
DRAFT ENVIRONMENTAL ASSESSMENT (11-097)

*FRESNO COUNTY WATER WORKS DISTRICT NO. 18 AND LOWER TULE RIVER
IRRIGATION DISTRICT REQUEST FOR APPROVALS PURSUANT TO THE FRIANT
RANCH SPECIFIC PLAN*

Appendix E

**U.S. Army Corps of Engineers MOA with the State Historic
Preservation Officer**

May 2013

**MEMORANDUM OF AGREEMENT
BETWEEN
THE UNITED STATES ARMY CORPS OF ENGINEERS AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE FRIANT RANCH PROJECT,
FRESNO COUNTY, CALIFORNIA**

WHEREAS, the United States Army Corps of Engineers, Sacramento District (Corps) proposes to issue a permit pursuant to Section 404 of the Clean Water Act (Undertaking) to Dennis Bacopulos, Friant Ranch L.P. (Applicant), for the Friant Ranch Project in Fresno County, California (Project); and

WHEREAS, the Project would involve the construction of a mixed-use residential and commercial development, including utility and recreational facilities; and

WHEREAS, the Corps, in consultation with the California State Historic Preservation Officer (SHPO) and in accordance with 36 CFR § 800.4(a)(1), has established the Undertaking's Area of Potential Effects (APE) as including all areas to be developed as part of the Undertaking, including all staging and construction areas, as depicted in Attachment 1 to this MOA; and

WHEREAS, the Corps, in consultation with SHPO and in accordance with 36 CFR § 800.4(b) and § 800.4(c), has inventoried historic properties within the Undertaking's APE and has determined that prehistoric archaeological site Ca-Fre-2653 is eligible for listing in the National Register of Historic Places; and

WHEREAS, the Corps, in consultation with SHPO and in accordance with 36 CFR § 800.5(a), has applied the criteria of adverse effect and determined that the Undertaking will have an adverse effect on Ca-Fre-2653; and

WHEREAS, the Corps has considered alternatives to the Undertaking, has chosen to proceed with the Undertaking, and has determined to resolve adverse effects of the Undertaking to Ca-Fre-2653 through the execution and implementation of this Memorandum of Agreement (MOA); and

WHEREAS, the USACE has consulted with the Dumna Wo-Wah Tribal (Tribe), for which Ca-Fre-2653 may have religious and/or cultural significance has invited the Tribe to sign this MOA as an invited concurring party; and

WHEREAS, the Applicant has participated in the consultation and has been invited to concur in this MOA; and

WHEREAS, pursuant to 36 CFR § 800.6(a)(1), the Corps has notified the Advisory Council on Historic Preservation (Council) of its adverse effect determination with

specified documentation and the Council, in a letter dated July 5, 2011, has chosen to not participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii); and

NOW, THEREFORE, the Corps and SHPO agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties, and further agree that these stipulations shall govern the Undertaking and all of its parts until this MOA expires or is terminated.

STIPULATIONS

The Corps shall make this MOA a condition of the Clean Water Act Section 404 permit for the Project and shall ensure that the following measures are carried out by the Applicant to the satisfaction of the Corps:

I. TREATMENT OF ADVERSE EFFECTS OF HISTORIC PROPERTIES

- A. The Applicant shall implement the attached January 6, 2011, *Data Recovery Plan for CA-Fre-2653, Friant Ranch Project, Fresno County, California* (HPTP) (Attachment 2) prior to the start of project construction. The HPTP (1) specifies the research issues and questions to be addressed through the recovery of archaeological data; (2) specifies the methods to be used in fieldwork and analysis, and explains how these methods are relevant to the research design; (3) presents treatment approaches for a previously unidentified property that may be eligible for inclusion in the National Register or if the undertaking affects a known historic property in an unanticipated manner; (4) specifies the methods to be used in data management and data dissemination; (5) indicates how recovered materials and records will be curated; and (6) provides for final reporting of the work and curation of all materials and records.
- B. Any party to this MOA may propose an amendment to the HPTP. Such amendment will not require amendment of this MOA. Disputes regarding amendments proposed hereunder shall be resolved through consultation between the MOA parties. The time frames for such consultation shall be consistent with those established under Stipulation IV.C below. If the dispute is resolved within this time frame, the MOA parties shall proceed in accordance with the terms of that resolution. If the dispute is not resolved within this time frame, no amendment to the HPTP will occur.

II. REPORTING REQUIREMENTS AND RELATED REVIEWS

- A. Within ten (10) days of completion of all fieldwork required under Stipulation I, the Applicant shall notify the Corps, SHPO, and the Tribe.
- B. Within twelve (12) months of completion of all fieldwork required under Stipulation I, a draft technical report documenting the results of the archaeological fieldwork will be prepared. The Applicant will distribute the draft

technical report concurrently to the USACE and SHPO for review and comment. The USACE and SHPO shall review and provide any comments to the Applicant, and copy the other MOA parties regarding their comments, within thirty (30) days of receipt of the draft technical report. If no comments are received within the thirty (30) day comment period, the Applicant may assume the Agency has no comment. The Applicant shall respond to any comments, and copy the other MOA parties, within thirty (30) days or implement the Resolving Objections Stipulation of the MOA (Stipulation IV.C). After all comments are addressed, the Applicant shall provide a final technical report in accordance with Stipulation IV.B.

- C. Within thirty (30) days of completion of the final technical report, materials and records resulting from the historic preservation work stipulated in this MOA shall be curated in accordance with the HPTP.

III. STANDARDS

A. PROFESSIONAL QUALIFICATIONS AND STANDARDS

1. Professional Qualifications.

All historic preservation activities implemented pursuant to this MOA shall be conducted by, or under the direct supervision of, a person or persons meeting, at a minimum, the Secretary of Interior's *Professional Qualifications Standards* (PQS) for Archeology, History, or Architectural History, as appropriate (48 FR 44738-39).

2. Historic Preservation Standards.

All historic preservation activities carried out pursuant to the MOA shall meet the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716-44740) as well as standards and guidelines for historic preservation activities established by the SHPO and National Park Service.

3. Curation and Curation Standards.

The Corps shall ensure that the materials and records resulting from the historic preservation work stipulated in this MOA are curated in accordance with 36 CFR Part 79 or at a Corps-approved facility. (Facility Agreement TBD)

4. Documentation Standards.

The Corps shall ensure that all written documentation prescribed by Stipulation I and II of this MOA shall conform to the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716-44740), as well as to applicable standards and guidelines established by the SHPO.

IV. ADMINISTRATIVE STIPULATIONS

A. CONFIDENTIALITY.

The parties to this MOA acknowledge that Historic Properties covered by this MOA are subject to the provisions of § 304 of the NHPA and § 6254.10 of the California Government Code (Public Records Act), relating to the disclosure of archaeological site information and, having so acknowledged, will ensure that all actions and documentation prescribed by this MOA are consistent with § 304 of the NHPA and § 6254.10 of the California Government Code.

B. REPORT DISTRIBUTION.

The Corps shall ensure that copies of all technical reports and studies prepared to satisfy the terms of this MOA are provided upon completion by the Applicant to all parties to this MOA and to the North Central California Information Center (NCCIC) of the California Historical Resources Information System (CHRIS), consistent with requirements of Stipulation IV.A., above.

C. RESOLVING OBJECTIONS.

1. Should any party to this MOA object at any time in writing to the manner in which the terms of this MOA are implemented, to any action carried out or proposed with respect to the implementation of the MOA, or to any documentation prepared in accordance with and subject to the terms of this MOA, the Corps shall immediately notify the other parties to this MOA of the objection, and shall request their comments on the objection be provided within 15 days following receipt of the Corps' notification, and proceed to consult with the objecting party for no more than 30 days to resolve the objection. The Corps will honor the request of the other parties to participate in the consultation and will take any comments provided by those parties into account.
2. If the objection is resolved during the 30-day consultation period, the Corps may proceed with the disputed action in accordance with the terms of that resolution.
3. If after initiating such consultation, the Corps determines that the objection cannot be resolved through consultation, the Corps shall forward all documentation relevant to the objection, including the Corps's proposed response to the objection, to the Council, with the expectation that the Council will, within 30 days after receipt of such documentation, do one of the following:

- a. advise the Corps that the Council concurs in the Corps' proposed response to the objection, whereupon the Corps will respond to the objection accordingly. The objection shall thereby be resolved; or
 - b. provide the Corps with recommendations, which the Corps will take into account in reaching a final decision regarding its response to the objection. The objection shall thereby be resolved; or
 - c. notify the Corps that the objection will be referred for comment, pursuant to 36 CFR § 800.7(c), and proceed to refer the objection and comment. The Corps shall take the resulting comment into account in accordance with 36 CFR § 800.7(c)(4) and § 110(1) of the NHPA. The objection shall thereby be resolved.
4. Should the Council not exercise one of the foregoing options within 30 days after receipt of all pertinent documentation, the Corps may assume the Council's concurrence in its proposed response to the objection and proceed with implementation of that response. The objection shall thereby be resolved.
5. The Corps shall take into account any Council recommendation or comment provided in accordance with Section IV.C.1 of this stipulation, with reference only to the subject of the objection. The Corps' responsibility to ensure all actions are carried out under this MOA that are not the subject of the objection shall remain unchanged.
6. At any time during the implementation of the terms of this MOA, should an objection pertaining to such implementation be raised by a member of the public, the Corps shall immediately notify the other parties to this MOA in writing of the objection and take the objection into consideration. The Corps shall consult with the objecting party and, if the objecting party so requests, with the other parties to this MOA, for no more than fifteen (15) days. Within ten (10) days following closure of this consultation period, the Corps will render a decision regarding the objection and notify all parties to this MOA of its decision in writing. In reaching its decision, the Corps will take into account any comments from the consulting parties regarding the objection, including the objecting party. The Corps' decision regarding the resolution will be final. The objection will thereby be resolved.
7. The Corps may authorize any action subject to objection under this stipulation to proceed after the objection has been resolved in accordance with the terms of this stipulation.

8. The Corps shall provide all parties to this MOA and the Council, when the Council has issued comments hereunder, and any parties that have objected pursuant to Section C.6 of this stipulation, with a copy of its final written decision regarding any objection addressed pursuant to this stipulation.

D. AMENDMENTS

1. Any party to this MOA may propose that this MOA be amended, whereupon all parties to this MOA will consult for no more than thirty (30) days to consider such amendment. The Corps may extend this consultation period. The amendment process shall comply with 36 CFR § 800.6(c)(1) and § 800.6(c)(7). This MOA may be amended only upon the written agreement of the signatory parties. If it is not amended, this MOA may be terminated by the Corps or the SHPO.
2. The HPTP may be amended through consultation as prescribed in Section B of Stipulation I without amending the MOA proper.

E. TERMINATION

1. Only the Corps or the SHPO may terminate this MOA. If this MOA is not amended as provided for in Section D of this stipulation, or if the Corps or the SHPO proposes termination of this MOA for other reasons, the signatory party proposing termination shall, in writing, notify the other parties to this MOA, explain the reasons for proposing termination, and consult with the other parties to this MOA for at least thirty (30) days to seek alternatives to termination. Should such consultation result in an agreement on an alternative to termination, then the parties shall proceed in accordance with the terms of that agreement. Such consultation shall not be required if the Corps proposes termination because the Undertaking no longer meets the definition set forth at 36 CFR § 800.16(y).
2. Should such consultation fail, the signatory party proposing termination may terminate this MOA by promptly notifying the other parties to this MOA in writing. Termination hereunder shall render this MOA without further force or effect.
3. If this MOA is terminated hereunder, and if the Corps determines that the undertaking will nonetheless proceed, then the Corps shall either consult in accordance with 36 CFR § 800.6 to develop a new MOA, or request the comments of the Council, pursuant to 36 CFR Part 800.

F. DURATION OF THE MOA

1. Unless terminated pursuant to Section E of this stipulation, or unless it is superseded by an amended MOA, this MOA will be in effect following execution by the signatory parties until the Corps, in consultation with the other parties to this MOA, determines that all the terms of this MOA have been satisfactorily fulfilled. Upon a determination by the Corps that all of the terms of this MOA have been satisfactorily fulfilled, the Corps will immediately notify the other parties to this MOA in writing of its determination that all terms of this MOA have been satisfactorily fulfilled and of the termination of the MOA. Following provision of such notice, this MOA will have no further force or effect.
2. The terms of this MOA shall be satisfactorily fulfilled within five (5) years following the date of execution by the signatory parties. If the Corps determines that this requirement cannot be met, the parties to this MOA will consult to reconsider its terms. Reconsideration may include the continuation of the MOA as originally executed, amendment of the MOA, or termination. In the event of termination, the Corps will comply with Section E.4 of this stipulation, if it determines that the Undertaking will proceed notwithstanding termination of this MOA.
3. If the Undertaking has not been implemented within five (5) years following execution of this MOA by the signatory parties, this MOA shall automatically terminate and have no further force or effect. In such event, the Corps shall notify the other MOA parties in writing and, if it chooses to continue with the Undertaking, shall reinitiate review of the Undertaking in accordance with 36 CFR Part 800.

G. EFFECTIVE DATE.

This MOA will take effect immediately upon full execution by the Corps and the SHPO.

EXECUTION of this MOA by the Corps and the SHPO, pursuant to 36 CFR § 800.6, including its transmittal by the Corps to the Council in accordance with 36 CFR § 800.6 (b)(1)(iv), and subsequent implementation of its terms, shall evidence that the Corps has afforded the Council an opportunity to comment on the Undertaking and its effects on Historic Properties, and that the Corps has taken into account the effects of this Undertaking on Historic Properties.

SIGNATORY PARTY:

UNITED STATES ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT

Name:



Michael S. Jewell

29 May 2012
Date

Title: Chief, Regulatory Division

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

Name:


for _____
Milford Wayne Donaldson, FAIA

6/5/12
Date

Title: State Historic Preservation
Officer

CONCURRING PARTY:

APPLICANT

Name:

Bryan Wagner

Date

Title:

DUMNA WO-WAH TRIBAL GOVERNMENT

Name:

Robert George Ledger Sr.

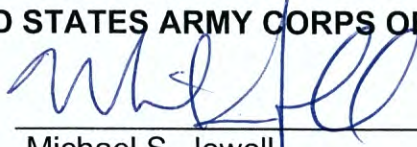
Date

Title: Tribal Chairman

SIGNATORY PARTY:

UNITED STATES ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT

Name:



Michael S. Jewell

29 May 2012

Date

Title: Chief, Regulatory Division

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

Name:

Milford Wayne Donaldson, FAIA

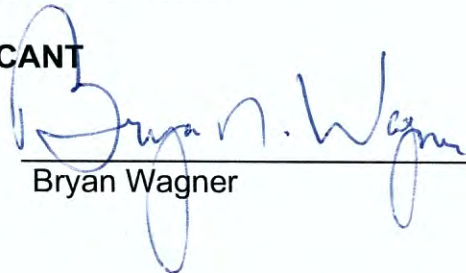
Date

Title: State Historic Preservation
Officer

CONCURRING PARTY:

APPLICANT

Name:



Bryan Wagner

May 31, 2012

Date

Title:

DUMNA WO-WAH TRIBAL GOVERNMENT

Name:

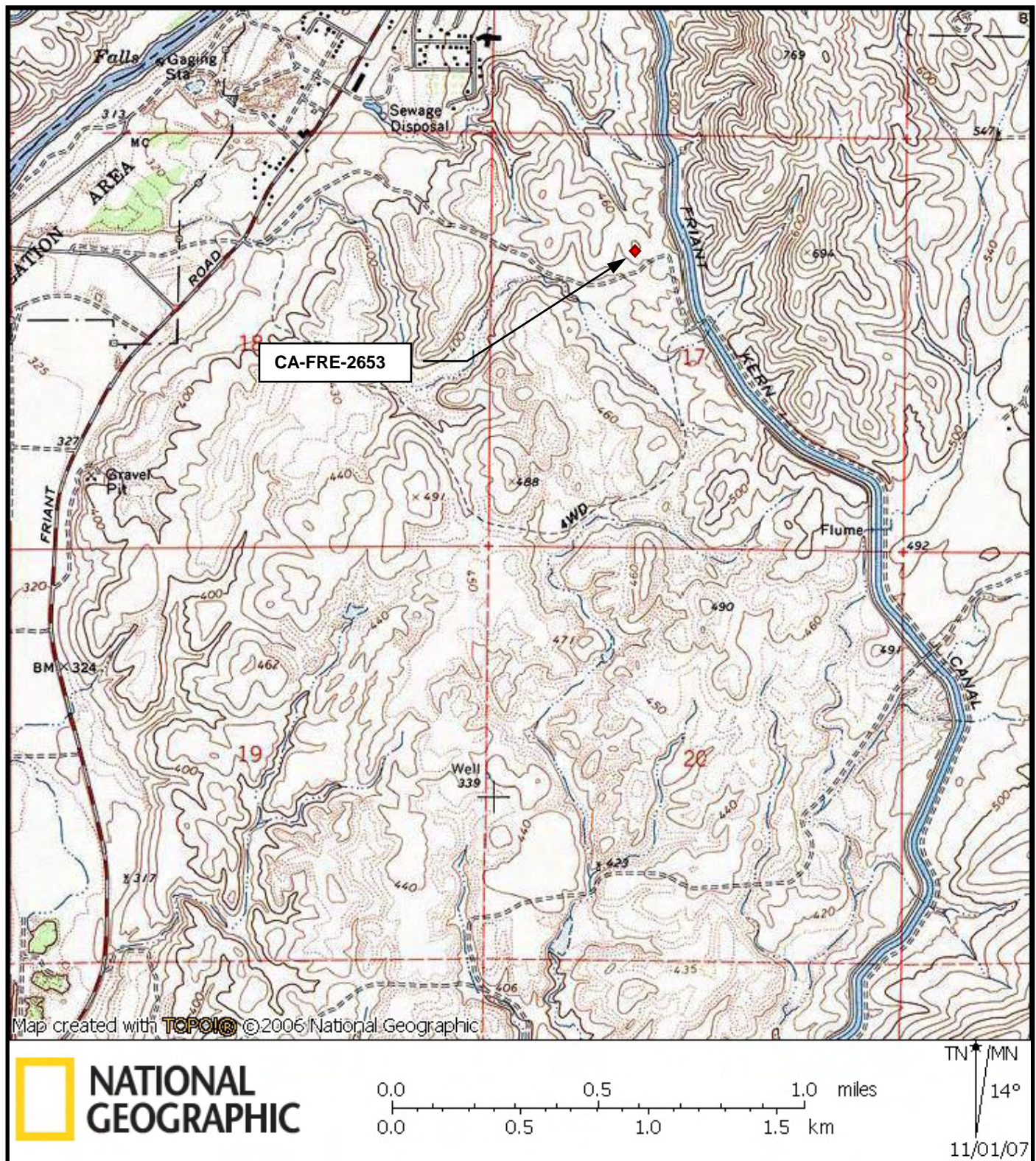
Robert George Ledger Sr.

Date

Title: Tribal Chairman

ATTACHMENT 1
Area of Potential Effects

LOCATION MAP



ATTACHMENT 2
Historic Properties Treatment Plan



**DATA RECOVERY PLAN FOR CA-FRE-2653
FRIANT RANCH PROJECT
FRESNO COUNTY, CALIFORNIA**

Prepared by:

Brian Wickstrom, M.A., and C. Kristina Roper, M.A., RPA
Sierra Valley Cultural Planning
41845 Sierra Drive
Three Rivers, CA 93271
(559) 561-3816

Submitted to:

Dennis Bacopulos
Operating Manager
Friant Ranch L.P.
7110 N. Fresno Street, Suite 340
Fresno, CA 93720
(949) 697-3566

and

Erin Hess
Cultural Resource Specialist
US Army Corps of Engineers
Sacramento District
1325 J Street, Room 1480
Sacramento, CA 95814
(916) 557-6740

6 January 2011

TABLE OF CONTENTS

	<i>page</i>
INTRODUCTION	2
SITE DESCRIPTION	2
SITE SIGNIFICANCE AND RESEARCH ISSUES	4
CULTURAL CHRONOLOGY	4
PALEOENVIRONMENTS	5
SETTLEMENT/SUBSISTENCE/DEMOGRAPHY	5
RESEARCH DESIGN	6
THEORETICAL ORIENTATION.....	6
INVESTIGATION STRATEGY AND METHODS.....	8
Field Investigation Strategy	8
Field Investigation Techniques	12
Laboratory Processing	13
Analytical Techniques	14
Reporting.....	16
PUBLIC OUTREACH PLAN	16
NATIVE AMERICAN COORDINATION.....	16
BURIAL TREATMENT AND PROCEDURES.....	17
ORGANIZATION AND PERSONNEL	17
CURATION.....	17
REFERENCES CITED.....	18
ATTACHMENT I: SCHEDULING FOR FIELDWORK.....	21
ATTACHMENT 2: SHPO CORRESPONDENSE	24

INTRODUCTION

Friant Ranch L.P. proposes to develop a mixed-use master plan active adult community within the Friant Ranch Specific Plan Area. The Friant Ranch Project is located immediately east of Friant Road and south of the community of Friant in north-central Fresno County, California (Figure 1). The Friant Ranch Project proposes 381.6 acres of open space and will include approximately 2683 single family residential units and 263 multi-family residential units. The project also features a village core with commercial and retail uses; recreation components including trails and a Recreation Center; and a wastewater treatment facility. CA-FRE-2653, a prehistoric seasonally occupied campsite, is located within a planned senior residential development included in the Friant Ranch Project. Preservation of this cultural resource in place has been determined unfeasible by Friant Ranch L.P.

This project comes under the review of the Army Corps of Engineers (COE) for Section 404 of the Clean Water Act of 1977. The COE has determined that the proposed activities constitute an undertaking under Section 106 of the National Historic Preservation Act (NHPA) of 1966 requiring that federal agencies take into account the effects of their actions (e.g., special use permitting) on historic properties within project areas, and afford the Advisory Council on Historic Preservation an opportunity to comment on the agencies consideration.

This document constitutes the Data Recovery Plan (Plan) for archaeological site CA-FRE-2653, located with the 381.6 acre Area of Potential Effects for this undertaking (Figure 2). This site was determined to be eligible for listing in the National Register of Historic Places under criterion (d) [and the California Register of Historical Resources under criterion 4] on the basis of Phase II evaluation excavations (C. Roper 2008) by consensus between the COE and the State Historic Preservation Officer (SHPO; see Attachment 2). The findings of the Phase II evaluation form the basis for developing this Plan. The COE has determined that the development of the Friant Ranch Project may have adverse effects on CA-FRE-2653 that can be mitigated through recovery of the important information contained in this historic property. In order to comply with the NHPA, through its implementing regulations at 36 CFR 800, the Plan outlines a program for ethnographic studies as well as archaeological field investigations, analysis, and data dissemination for this important information. It is anticipated that artifacts will be donated to the Dumna Wo-Wah Tribal Government and held temporarily by the California State University, Fresno, Anthropology Department, until the Dumna Wo-Wah Tribal Government complete their curation facility. Implementation of this program will fulfill the research potential of the cultural deposit at CA-FRE-2653.

SITE DESCRIPTION

CA-FRE-2653 is located in a grassy rural agricultural area bordering the community of Friant and east of the San Joaquin River. Topography is characterized by undulating hilly terrain with a hog wallow micro-relief; soils within the Project Area include coarse sandy loams formed from old granitic alluvium underlain by strongly cemented hardpan (Huntington 1971). Numerous intermittent stream courses drain the Project Area. The site is situated among outcropping granite boulders on the moderately steep south-facing slopes of one of these stream courses. A natural spring appears to occur in this stream course that is presently covered by the Friant-Kern Canal.

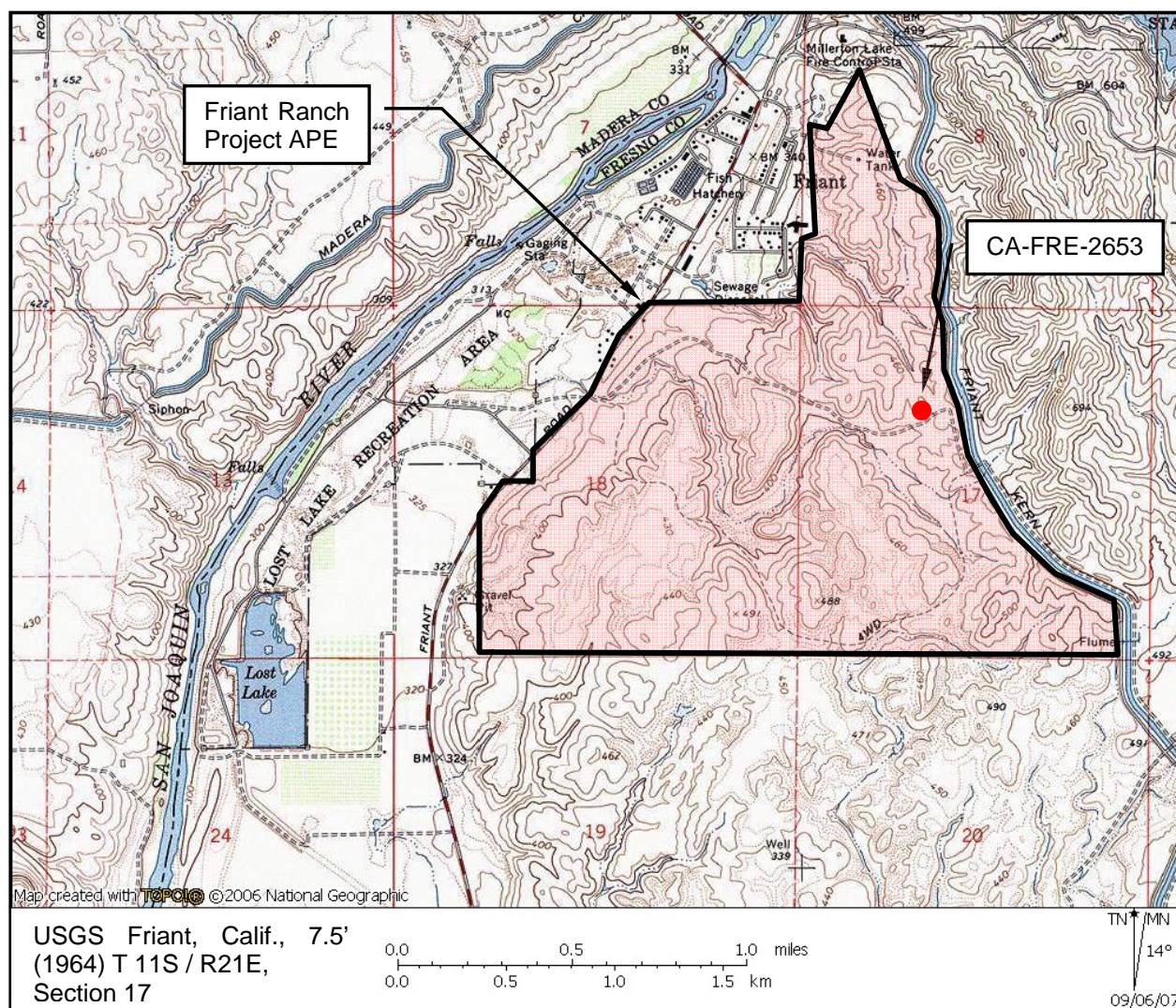


Figure 1. Location of CA-FRE-2653, Friant Ranch Project, Friant, Fresno County, California.

Elevation ranges from approximately 330 to 520 ft (101-159 m) above mean sea level. Much of the area has been grazed and little native vegetation remains within the study area now dominated by introduced oats.

The Phase II investigation found that CA-FRE-2653 is a localized, low-density, complex flake scatter with multiple milling features. While there is little visible cultural material on the site surface other than the milling features and locally darkened midden soil, a low density scatter of lithic flaking debris with small numbers of burned bone, shell, and groundstone artifacts was discovered below surface within a matrix of semi-developed midden soil. The milling features form a “U” shape that is open to the south. The midden is concentrated in the central part of the “U” and to its eastern side. This cultural deposit extends down to bedrock which was reached at anywhere from 50 to 80 cm below surface. Although densities of various cultural materials were low, there was a diverse array of material types recovered during test excavations, suggesting

that the site was more than just a task-specific milling locality. With the possible exception of two steatite bowl fragments, the manufacture and use of which appears to have a temporal signature, no temporally diagnostic artifacts were recovered. Measurement of the hydration layers on nine obsidian waste flakes were the primary material that provided chronological range for site activities, showing a period of occupation and use during the Upper Archaic Period (2,500-1,000 BP) and Emergent Period (beginning 1,000 BP), while the presence of steatite sherds shows use during the Emergent Period. No human remains were recovered during test excavations (C. Roper 2008).

SITE SIGNIFICANCE AND RESEARCH ISSUES

CA-FRE-2653 has been determined eligible for listing in the NR under criterion (d) (has yielded, or may be likely to yield, information important in prehistory or history), and in the CR under Criterion 4 (has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation). In terms of both NRHP and CR criteria, integrity of the cultural deposit is intact, the deposits apparently having suffered minimal stratigraphic mixing due to surface disturbances (erosion and grazing impacts) and sediment mixing due to rodent disturbance and other natural causes.

CA-FRE-2653 has the potential to provide important data on prehistoric settlement and land use along the semi-arid uplands south of the San Joaquin River during the most recent prehistoric Periods. As contrasted with areas farther up in the Sierra Nevada foothills, where numerous sites have been documented and investigated as locations of plant resource procurement, relatively few sites along the San Joaquin River and adjacent uplands have been documented and investigated archaeologically. The combination of midden deposit and deep-cup mortar features at CA-FRE-2653 offer intriguing similarities with other sites in the open valley plains to the southeast such as along Redbank and Fancher creeks (Langenwelter et. al 1989), and further south along Wahtoke Creek and Jesse Morrow Mountain (McGuire 1995).

CA-FRE-2653 contains data that can contribute to our understanding of three research domains, Cultural Chronology, Paleoenvironments, and Settlement/Subsistence/Demography.

CULTURAL CHRONOLOGY

Temporal control of archaeological deposits is essential for constructing cultural chronologies. This control may be provided by time-sensitive features and artifacts. The Phase II investigations demonstrated that the deposit retains the integrity of vertical stratigraphy, charred plant remains for radio-carbon dating, and obsidian for hydration measurement. It is anticipated that the deposit will also contain such items as temporally sensitive projectile point forms, marine shell beads, steatite beads, and ceramics.

In her summary of previous prehistoric investigations, C. Roper (2008:9-10) presents the broad outline of regional culture history that has been described largely in terms of changes in artifact assemblages through time. The research can, however, ask and answer much more specific questions regarding changes in human behavior and the reasons for those changes given an

increased sample size and analysis of suitable materials. These might include queries on the nature and timing of initial occupation of the lower Sierra Nevada foothills and adjacent valley lowlands, population movements and cultural replacement, correlation of linguistic and archaeological information, definition of temporal and spatial limits of each phase of site use and occupation, and the origin and timing of major technological and economic changes.

PALEOENVIRONMENTS

Studies of paleoenvironments seek to describe the past natural environment of prehistoric and early historic cultures and are essential to understanding the articulation of human groups to their environment and spatial and temporal variability in prehistoric land use patterns. C. Roper (2008:9-10) describes how regional climatic records indicate broad patterns of environmental change during the Holocene, including periods of relatively warmer and dryer conditions during the Middle Archaic, followed by a change to wetter and colder conditions in the Upper Archaic, with broad regional climatic stability during the subsequent Emergent Period. The CA-FRE-2653 archaeological deposit contains datable sediments with macrobotanical and faunal remains that can be used to reconstruct past environmental conditions during the Upper Archaic and Emergent periods.

SETTLEMENT/SUBSISTENCE/DEMOGRAPHY

Archaeological studies of settlement and subsistence address how people sustained themselves on the landscape (e.g., their diet, the source of their food, how settlements were placed on the landscape, etc.), and the demographic nature of human populations, that is, the population size in a given area at a particular point in time, the general health of the study population, and the genetic relationship between the study population and surrounding populations.

The location of Holocene occupation sites in many parts of the Sierra Nevada foothills and adjacent valley floor was undoubtedly influenced by access to plant resources, water supplies, and, in the foothills, bedrock for processing acorns and other foods. Other logistic factors may also have been considered in selecting site locations, such as proximity to game trails and other resources. Humans are, however, socially constrained, and economic decisions may be influenced by intangible resource considerations (e.g., risk minimization, maintenance of kin, mating, and exchange networks, and scheduling conflicts). While the environment and available natural resources guided economic decisions and provided critical opportunities and constraints to prehistoric populations, the social context provides parameters for economic decision-making. Archaeological data can reflect the social mechanisms and contexts in which economic decision-making and settlement patterning occurred.

Determining past subsistence strategies requires quantifiable samples of archaeological material from datable contexts. Floral and faunal remains, and subsistence-related features and artifacts such as hearths, fire-fractured rock, bedrock mortars, projectile points, and milling stones, can provide data on resource procurement and processing, seasonality of resource exploitation, and subsistence technologies of prehistoric groups. Presence of exotic artifacts or raw materials, proximity to trade trails, or evidence for manufacture of trade items can provide data on exchange of subsistence-related goods.

Data that may contribute to studies of prehistoric settlement patterns include locations and spatial relationships, size, type, and environmental setting of dated archaeological components. Spatial and temporal variation in artifacts and features within sites can provide information on activity patterns, site function, and occupational history.

Several types of archaeological data contribute to demographic studies of past populations. These include the number, sizes, and types of contemporaneously occupied sites and dwellings within sites in an area; information on local food resources for determining carrying capacity of an area; mortuary population estimates; and actuarial statistics determined by skeletal analyses of burial populations.

Finally, data that contributes to archaeological identification of social or ethnic groups include “diagnostic” artifacts (stylistic markers) and features, technologies, or dietary remains within sites or components. Specific mortuary patterns, art, ornament, and architecture may mark social or economic distinctions within and between prehistoric groups.

RESEARCH DESIGN

The data contained in CA-FRE-2653 for addressing the questions in the forgoing research domains is obtainable with the adequate recovery, description, and analysis of the site’s material remains; and, their comparison to the reconstructed environment for this portion of the Sierra Nevada foothills and to the ethnographic lifeways obtained from traditional literature and contemporary Native American informant sources.

THEORETICAL ORIENTATION

The theoretical orientation for these investigations will employ a site catchment analysis that emphasizes the primacy of man-land relationships in determining site locations. This approach emphasizes the availability, abundance, spacing, and seasonality of plant, animal, and mineral resources as important in determining site location. D. Roper (1979:120) describes this as “sites are conceived of as points at the focus of an area throughout which economic activities were performed. The characteristics of this entire area, not just the immediate locus of the site, are considered in inferring locational processes.” In this perspective, CA-FRE-2653 is seen as the extractive locus for its immediate area of a resource “patch” which in turn is one resource location within the group’s larger territory. Because CA-FRE-2653 appears to have been used predominately during the Emergent Period, the analysis can begin with a context set at the time of the historic/prehistoric period contact and progress backward in time. Substantial ethnographic and environmental information exists for developing this context.

Reconstructing the environmental conditions of the contact period will be an important part of establishing the land portion of the man-land relationships. The biotic communities within this area today are substantially changed by non-native species introduced with the establishment of agricultural practices, necessitating a reconstruction for the distributions of native plant and animal ranges. The environmental context will build upon the work compiled by Barbour et. al (2007) to define the distribution of vegetation along the foothill/valley floor for the late

Holocene. Vegetation shift modeling for the Medieval Climatic Anomaly and the Little Ice Age conducted by Anderson (1990) and Graumlich (1993; also Graumlich and Lloyd 1996) for the mid-Sierran elevations will be examined to extrapolate the effects of these climatic regimes on the lower Sierran foothill environments. Historic records regarding such information as the source and flow of water through the area prior to the construction of the Friant-Kern Canal will also be gathered. The environmental context will be relatively broad in scope while more detailed information, such as types of plant species, will be identified for the drainage course and hill locations surrounding CA-FRE-2653. Plant phytolith analysis may prove useful in identifying native grass species that may have occurred in the general site area (Pearsall and Piperno 1993; Piperno 2006).

The context for “man” or human relationships will be formed from ethnographic information. The published ethnographic literature identifies the territories and subsistence practices of groups in the Friant area at the time of historic/prehistoric period contact (Aginsky 1943; Gayton 1948; Kroeber 1925; Latta 1999; Spier 1978; Wallace 1978). These sources describe the groups as maintaining their main winter villages along the San Joaquin River but moving across their territories in response to the availability and ripening of plant resources and the locations of game and fish, particularly salmon. Two more recent ethnographic studies have been produced for neighboring groups, the *Gashowu* (Wallace 1987) and the *Choinimne* (McCarthy 1995). These sources describe similar subsistence strategies to obtain seasonal resources for the groups inhabiting the valley plane and foothill area between the Kings and San Joaquin rivers. This will serve as the lifeways context that included the location of CA-FRE-2653.

Catchment analysis will focus on the resource “patch” that comprises the site location and examine the tasks performed there. The environmental elements expected to comprise the resource area would include the intermittent stream course, a possible spring as a water source, the granite outcrop, the plant resource(s), the source of fire wood, and source for the fire-altered stones. This will be fleshed out in conjunction with the analysis of the recovered archaeological materials.

Even at this early point in setting out the interpretive context some preliminary expectations can be made and used to guide the excavation strategy. It is anticipated that people would have brought most of their tools with them already fabricated and then took them away when their activities were done. Thus, what would be expected in the archaeological deposit are the broken, lost, and stored items. One should expect to see a broken steatite bowl shard, burned seed and wood charcoal, and lost adornment beads from baskets and jewelry. Broken cutting implements and their rejuvenation debris, e.g., cobble chopper, obsidian knife and scraper debitage would also be expected. Also, items too heavy to take back, such as a pestle, would be cached on-site. Baskets would be present but, if left at the processing location, would not have survived through time. Features would have been constructed there such as the bedrock mortars, fire pits, sunshades, and storage platforms. Some of this information is attainable through ethnographic sources, but most will only be gained through the archaeological excavations.

Once the catchment analysis is complete for the archaeological component ascribed to the Emergent Period, the analysis would then proceed from these findings to work backwards in time to analyze the components from any earlier temporal period.

The approach is based on a model initially proposed by Binford (1980) and is related to the k-site model applied in several investigations to settlement patterns along major drainages in the higher elevations of the Sierra Nevada (e.g., Dietz and Jackson 1984; Jackson 1984).

INVESTIGATION STRATEGY AND METHODS

Field Investigation Strategy

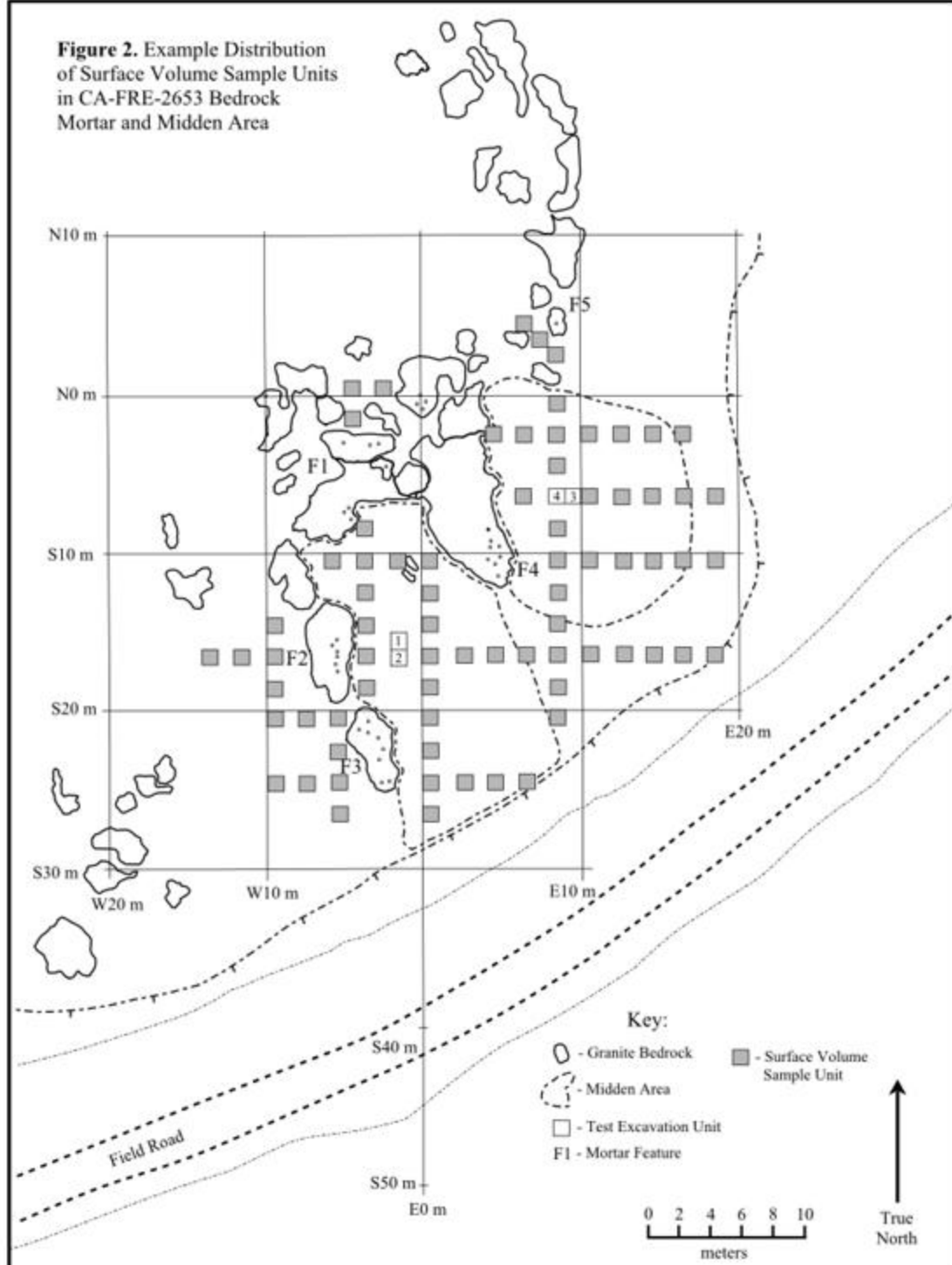
The field investigations will begin with a systematic examination of the site surface for artifacts that have surfaced since completion of the test excavations in 2008. Crew members will walk the entire site area in line-abreast fashion with distances not greater than 2 m apart. Cultural items will be pin-flagged to facilitate the identification of any artifact concentrations, and to expedite the collection or description of formed tools. The grid system established in the test excavations will be re-established and a contour map drawn of the site area. Site mapping will be done using a combination of traditional mapping methods (e.g., plane table/alidade/leveling rod) that can then be digitized in the office to produce a GIS-compatible database of spatial constituents. Selected grid points will be GPS-recorded in the field. All collected cultural materials and all recovery techniques employed will be mapped by grid coordinates or a transit in relation to an established datum.

Intensive surface examination and surface collection of artifacts will provide initial baseline information on the types and distribution of artifacts at the site. While the visual examination of the ground surface will identify larger artifacts, a series of Surface Volume Sample (SVS) units can be quickly excavated across the site to reveal the distribution of the smaller site constituents such as debitage and burned dietary remains (Figure 2). It is anticipated that 70 SVS unit will be placed in and around the midden and mortar area and another 10 will be excavated in the western extent of the site. The relative density of those remains across the site can then be determined and used to guide the placement of the subsurface excavation units.

The excavations will focus on the two midden locations. Artifacts are expected to have a low density per cubic meter of midden as shown in the test excavations. The low density appears typical for the late period assemblages at such resource extraction sites as demonstrated by Langenwelter et. al (1989). However, the midden is quite loose and easily excavated, providing an opportunity where earth can be excavated quickly and a substantial quantity of artifacts obtained from over a broad area, unlike the dense silt and clay soils that slowed the excavations reported by Langenwelter et. al. (1989). The rapid excavation of a substantial volume of midden will be required to obtain the quantity and variety of artifacts needed for analysis.

The vertical stratigraphy of the midden deposit is anticipated to be affected to some degree due to the robust colonies of ground-burrowing rodents inhabiting the area. Thus the excavations would focus on discerning horizontal distributions of the artifacts. We do not anticipate that all objects will be preserved in this loose midden to within centimeters of their original discard location. We do expect that spatial patterning of such objects will be within meters of their original location. Rodents tend to move objects vertically in a deposit and to a lesser extent horizontally. Over time, the actions of rain, wind, and gravity tend to move the surface objects down slope. As a result, it is expected that subsurface objects should be relatively in place horizontally. The larger distributions of fire-affected rock and burned hearth surfaces may be

Figure 2. Example Distribution of Surface Volume Sample Units in CA-FRE-2653 Bedrock Mortar and Midden Area



tunneled through by rodents, but the overall outline of such features, if present, are expected to be yet discernable.

The excavation would begin with a series of 1 x 2 m Controlled Manual Excavation (CME) units set along a series of north- to south-oriented transects in the midden areas (Figure 3). One or two transect lines would be established in the central midden area between the mortar features, and two to three transect lines would be established in the broader eastern midden area east of the mortar features. The 1 x 2 m CME units would be spaced at 2 meter intervals to allow the excavators room to walk and screen. There will be five units per transect for 15 to 25 units. The deposit is expected to average 0.5 m in depth for a volume of 15 to 25 cubic meters. These would provide the basic information required to reveal the distribution patterns of artifacts, fire-affected rock, charcoal, and hearth pits. The units through the central midden will also cross the location of the reported house pit noted on the 1992 site record. It would be unusual to have a house positioned down-slope from a processing and discard area, yet this should be examined. The transect lines will also provide information on the extent of the natural erosion down slope and the actual extent of any remaining primary midden deposits.

We anticipate that transects will demonstrate the down-slope movement of the deposit and recover displaced artifacts. If this is true, the additional units will be placed in the up-slope portion of the midden areas with the expectation of encountering relatively more intact deposit and features. Should the CME techniques expose an intact feature such as a hearth or house floor, Feature Excavation (FE) techniques will be employed to determine its data potential. From three to five features are anticipated to be excavated using FE techniques.

With a basic understanding of the midden extent and content, additional 1 x 2 m units could be placed adjacent to these transect units to expose any subsurface finds. These additional units will also be placed to recover materials from the feature areas north and west of the main midden areas as allowable by the thin soil between the granite rocks. From 15 to 25 1 x 2 m units will be spread over these areas employing CME or Manual Rapid Recovery (MRR) techniques.

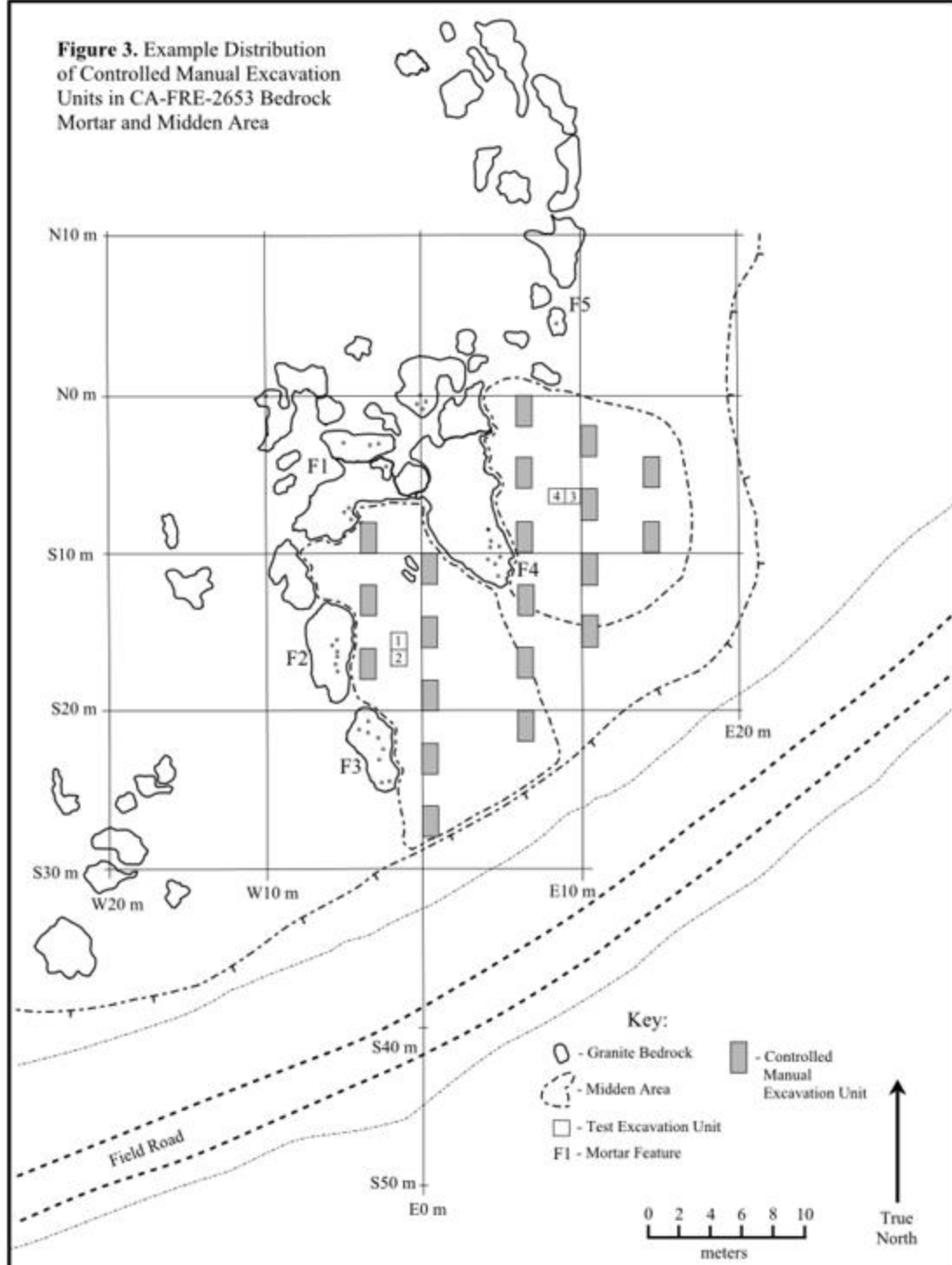
Units excavated with MRR and CME techniques will be excavated to bedrock or the bottom of the cultural deposit (defined by two successive excavation levels that demonstrate abrupt decreases in cultural materials from previous levels).

The 20 x 26 m area of granite bedrock and midden contains an estimated volume of 230 m³ of midden deposit. The proposed excavation effort will examine approximately 30 to 50 m³ or a minimum of 20 percent of the deposit.

Locations would be selected in the exposed excavation unit wall to take soil samples for flotation analysis. There will be at least one soil column taken from each midden area. Additional soil samples will be taken from hearths or other discrete feature areas. Anticipating that the average site depth is 50 cm, we will take samples from a selected CME unit in each midden area at 10-cm increments for a total of 5 samples per midden area.

Radiocarbon samples will need to be taken as well, preferably during feature excavation, but samples may be collected from the flotation samples if needed. If large specimens of wood

Figure 3. Example Distribution of Controlled Manual Excavation Units in CA-FRE-2653 Bedrock Mortar and Midden Area



charcoal or seed charcoal are not recovered in the excavations, bulk samples of soil from excavation unit walls will be used for radiocarbon dating. One bulk soil sample will be collected from each midden area and stored for this purpose.

Field Investigation Techniques

The following presents descriptions of the various techniques which may be employed during the field investigations. Though the preferred strategy for sampling the archaeological deposit, these varied techniques offer a flexible approach to changing field situations offering alternatives that can be drawn upon to identify and sample specific types of materials.

Column Sampling. This technique is the systematic collection of soil samples at regular intervals from a vertical exposure of soil, such as the wall of an excavation unit or stratigraphic trench. The resultant samples, comprising a sediment column, may then be radiocarbon dated or analyzed with respect to soil types, soil chemistry, faunal remains, plant macrofossils, fossil pollen, or lithic debitage. Different techniques are used to extract the relevant materials for each of these analyses.

Controlled Manual Excavation (CME). Controlled Manual Excavation refers to the careful excavation of successive 10-cm arbitrary levels (or thinner stratigraphic levels) using "standard" manual techniques. This method provides detailed information about site contents, subsurface features, and vertical stratification. Sampling for special studies also is often performed in conjunction with CME. Site-specific research objectives, together with data from augering, Controlled Surface Collection, and Surface Transect Units, are considered in CME unit placement. Excavation is done with various hand tools; all matrix is screened through 3-mm or 6-mm mesh, and findings are located in three-dimensional space and documented intensively. The size and shape of CME units vary; but typically measure 1x1 m, 1x2 m, 2x2 m, or some multiple thereof.

Controlled Surface Collection (CSC). CSC involves the systematic removal of artifacts (and/or other cultural or ecofactual materials) from the site surface and recording their location relative to a grid or datum; the provenience of each specimen or unit lot is plotted on a site map. CSC provides data useful for defining horizontal stratification, special-use areas, and other surface manifestations of intrasite patterning. The procedure establishes a datum and collection grid within which selected units (e.g., 2x2 m, 5x5 m, or 10x10 m) are systematically examined for cultural materials. Collection units are chosen according to an explicit sampling plan. All cultural materials are collected and bagged, with provenience recorded by sample unit.

Feature Excavation (FE). When a feature (e.g., hearth, cairn, housepit, trashpit) is encountered, excavation of the feature will proceed with refined techniques (as described for CMEs). Excavation will proceed with the assignment of a unique number (consecutive within the site) and excavation with hand tools in arbitrary or natural stratigraphic levels. If the feature does not abut a unit wall, it will be excavated in cross-section, and then drawn to scale in profile on graph paper. Constituents and special samples (e.g., radiocarbon, flotation, pollen) will be removed and packaged separately from surrounding matrix for analysis by the various specialists. While the feature is being excavated, excavation procedures and observations of the feature structure and contents will be made on standard Unit/Feature Level Records.

Manual Rapid Recovery (MRR). Manual Rapid Recovery excavations provide a cost-effective means of exposing stratification and retrieving cultural material. The MRR technique is generally similar to that of Controlled Manual Excavation (CME), except that deposits are removed by shovel and passed through 6-mm or larger screen and specimens are bagged and provenienced by arbitrary level (usually 10 cm) only. MRR excavations proceed much faster than for CME. A comparison of data from the two types of excavations provides controls over procedural bias.

Mapping. This refers to the use of instruments (pocket transit, alidade, theodolite, etc.) to measure and record the position of the archaeological phenomena relative to reference points established at a given site. This may include topographic mapping if justified archaeologically. In all cases mapping requires a permanent datum point to which all finds and appropriate other information are referenced. Site mapping will be done using a combination of traditional mapping methods (e.g., plane table/alidade/leveling rod) that can then be digitized in the office to produce a GIS-compatible database of spatial constituents. Selected grid points will be GPS-recorded in the field. Artifacts and other significant cultural remains are recorded by bearing and distance from the datum or with reference to a grid keyed to the datum.

Photographic Documentation. Color and/or black-and-white prints are made of each site and of important artifacts or features. Still photographs are made using 35 mm format predominantly, but larger format (4x5 in. or 120 mm) may be employed for photography of special features and landscape or environmental settings. A video camera may also be employed to document the field investigations.

Surface Volume Sample (SVS). This is a measured volume of earth excavated from a 1 x1 m area of the site surface to determine the various types and relative quantities of archaeological remains at that location. Surface Volume Samples are taken using a shovel or other scraping implement to gather a consistent volume of soil, usually 0.01 m³, by filling a container to measured height. Excavation depth usually does not exceed 4 cm below ground surface. The soil is then passed through 3-mm or 6-mm mesh and the cultural remains collected. The results are recorded on standard forms and the unit position is mapped in relation to a permanent datum. Tabulation of the various types of cultural remains by grid coordinate reveals the relative density of materials across the site surface.

Wall Profiles (WP). Stratigraphic profiles are generally documented for at least one wall of each excavation unit and at selected sections of trenches. Each profile includes the site designation, unit number, orientation of wall, and location of section along trench. Each stratum is described, including soil color (Munsell code and description), texture, structure, and inclusions (natural and cultural), and contacts between strata.

Backfilling (BF). All units are backfilled upon completion of excavation and recording, and the area is restored to original condition. Open units will be covered or cordoned off at the end of each work day.

Laboratory Processing

All prehistoric cultural materials and natural specimens recovered from the investigations will be taken to the laboratory for processing. Cultural materials will be either washed in wet screens or

cleaned using a soft brush and/or spray bottle. After drying, materials will be separated by artifact class (e.g., bone, shell, milling tools). Provenience for these materials will be maintained throughout the cleaning and sorting process. Collected materials identified in the field as potentially cultural that are later found to lack cultural modification will be discarded. A unique catalog number will be assigned to each artifact or lot of similar artifacts or natural specimens from the same provenience. The materials represented by each catalog number will be sealed in clean plastic bags, labeled for artifact type and provenience, and organized for analysis in archive-quality boxes.

Analytical Techniques

The application of specific laboratory and analytical techniques will be set primarily by the type and quality of artifactual remains recovered in the investigations.

Archaeobotanical Analysis. The investigations will be performed in midden soils and may encounter discrete features which contain charred botanical remains. Larger specimens (e.g., wood charcoal and nut hulls) will be sampled through normal sifting of excavated soil and smaller residues (e.g., grass seeds and stems) sampled through flotation processing of bulk samples of soil. Samples collected during standard excavation will be processed in much the same manner as other collected items. Soil column samples and feature samples will be collected and then processed by water flotation method by the Archaeobotanist. Using a low power binocular microscope, the Archaeobotanist will examine the remains and make identification to the species or genus level as allowed by the preservation of the remains. Obsidian specimens collected during the flotation process may be submitted for hydration measurement and XRF analysis.

Faunal Analysis. Faunal remains will be cataloged and examined by the Faunal Analyst as soon as the cataloging process is complete. The analyst will make identifications to the species or generic level, as well as other observations such as burning and cut marks. Sample sizes are not expected to be large enough for statistical manipulation, but generalizations of data potentials may be provided.

Lithic Analysis. Lithic technological studies involve the identification of key debitage and artifact attributes that provide "signatures" of specific reduction techniques. A sample of flaked-stone will be segregated by material type, size grade (to produce an overall characterization of the assemblage composition), and examined for key flake types that reflect specific reduction techniques. Once these debitage types have been identified, an attempt may be made to refine the analysis by examining less salient debitage. The lithic analysis effort will be designed to determine the research potential of the archaeological deposit, and not necessarily the full stone tool manufacturing history represented at the site.

Obsidian Hydration Dating. This is a method for determining the relative age of artifactual obsidian by measuring the thickness of a specimen's hydration rim (layer of water penetration). Comparison of hydration depths on multiple specimens of the same geochemical type from a single archaeological site or locality allows the placement of the artifacts into a chronological sequence. These results allow the determination of single-component versus multi-component assemblages within individual sites and between multiple sites. Age estimates (calendric years)

may be accomplished by comparing the rim depth with the established hydration rate for the particular climatic-geologic area (effective hydration temperature) and type of obsidian.

Osteological Analysis. Treatment of human remains recovered during data recovery investigations at CA-FRE-2653 will follow procedures agreed upon with the representatives of the Dumna Wo-Wah Tribe. If human remains are found during excavation, the remains will be removed and respectfully and carefully examined to provide a physical description of what was found. No specialized analyses will be performed on recovered human remains

Radiocarbon Dating (^{14}C Dating). A method for determining the age of organic material by measuring the extent to which the radioactive isotope carbon-14 (^{14}C) has decayed into stable nitrogen-14 (^{14}N), comparing the observed ^{14}C fraction with the known half-life of 5568 ± 30 years. Radiocarbon dating can be performed on materials such as wood, bone, shell, charcoal, and soil. Some datable materials have the potential for contamination from several agents. Interpretation of radiocarbon results takes into account the effects of old carbon up-welling and secular variation for marine shell, and the effects of younger carbon accumulation and soil chemical processes in soil samples. The method is applied to dating organic material obtained from features, soil strata, single component localities, or other contexts that have discrete association with cultural materials.

X-ray Fluorescence Analysis (XRF). An analytic method using X-ray fluorescence spectrography to identify and quantify trace elements in a material such as obsidian. Because the quantitative aspects of trace-element composition are distinctive for each known obsidian source, XRF can be used to determine the geologic source of obsidian specimens from archaeological contexts. The resultant data provide useful information about resource procurement and exchange systems in prehistory.

Artifact Descriptions. The purpose of artifact description is to provide the basis for comparison with artifacts encountered in previous investigations in the region. Several broad artifact classes will be recognized: flaked stone, ground and battered stone, bone implements, and shell artifacts. These classes will be further divided into artifact categories (e.g., projectile point, milling tools, beads) based on morphology, material type, and presumed function. Artifacts recovered from excavations will be measured, weighed, and described. Descriptions will vary by artifact category, emphasizing the most important attributes of each artifact class. Other descriptive observations will include raw material, condition, fracture types, and treatment. Complete tools or fragments with distinctive attributes will be illustrated for the final report.

Typological comparisons for artifact types that display distinctive temporal or functional attributes will be presented as part of general artifact description. Description of these artifacts will also include color photographs which will be included in the data recovery report. Several artifact typologies have been developed for the region providing the basis from which to begin examination of materials recovered during project investigations. Once such comparisons are completed, these artifact types can be compared to the unique spatial information gained from the investigations in order to identify any additional temporal or functional associations.

Abundant deposit constituents such as lithic debitage and possibly shell or bone will be sorted by material types and described in count and weight for specific recovery units. This information will be presented in table format either with the descriptive text or as appendices. Samples of these material constituents will be identified and submitted for more detailed analysis by specialists.

Reporting

A written report will be prepared, documenting and interpreting the results of the data recovery program. The report will meet the Secretary of the Interior's Standards for Archaeological Documentation. The following elements will be included in the report: Executive Statement; Summary of project scope, including location and geologic and environmental setting; Summary of previous prehistoric research; Prehistoric and ethnographic background context; Summary of archival research; Research Approach; Field methodology; Laboratory methods and cataloging; Interpretation of site findings and research themes; Conclusions; References cited; Artifact catalogs; Results of special artifact studies; and, other information relevant to the project. At a minimum, the resulting report will be provided to the Friant Ranch L.P., the Southern San Joaquin Information Center of the California Historical Resources Information System, the Army Corps of Engineers, the Dumna Wo-Wah Tribal Government, and the State Historic Preservation Officer.

PUBLIC OUTREACH PLAN

The results of the data recovery program at CA-FRE-2653 will be disseminated to archaeological professionals through the presentation of a paper at the Annual Meeting of the Society for California Archaeology (SCA). An interpretive, web-based presentation will be developed for dissemination of project results to the public. The web-based presentation may be linked to existing web sites documenting the history of occupation and use of the San Joaquin River area by Native peoples. Formal presentation of data recovery efforts and results will be made as appropriate to representatives of the Dumna Wo-Wah Tribal Government and Table Mountain Rancheria Cultural Resources staff.

NATIVE AMERICAN COORDINATION

All data recovery efforts, including the planning and execution of the data recovery plan, will be conducted in coordination with representatives of the Dumna Wo-Wah Tribal Government, who will also be invited to provide a representative to monitor and otherwise assist with all field investigations. It is anticipated that artifacts will be donated to the Dumna Wo-Wah Tribal Government and held temporarily by either the California State University, Fresno, Anthropology Department, or at the Tache Yokuts curation facility at Santa Rosa Rancheria in Lemoore until the Dumna Wo-Wah Tribal Government complete their curation facility. Implementation of this program will fulfill the research potential of the cultural deposit at CA-FRE-2653.

BURIAL TREATMENT AND PROCEDURES

The treatment of human remains, both Native American and non-Native American, will comply with all applicable State and Federal laws and regulations. Applicable State laws for the treatment of human remains are contained in the California Health and Safety Code, Sections 7050.5, 7052, and 8100, and the California Public Resources Code Section 5097.

In all cases where human remains are discovered, the Field Director will immediately notify the county Coroner and the US Army Corps of Engineers. By law, the Coroner must examine the remains within 48-hours of receiving notice of a discovery. Should the remains be identified as Native American, the Coroner will notify the Native American Heritage Commission (NAHC) within 24-hours of making that determination. The NAHC has the responsibility to immediately notify the person it believes is the Most Likely Descendant of the deceased Native American. The Most Likely Descendant has 24-hours to provide recommendations for the treatment or disposition of the remains and associated grave goods. The burial will be treated in accordance with the agreement made between Friant Ranch L.P. and the Most Likely Descendant.

ORGANIZATION AND PERSONNEL

All project personnel will meet the qualifications for professional archaeologist as listed in the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation (36 CFR Part 61, Federal Register 48:190).

CURATION

By prior agreement, it is anticipated that all artifacts will be donated to the Dumna Wo-Wah Tribal Government and held temporarily by either the California State University, Fresno, Anthropology Department, or at the Tache Yokuts curation facility at Santa Rosa Rancheria in Lemoore until the Dumna Wo-Wah Tribal Government complete their curation facility. All recovered artifacts and associated materials will be prepared for curation according to the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation.

REFERENCES CITED

Aginsky, B. W.

- 1943 Culture Element Distributions: XXIV Central Sierra. *Anthropological Records* 8:4. University of California Press, Berkeley and Los Angeles.

Anderson, R.S.

- 1990 Holocene Forest Development and Paleoclimates within the Central Sierra Nevada, California. *Journal of Ecology* 78: 470-489.

Binford, Lewis R.

- 1980 Willow Smoke and Dogs' Tails: Hunter-gatherer Settlement Systems and Archaeological Site Formation. *American Antiquity* 45:4-20.

Dietz, Stephen A., and Thomas L. Jackson

- 1984 Archaeological Data Recovery Excavations at CA-FRE-798 and CA-FRE-805, Siphon Substation 33kV Distribution Line and Balsam Meadow Hydroelectric Project. Archaeological Consulting and Research Services, Inc., Santa Cruz. Submitted to Southern California Edison Company, Rosemead, CA.

Gayton, A. H.

- 1948 Yokuts and Western Mono Ethnography I: Tulare Lake, Southern Valley, and Central Foothill Yokuts. University of California Anthropological Records 10(1). Berkeley.

Graumlich, L.J.

- 1993 A 1,000 Year Record of Temperature and Precipitation in the Sierra Nevada. *Quaternary Research* 39: 249-255.

Graumlich, L.J. and A. H. Lloyd

- 1996 Dendroclimatic, Ecological, and Geomorphological Evidence for Long-term Climatic Change in the Sierra Nevada, USA. *Radiocarbon* 51-59.

Huntington, Gordon L.

- 1971 *Soil Survey of the Eastern Fresno Area, California*. US Department of Agriculture, University of California Agricultural Experiment Station. US Government Printing Office, Washington, D.C.

Jackson, Thomas L.

- 1984 Predictive Model of Prehistoric Settlement Patterning in the Southern Sierra Nevada. In, Cultural Resources Overview of the Southern Sierra Nevada: An Ethnographic, Linguistic, Archaeological and Historical Study of the Sierra National Forest, Sequoia National Forest, and Bakersfield District of the Bureau of Land Management, prepared by Theodoratus Cultural Research, Inc., and Archaeological Consulting and Research Services, Inc., pp. 179-203. Report submitted to USDA, Forest Service, South Central Contracting Office. Bishop, CA.

Kroeber, A. L.

- 1925 *Handbook of the Indians of California* (1976 Dover Edition). Bureau of American Ethnology Bulletin 76, Smithsonian Institution, Washington D.C.

Langenwalter II, Paul E., Adella Schroth, Philip de Barros, and Franklin Fenenga

- 1989 *Redbank and Fancher Creeks Archaeological Data Recovery Program CA-FRE-632, -633, -1154, and -1155, Fresno County, California*. MITECH, Santa Ana. Submitted to Department of the Army, Sacramento District Corps of Engineers. Contract No. DACW05-87-C-0099.

Latta, Frank F.

- 1999 *Handbook of Yokuts Indians*. 50th Anniversary Commemorative Edition. Brewer's Historical Press, Exeter, CA, and Coyote Press, Salinas, CA.

McCarthy, Helen

- 1995 Part I: Choinimne Ethnography and Ethnohistory. In, *Test Excavations at CA-FRE-61, Fresno County, California*. Occasional Papers in Anthropology 5. Museum of Anthropology, California State University Bakersfield, CA.

McGuire, Kelly R.

- 1995 *Test Excavations at CA-FRE-61, Fresno County, California*. Occasional Papers in Anthropology 5. Museum of Anthropology, California State University Bakersfield, CA.

Meighan, Clement W., and B. D. Dillon

- 1984 *Redbank and Fancher Creeks Intensive Cultural Resources Survey*. Institute of Archaeology, University of California, Los Angeles. Submitted to U.S. Army Corps of Engineers, Sacramento District. Report on file, Southern San Joaquin Valley Information Center, CSU Bakersfield. File number FR-24/53.

Pearsall, Deborah M. and Piperno, Dolores R.

1993. *MASCA: Current Research in Phytolith Analysis: Applications in Archaeology and Paleoecology* 10.

Piperno, Dolores R.

- 2006 *Phytoliths: A Comprehensive Guide for Archaeologists and Paleoecologists* AltaMira Press, Lanham, MD.

Roper, C. Kristina

- 2008 Phase Two Archaeological Testing and Evaluation of Prehistoric Site CA-FRE-2653, Friant, Fresno County, California. Sierra Valley Cultural Planning, Three Rivers, CA. Submitted to Friant Ranch L.P., Costa Mesa, CA.

Roper, Donna C.

- 1979 The Method and Theory of Site Catchment Analysis: A Review. In, *Advances in Archaeological Method and Theory, Volume 2*, edited by Michael B. Schiffer. Academic Press, New York.

Rosenthal, Jeffrey S., Gregory G. White and Mark Q. Sutton

- 2007 The Central Valley: A View from the Catbird's Seat. In *California Prehistory: Colonization, Culture, and Complexity*, pp. 147-164, edited by Terry L. Jones and Kathryn A. Klar. Alta Mira Press, New York.

Spier, Robert F. G.

- 1978 Foothill Yokuts. In *Handbook of North American Indians*, vol. 8, *California*, edited by R. F. Heizer, pp. 471-484. Smithsonian Institution, Washington, D.C.

Thompson, Thomas H.

- 1891 Official Historical Atlas Map of Fresno County. Thos. H. Thompson, Tulare, CA.

Wallace, William J.

- 1978 Southern Valley Yokuts. In *Handbook of North American Indians*, vol. 8, *California*, edited by R. F. Heizer, pp. 448-461. Smithsonian Institution, Washington, D.C.

- 1987 Ethnohistory of the Redbank-Fancher Area, The Gashowu: A Little-Known Foothill Yokuts Tribelet. In, *Redbank and Fancher Creeks Intensive Cultural Resources Survey*, by Clement W. Meighan and Brian D. Dillon. Institute of Archaeology, University of California, Los Angeles. Submitted to Department of the Army, Sacramento District Corps of Engineers. Contract No. DACW05-83-C-0107.

Wallace, William J., Adella Schroth, and Phil de Barros

- 1989 *Archaeological Data Recovery at Prehistoric Archaeological Site CA-FRE-64*. Prepared by Chambers Group, Inc., Santa Ana, CA. Submitted to the California Department of Transportation, District 06, Fresno, CA.

ATTACHMENT I: SCHEDULING FOR FIELDWORK

ATTACHMENT 2: SHPO CORRESPONDENCE

DRAFT ENVIRONMENTAL ASSESSMENT (11-097)

*FRESNO COUNTY WATER WORKS DISTRICT NO. 18 AND LOWER TULE RIVER
IRRIGATION DISTRICT REQUEST FOR APPROVALS PURSUANT TO THE FRIANT
RANCH SPECIFIC PLAN*

Appendix F
Reclamation's Cultural and ITA Determinations

May 2013

Healer, Rain L

From: Nickels, Adam M
Sent: Wednesday, October 10, 2012 1:30 PM
To: Healer, Rain L
Cc: Barnes, Amy J; Bruce, Brandee E; Fogerty, John A; Goodsell, Joanne E; Leigh, Anastasia T; Perry, Laureen M; Soule, William E; Williams, Scott A
Subject: Friant Ranch
Attachments: 12-SCAO-244 EA Language Cultural Resources Section.doc; image001.png; image002.jpg

From: Nickels, Adam M
Sent: Wednesday, October 10, 2012 1:10 PM
To: Healer, Rain L
Cc: Barnes, Amy J; Bruce, Brandee E; Fogerty, John A; Goodsell, Joanne E; Leigh, Anastasia T; Perry, Laureen M; Soule, William E; Williams, Scott A
Subject: Friant Ranch

Project No. 12-SCAO-244

Rain:


I have reviewed the Draft EA/Project description for Friant Ranch. Attached you will find the cultural resources language needed to demonstrate Reclamation's consideration of impacts to cultural resources in the EA. According to the draft EA reclamation's action consisted of (1) the inclusion of 523.8 acres of the Friant Ranch Specific Plan area into FCWW 18's service area, (2) the permanent transfer of up to 2,000 AFY of LTRID's Friant Division CVP water to FCWW 18 consistent with the term of LTRID's 9(d) Repayment Contract, (3) modification of existing infrastructure located near Friant Dam, and (4) execution of a perpetual agreement with FCWW 18 to O&M Reclamation-owned facilities. The approval of this action constitutes an undertaking that has the potential to cause effects to historic properties. The U.S. Army Corps of Engineers (USACE) will issue a 404 Clean Water Act permit for the overall Friant Ranch project and has been identified as the lead federal agency for complying with the collective responsibility for section 106 of the NHPA. Identification efforts resulted in the finding of one cultural resource being eligible for inclusion in the National Register and that the proposed Friant Ranch Project would be an adverse effect to historic properties. USACE entered into an MOA to resolve adverse effects.

Although USACE is lead for the overall project, their nexus does not include the improvements to existing water pipes on Reclamation's Right-of-way. The improvements will be to existing buried facilities. All excavation will be contained to the disturbed context of existing pipelines. The pipeline improvement action has no potential to cause effects to cultural resources eligible for inclusion in the National Register pursuant to §800.3(a)(1). This action has no potential to cause effects to historic properties pursuant to 36 CFR §800.3(a)(1).

Please ensure that the attached cultural resources write-up is incorporated into the EA. Please be advised that if the project description changes, then this may result in additional Section 106 review. Thank you for providing the opportunity to comment.

Sincerely,

Adam M. Nickels - Archaeologist - M.S.
Phone: 916.978.5053 - Fax: 916.978.5055 - www.usbr.gov

 -Mid-Pacific Regional Office MP-153 2800 Cottage Way - Sacramento, California 95825



Healer, Rain L

From: Rivera, Patricia L
Sent: Thursday, October 11, 2012 11:27 AM
To: Healer, Rain L; Robbins, Eleanor J (Ellie); Williams, Mary D (Diane)
Subject: RE: EA-11-097 for review

Rain,

I reviewed the proposed action to approve the following: (1) the inclusion of 523.8 acres of the Friant Ranch Specific Plan area into Fresno County Water Works District No. 18's service area, (2) the permanent transfer of up to 2,000 AFY of LTRID's Friant Division CVP water to Fresno County Water Works District No. 18 consistent with the term of Lower Tule River Irrigation District's 9(d) Repayment Contract, (3) modification of existing infrastructure located near Friant Dam, and (4) execution of a perpetual agreement with Fresno County Water Works District No. 18 to operate and maintain Reclamation-owned facilities.

The proposed action does not have a potential to affect Indian Trust Assets.

Patricia