UNIT 7.4
SURVEY METHODS & HOW TO DESIGN AND CONDUCT A SURVEY

CAL FIRE Certified Archaeology Surveyor Course
2019
What is an Archaeological Survey?

An archaeological survey is an effort to locate and record archaeological sites (Phase I) and evaluate their eligibility for inclusion in the California and National Registers of Historic Places (Phase II).
What is an Archaeological Survey?

Cal SHPO Defines these as
Reconnaissance &
Intensive Survey
What is an Archaeological Survey?

**Reconnaissance Survey**

A systematic effort to identify and summarize information about historical resources in a given area. Reports documenting reconnaissance surveys should provide thorough documentation of objectives and expectations of the survey, the methods used to discover resources, and the adequacy of such efforts.

**Intensive Survey**

Intensive surveys go beyond the systematic identification and description of historical resources to encompass the evaluation of those properties within a historic context.
Archaeological Reconnaissance Methods:

◊ Complete Reconnaissance
◊ General Reconnaissance
◊ Intuitive Reconnaissance
◊ Cursory Reconnaissance
Survey Methods: Complete Reconnaissance

◊ Systematic coverage

◊ 10 meter (or less) transect spacing

◊ Coverage sufficient to allow surveyors to encounter smallest site likely to occur in the area

◊ Intensive examination of high probability areas
Survey Methods: General Reconnaissance

- Attempt systematic coverage
- Wider Transect intervals
Survey Methods: Intuitive Reconnaissance

- Informal (not systematic)
- Detail inspection given to high probability areas
- Widest transect intervals
Survey Methods: Cursory Reconnaissance

- Informal (not systematic)
- Quick inspection – often while accomplishing other tasks – along routes of travel
Survey Design

- Prefield Research
- Information Center Response
- Terrain / Environment
- Potential Impacts
- Previous Research
Survey Design: Prefield Research

◊ Literature Review
◊ Historic Topos, GLOs & Aerials
◊ Interviews
Survey Design: Information Center Response

<table>
<thead>
<tr>
<th>Sensitivity of Project Area for Historical Resources:</th>
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</thead>
<tbody>
<tr>
<td>Based upon the above information, available historical records and maps, and comparisons with similar environmental localities, the sensitivity assessment for this project area is:</td>
</tr>
<tr>
<td>Prehistoric Archaeological Resources</td>
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<tr>
<td>Historic Archaeological Resources</td>
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<tr>
<td>Historic Resources</td>
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<tr>
<td>Cultural Landscapes</td>
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<tr>
<td>Ethnic Resources</td>
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**Comments:** Potential for Prehistoric Archaeological Resources based on sites found in the APE & in surrounding areas. Potential for Historic & Historic Archaeological Resources associated with the YM camp & road shown on historic maps.

Based on the results of the records search, it is expected that historic-period remains including stone footings or walls; building materials or other remains with square nails; and artifact-filled privies, or other deposits of historic-period metal, glass, and/or ceramic artifacts may be encountered in the southwest portion of the project area. Prehistoric archaeological remains may also be encountered, including flaked-stone tools (projectile points, knives, scraping implements) or toolmaking debris; culturally darkened soil (“midden”) containing heat-altered rock, dietary bone and shellfish remains; and stone milling equipment (mortars, pestles, handstones, and milling stones).
Survey Design: Terrain / Environment

◊ Slope
◊ Aspect / View shed
◊ Water
◊ Topographic Features
Survey Design: Potential Impacts

◊ Off-road equipment use
◊ Skid trails/roads
◊ Mastication
◊ Line construction
◊ Access Routes
◊ Fire
◊ Mop up
◊ Staging areas
Survey Design: Previous Research

◊ How much of PA does it cover?
◊ Have conditions changed
◊ Does it meet current needs?
Survey Design: Previous Research

- How much of project area does it cover?
Survey Design: Previous Research

- Have conditions changed / improved?
Survey Design: Previous Research

- Does it meet current needs?

Re: Cultural Resources Survey of Approximately 70 Acres on the Helendale Project Area for the Natural Resources Conservation Service

Dear Rick:

Pursuant to your request, this letter reports the findings of a cultural resources survey completed by Applied EarthWorks, Inc. (Æ) between May 16 and May 17, 2005 of approximately 70 acres on the Helendale project area for the Natural Resources Conservation Service (NRCS). The NRCS proposes to cut and remove dead and/or dying trees throughout the designated project area; this cultural resources survey was conducted to ensure that no prehistoric and/or historical cultural resources would be inadvertently impacted during tree cutting and removal activities.
Survey Design: Previous Research

- Example 1:
Survey Design: Previous Research

- Example 1:
Survey Design: Previous Research

• Example 2:
Survey Design: Previous Research

• Example 2:

2. The Mesa Survey and Results

Almost the entire southern half of Section 19 in the mesa area had been part of a previous survey (Tadlock and Tadlock 1977). Therefore, we focused our efforts in those areas which had not been previously investigated. All of the flat lands were transected in 10 to 15 meter intervals with the exception of steep-sided drainages with grades in excess of 30 degrees. Special attention was given to the Black Rocks and other outcrops because of their potential for yielding milling features or rock art. Visibility in "non-grove" portions of the mesas varied from excellent to moderate. Portions of the citrus groves were surveyed when visibility allowed. However, leaves and other debris under trees (particularly in the avocado sections) and in rows hampered visibility and in many cases obscured the ground surface entirely.

By the time the mesa survey was complete, two previously unrecorded sites had been identified. These were temporarily designated SF-1 and SF-2:

SF-1 is situated along a low ridge oriented northwest-southeast and is bordered on the west and east by small intermittent drainages (fig. 4). Although the major portion of the site lies outside of the project area, a small section of its southern tip extends onto the property. The entire site comprises a highly dispersed artifact scatter measuring approximately 150 meters northwest-southeast by 40 meters east-west (only a small section of

perhaps 20 x 20 meters is within the project boundaries). Artifacts noted on the surface included fragments of 1 shallow and 1 deep basin metate, 1 hammerstone, several fire-altered stones, and 4 fragmentary manos. No indications of midden were observed.

SF-2 is an isolated milling slick located on a boulder outcrop at the top of a small hill just west of the citrus ranch headquarters (fig. 7). No indications of midden or other cultural material were evident. It should be noted that a natural spring is situated in the bottom of an intermittent drainage approximately 100 meters southwest of the small hill.

3. Mountain Survey and Results

Much of the mountainous area comprises steep slopes and steep-sided drainages which exceed 35 degrees in grade. Because of this, it was determined that the rugged terrain would have precluded extensive human habitation with perhaps the exception of small, specialized activity areas such as hunting blinds or isolated occurrences of rock art. Therefore, rock outcrops, saddles between hills, plateaus, and accessible drainages were investigated.

Only one archaeological site was found in the mountain region. The site, designated SF-4, is a very light artifact scatter comprising 1 rim fragment of a granite shallow basin metate, 3 waste flakes, and a flake scraper. These artifacts are scattered over an area of approximately 20 x 30 meters on a low eastern exposed saddle one-quarter mile south of the northwestern corner of Section 23 (fig. 7). No midden or other cultural debris was observed.

VI. MITIGATION RECOMMENDATIONS

Under California law, preservation of significant cultural resources is the preferred method of mitigation of potential adverse impacts. Preservation by simple avoidance often has the additional advantage of being inexpensive. Appendix K of the California Environmental Quality Act (CEQA Cal. Admin. Code Section 15000 et seq), which is the governing statute with regard to archaeological resources on private property, provides for various methods or preservation in addition to avoidance. These
Survey Phasing:

◊ **2-Phase Survey Design:**
  - Phase 1 - Survey Project Area
  - Phase 2 – Record Identified Sites

◊ **Project Phasing:**
  - Multi-year projects surveyed as activity areas determined.
Survey Equipment
Survey Equipment
Survey Equipment

Surveying:
- Color copy of topo map with project info
- Field books / note paper
- Trowel / brush
- Rake
- Metal Detector
Survey Equipment

Mapping & Recording:
- Flagging/pin flags
- Compass
- Measuring tapes
- Engineer’s Scale or rulers
- Graph paper
- GPS
- Clipboard
- Site forms & logs
- Camera, Scales & North Arrow
Survey Equipment

Mapping & Recording:
- UTM & Map Grids
- Artifact Bags
- Calipers
- Loupe
- Clinometer