

None have been reported to the Information Center.

Previous investigations within the immediate vicinity of the project area:

None have been reported to the Information Center.

Recommendations/Comments:

Based on existing data in our files:

- The McConnell Lateral Pipeline area has possibly been heavily disturbed by development at the wastewater treatment facility; but as it lies fairly close to the former southern terraces of the Merced River, there may be a low-to-moderate sensitivity for the presence of remnants of prehistoric occupation sites and artifacts, under the surface. On the surface, we have McConnell Lateral and Hammatt Lateral, historic features over 45 years old that have not yet been formally documented and evaluated as potential cultural resources.

For this project area, we recommend archaeological monitoring of excavation for the pipeline, and formal documentation and evaluation of the McConnell and Hammatt Laterals, if they will be impacted.

- The Howard Lateral/Arena Canal Rehabilitation/Siphon areas: We are lacking in data regarding the presence (or lack thereof) of natural water sources in prehistoric times, in this area. It is difficult to assess sensitivity for prehistoric resources here. As to historic-era resources, there may be a slight sensitivity for historic features dating to the 1940's at the Bell Road siphon area, on and under the surface. The Hammatt Lateral itself has not been formally documented and evaluated, and the Arena Canal, in this particular area, also has not.

For this project area, we recommend vigilance during any ground disturbance (excavation)—should there be any—for the siphons and the canal rehabilitation, i.e., noting the presence of artifacts, historic refuse, foundations, etc. (please see advisories below). We also recommend formal documentation and evaluation of the canals.

The Statewide Referral List for Historical Resources Consultants is posted for your use on the internet at <http://chrisinfo.org>

Please be advised that a historical resource is defined as a building, structure, object, prehistoric or historic archaeological site, or district possessing physical evidence of human activities over 45 years old. There may be unidentified features involved in your project that are 45 years or older and considered as historical resources requiring further study and evaluation by a qualified professional of the appropriate discipline.

We advise you that in accordance with Federal and State law, if any historical resources are discovered during project-related activities, all work is to stop and the lead agency and a qualified professional are to be consulted to determine the importance and appropriate treatment of the find. If Native American remains are found the County Coroner and the Native American Heritage Commission, Sacramento (916-653-4082) are to be notified immediately for recommended procedures.

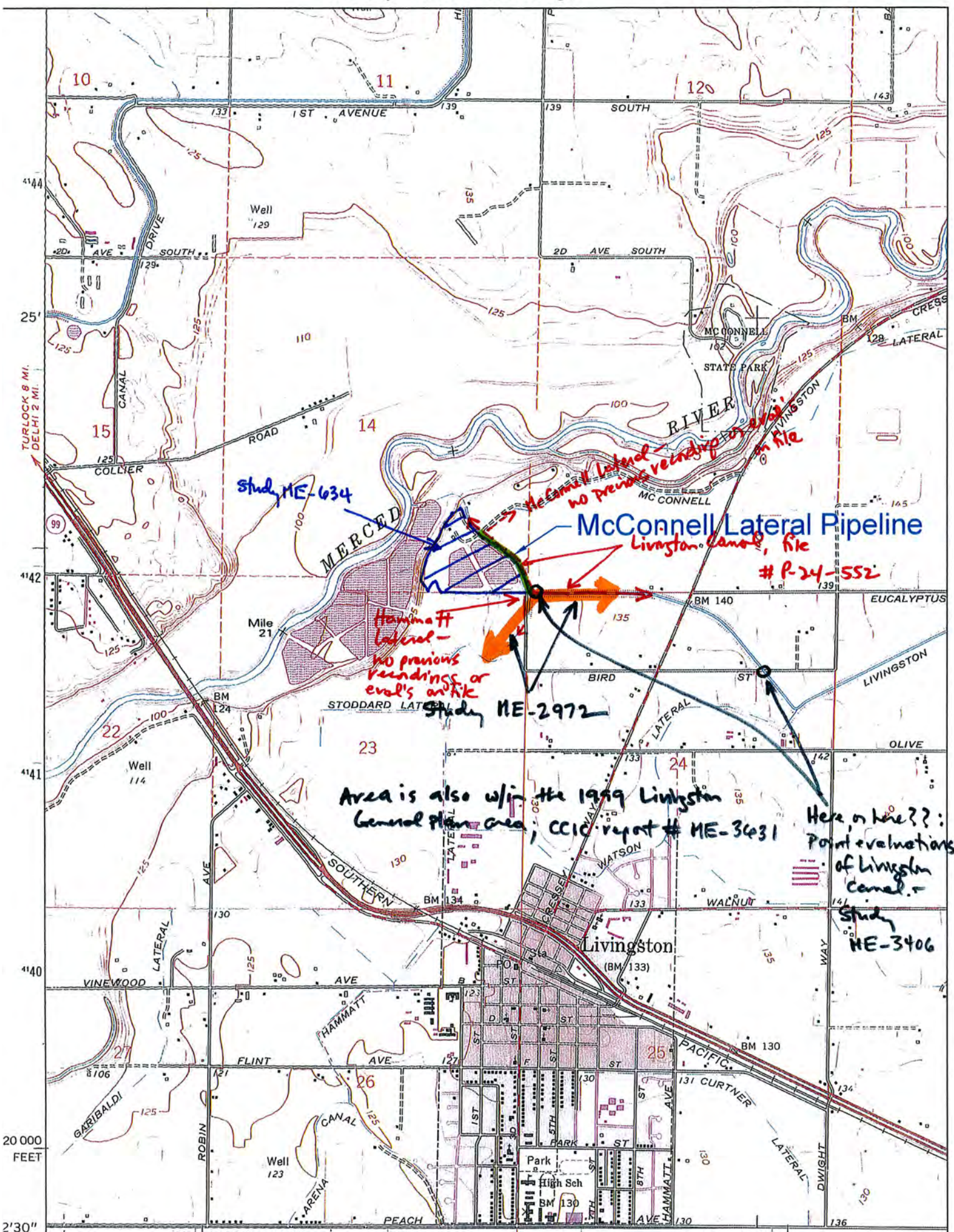
We further advise you that if you retain the services of a historical resources consultant, the firm or individual you retain is responsible for submitting any report of findings prepared for you to the Central California Information Center, including one copy of the narrative report and two copies of any records that document historical resources found as a result of field work. If the consultant wishes to obtain copies of materials not included with this records search reply, additional copy or records search fees may apply.

We thank you for contacting this office regarding historical resource preservation. Please let us know when we can be of further service. Billing is attached, payable within 60 days of receipt of the invoice.

Sincerely,

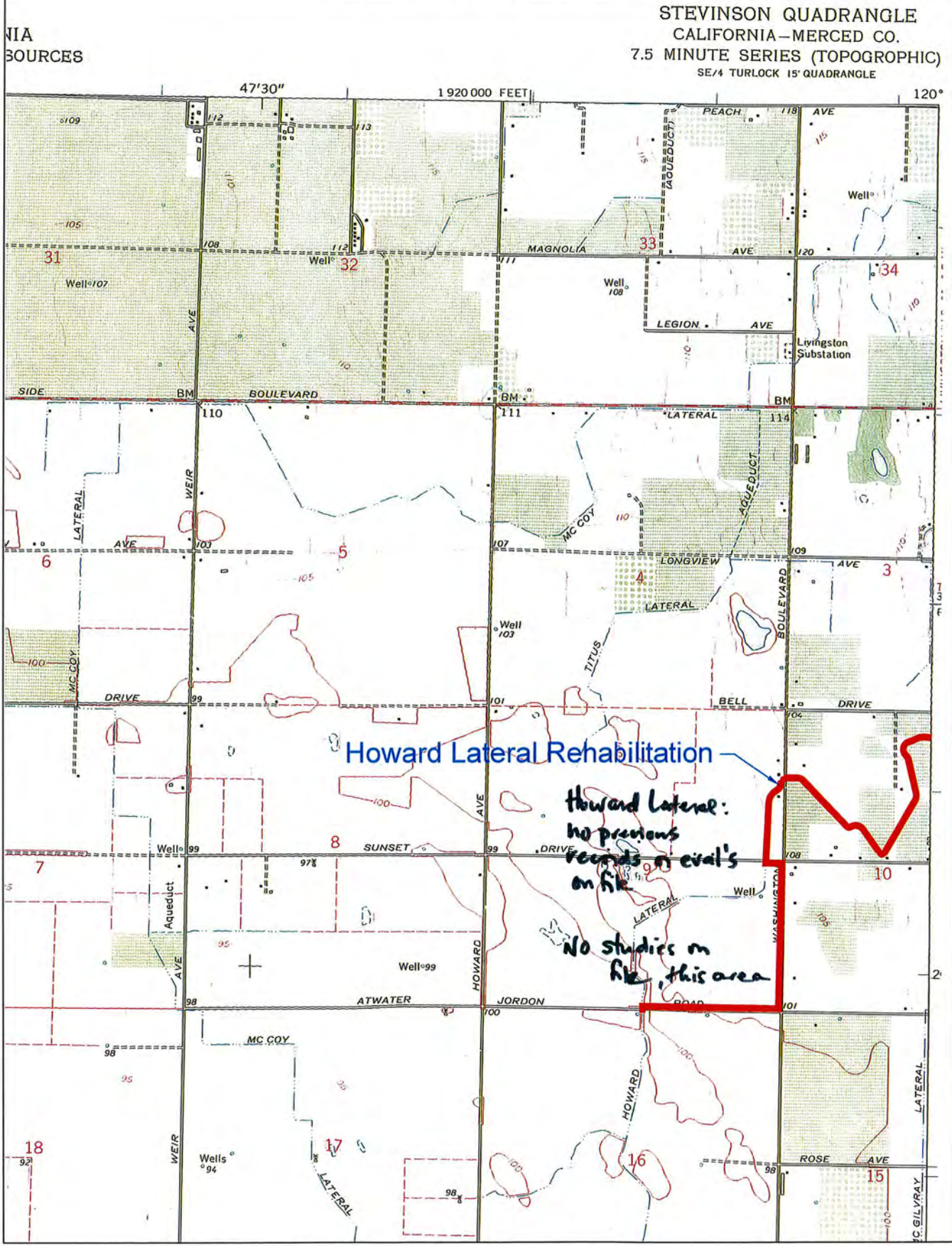
A handwritten signature in cursive script, appearing to read "R. Hards".

Robin Hards, Assistant Research Technician
E. A. Greathouse, Coordinator
Central California Information Center
California Historical Resources Information System



Howard Lateral Rehabilitation

Stevinson ~ USGS Quadrangle



CCIC # 8091 I

T75/R 11E S-9, 10,

Arena ~ USGS Quadrangle

(TURLOCK)

700000m.E.

4138000m.N.

T. 6 S.

T. 7 S.

Howard Lateral Rehabilitation

No studies on site, this area

CCIC # 8091 I

McConnell Lateral Pipeline Portion

Spill to the Merced River

MCCONNELL LATERAL

Start of McConnell Lateral Pipeline

End of McConnell Lateral Pipeline

HAMMATT LATERAL

BIRD

Pipeline Statistics
30" Pipeline Install - 1, 300'
1 Inlet and 1 Outlet Structure



TITUS LATERAL

Arena Canal and Howard Lateral Rehabilitation Portion

Exhibit C

Washington Road Siphon

Start of Canal Rehabilitation

Bell Rd Siphon

Start of Existing Lining

SUNSET

Sunset Ave Siphon

End of Existing Lining

WASHINGTON

ROBIN

ATWATER JORDAN

CCIC
#80912

End of Canal Rehabilitation

PROJECT STATISTICS

Canal Reline - 15,500'
Road Crossings - 3 siphons

MCGILVRAY LATERAL

LATERAL B

ROSE

HOWARD LATERAL

Arena Canal/Howard Lateral and McConnell Lateral Water Conservation Project

