

# Appendix J

## Cultural Background Material

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## INTRODUCTION

The attached report, *Cultural Resources Background Research/Field Strategy Report for the San Joaquin Valley Right-of-Way Maintenance Environmental Assessment*, presents information on cultural resources background research and the procedures used in conducting the cultural resources field survey.

**Cultural Resources Background Research/  
Field Strategy Report  
for the  
San Joaquin Valley Right-of-Way  
Maintenance  
Environmental Assessment**

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## **Acronyms and Abbreviations**

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amsl	above mean sea level
APE	Area of Potential Effects
BP	Before Present
CA	California
CCIC	Central California Information Center of the CHRIS
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
circuit	Three conductors connecting two nodes of the transmission system
COHP	California Office of Historic Preservation
conductor	An individual transmission system
corridor	A transmission line right-of-way zone containing one or more rows of towers
DoE	Department of Energy
DPR	Department of Parks and Recreation (CA)
EA	Environmental Assessment
GIS	Geographic Information System
GPS	Global Positioning System
kV	kilovolt
line	A single-circuit (three conductors) of electrical transmission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act

NRHP	National Register of Historic Places
NWIC	Northwest Information Center of the CHRIS
O&M	Operations and Maintenance
PG&E	Pacific Gas & Electric Company
PGT-PG&E	Pacific Gas Transmission-Pacific Gas & Electric
row	a single set of transmission towers, carrying one or more circuits
ROW	Right-of-Way
SJVEA	San Joaquin Valley Environmental Assessment
SJVROW	San Joaquin Valley Right-of-Way
SNR	Sierra Nevada Region
SHPO	State Historic Preservation Office
TANC	Transmission Agency of Northern California
TCP	Traditional Cultural Property
tower	A wooden or metal structure that supports transmission conductors
USGS	U.S. Geological Survey
Western	Western Area Power Administration

## Abstract

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The Western Area Power Administration (Western) is preparing an Environmental Assessment (EA) under the National Environmental Policy Act, to assess the potential environmental effects of its operations and maintenance program for the San Joaquin Valley Project Area. Western's transmission lines transmit power from federal hydroelectric power facilities in California. The ROW for the project crosses through San Joaquin, Alameda, Contra Costa, Santa Clara, Calaveras, Tuolumne, and Merced counties, California. San Joaquin Valley ROW maintenance activities include, but are not limited to, access road upgrades, erosion control measures, tower repair, and vegetation control. In the future, Western plans to clear vegetation between the towers to enhance wildlife habitat, prevent safety hazards, and improve system reliability.

In support of the proposed project, Western will be conducting cultural resources inventories within the ROW and associated access roads of the San Joaquin Valley transmission system to ensure continued compliance with Section 106 of the National Historic Preservation Act and 36 CFR 800, the implementing regulations. The ROW consists of seven major transmission corridors and four project facilities, which include: (1) Hurley-Tracy #2 (2) Tracy-Lawrence Livermore Lab; (3) Hurley-Tracy #1; (4) Tracy-Los Vaqueros; (5) Tracy-Contra Costa; (6) Gloryhole 17.2 kV Distribution Line; (7) New Melones-Tuttletown 17.2 kV Distribution Line; and the following substations: (1) New Melones Substation; (2) Coyote Substation; (3) Pacheco Substation; and (4) O'Neill Substation.

This document presents a summary of all previously documented cultural resources and inventories within or near Western's ROW and associated legal access roads and facilities, and presents a strategy for completing a comprehensive cultural resources inventory.

The intent of this report is to:

1. Summarize the methods of research conducted for this report.
2. Present a summary of existing background research and knowledge of cultural resources within 200 meters of the centerline of the ROW and associated access roads.<sup>1</sup>
3. Present the goals of the cultural resources inventory.
4. Present a field strategy to complete an accurate, comprehensive inventory of all cultural resources within the ROW and associated access roads.

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<sup>1</sup> "Within 200 meters of the ROW" is used throughout this document to indicate a 200-meter area of analysis on each side of the centerline of the ROW and associated access roads. While background research was conducted within a 1.0-mile radius of the ROW and associated access roads, and project facilities, the research results reported in this document have been limited to within 200 meters of the centerline of the ROW and the associated access roads to refine the potential sensitivity directly within and adjacent to the ROW and associated access roads to inform the field survey.

5. Analyze and describe the types of sites expected to be identified in the field during surveys and the sensitivity of areas along the transmission line and associated access roads, based on the project activities and potential impacts, existing land use and natural setting, and results of previous research in each project segment.
6. Present recommendations for accomplishing the project goals.

It is important to note here that this report and the tables presented in Appendices A and B address the resources that have been previously identified within 200 meters of either side of the centerline of the ROW, associated access roads, and project facilities. While the records search was conducted to identify all previously identified resources within 1.0 mile of the ROW, associated access roads, and project facilities, one of the primary goals of this document is to ascertain the actual on the ground sensitivity of the specific portions of the ROW, associated access roads, and project facilities that will be subject to actual ground disturbance during project implementation. It is most important to identify those resources that may be encountered during the field survey and have the potential to be impacted rather than present the overall results of the larger records search results in order to focus on the important resources within and adjacent to the ROW, associated access roads, and the project facilities.

While numerous other cultural resources inventories have been conducted within portions of the ROW and associated access roads, no comprehensive inventory has been conducted to date of the full ROW; prior inventories covered only portions of the ROW, utilized inconsistent field strategies, and/or were conducted over many decades. Western's goal is to create one current, accurate, and consistent cultural resources inventory of the entire ROW.

Field survey strategies will include the following components for all portions of the ROW and associated access roads that are accessible:

- Based on Western's direction, the survey area will encompass the entire San Joaquin Valley Project ROW.
- Field survey for the entire ROW will be conducted by teams of cultural resources specialists using no more than 20-meter transects as access allows. Surveyors will record all cultural resources on the appropriate California Department of Parks and Recreation (DPR) form, prepare sketch maps, photograph diagnostic artifacts, and make GPS readings of each resource using a sub-meter-accurate GPS unit. All previously recorded resources will be updated with a sketch map and GPS readings and DPR form if necessary. The boundaries of each resource will be mapped and recorded beyond the limits of the ROW if the site extends outside the ROW and if that area is accessible.

- Areas that cannot be accessed or surveyed at all within the ROW or along the associated access roads will be mapped using a GPS unit and classified as non protocol or not surveyed in the project geographic information system mapping.
- Areas surveyed by other entities will be resurveyed. Based on the extensive analysis of the records searches conducted within the ROW, it does not appear that many portions of the ROW and associated access roads have been subject to systematic, recent investigations and Western has not completed any surveys within the ROW. Therefore, the entire ROW and associated access roads will be subject to intensive survey where access allows.

## SECTION 1

# Project Background

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The Western Area Power Administration (Western), an agency of the Department of Energy (DoE), markets and delivers reliable, cost-based, hydroelectric power and related services within a 15-state service area of the central and western U.S. The Sierra Nevada Region (SNR), one of four customer service regions, is responsible for the operation and maintenance of federal transmission facilities within a geographic service territory which includes Northern California and a portion of Nevada. To operate effectively and maintain the facilities, Western must comply with various directives, regulations, and orders, including the National Electric Safety Code and Western States Coordinating Council, which ensure protection of human safety and reliability of the transmission system. Western is redesigning its right-of-way (ROW) operations and maintenance program and is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) to assess the potential environmental effects of this program. This document assesses the current state of knowledge regarding cultural resources within 200 meters of either side of the ROW, Western's transmission corridor, associated access roads, and the project facilities, and presents a strategy for completing a comprehensive cultural resources inventory to comply with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations found at 36 CFR 800.

Western's SNR operates and maintains numerous substations and more than 1,200 miles of transmission lines. These transmission lines are interconnected to other Load Serving Entities, and utility providers. Western's facilities that are included in the San Joaquin Valley ROW and associated access roads include 69-kilovolt (kV), 230-kV, 500- kV transmission lines and distribution lines within the counties of San Joaquin, Contra Costa, Alameda, Calaveras, Tuolumne, Santa Clara, and Merced (Figure 1).

## 1.1 Introduction

Western has defined the San Joaquin EA project in terms of the operations and maintenance activities for Western's transmission system from south of Sacramento to Tracy, north to Oakley and southwest to Livermore, with two additional discrete segments near the New Melones Substation in Calaveras and Tuolumne counties. Western has reconfigured its operation and maintenance methods for this area and is preparing an EA that will consider the environmental consequences of continued maintenance and operations under the revised

protocols. In addition, the EA covers four substations: Coyote Substation (in Santa Clara County), Pacheco and O'Neill substations (in Merced County) and New Melones Substation (in Calaveras County).



As part of Western's environmental compliance review, it is required, under Section 106 of the National Historic Preservation Act (NHPA) (16 USC 470 as amended), to consider the effects of its operations and maintenance on historic properties (properties eligible for listing in the National Register of Historic Places). As a federal agency, Western must follow the implementing regulations of the NHPA as found in 36 CFR 800. These regulations describe the steps that Western, as a federal agency, must take to identify and evaluate historic properties, assess the potential effects of the undertaking (in this case, continued operations and maintenance) on such properties, and to consider and reduce potentially adverse effects of the undertaking on historic properties by implementing avoidance or mitigation measures. This document represents a first step in this program. It presents the results of a background search and literature review of Western's San Joaquin Valley to identify previously discovered and recorded cultural resources and historic properties.

## 1.2 San Joaquin Valley ROW Maintenance Program

The purpose of the San Joaquin Valley ROW maintenance program is to maintain transmission lines and legal access roads. San Joaquin Valley ROW maintenance activities include, but are not limited to, access road upgrades, erosion control measures, tower repair, and vegetation control. It is Western's responsibility to cost-effectively maintain the federal transmission system in the interests of public safety and reliability. Western's maintenance crews must have safe and all-weather access to transmission line structures, consistent with safety and environmental regulations and policies. In meeting this purpose, Western's key maintenance and operations objectives are to:

- Prevent operational hazards;
- Protect facilities from fire;
- Prevent safety problems for Western employees and the neighboring public; and
- Control the spread of noxious weeds.

To meet these objectives, ongoing ROW maintenance needs include:

- Eliminating the threat for vegetation to interfere with the lines and towers;
- Controlling vegetation; and
- Maintaining the transmission line and legal access road ROW to facilitate year-round access to transmission structures.

The key purpose of the maintenance program is to control vegetation near transmission lines that could cause a human safety hazard or create a fire hazard and result in electrocution, damage to the transmission line, damage to the environment and private property, or an outage which would interrupt service.

descriptions of the transmission lines are presented in Table 2. The ROW is also described in the following text.

- **Hurley-Tracy No. 1 230 kV (HUR-TRY #1).** This transmission line is comprised of one row of single-circuit steel towers. The ROW is 125 feet (ft) wide in total. The length of this ROW segment is 32.14 mi, with a ROW area of 487.05 acres.
- **Hurley-Tracy No. 2 230 kV (HUR-TRY #2).** This transmission line is comprised of one row of single-circuit steel towers. The ROW is 125 feet (ft) wide in total. The length of this ROW segment is 32.16 mi, with a ROW area of 487.29 acres.
- **Hurley-Tracy No. 1 and 2 230kV (HUR-TRY #1&2).** This transmission line is comprised of one row of double-circuit steel towers. The ROW is 125 feet (ft) wide in total. The length of this ROW segment is 3.38 mi, with a ROW area of 51.22 acres.
- **Tracy-Contra Costa 69 kV (TRY-CC).** This transmission line is comprised of single suspension wood and steel towers and runs from the substation to Tower #12/8. The ROW is 125 feet (ft) wide in total. The length of this ROW segment is 12.75 mi, with a ROW area of 193.19 acres.
- **Tracy-Contra Costa 69 kV (TRY-CC).** This transmission line is comprised of single suspension wood and steel towers and runs from Tower #12/8 to CC4. The ROW is 50 feet (ft) wide in total. The length of this ROW segment is 8.02 mi, with a ROW area of 48.63 acres.
- **Tracy-Los Vaqueros 69 kV (TRY-LVQ).** This transmission line is comprised of wood horizontal posts. The ROW is 125 feet (ft) wide in total. The length of this ROW segment is 2.46 mi, with a ROW area of 37.24 acres.
- **Tracy-Lawrence Livermore Lab 230 kV (TRY-LLL).** This transmission line is comprised of steel single-strain towers. The ROW is 120 feet (ft) wide in total. The length of this ROW segment is 12.70 mi, with a ROW area of 184.68 acres.
- **New Melones No. 1 230 kV (NML-NML 1).** This transmission line is comprised of one row of single-circuit steel towers. The ROW is 125 feet (ft) wide in total. The length of this ROW segment is .33 mi, with a ROW area of 1.0 acre.
- **New Melones No. 2 230 kV (NML-NML 2).** This transmission line is comprised of one row of single-circuit steel towers. The ROW is 125 feet (ft) wide in total. The length of this ROW segment is ~0.50 mi, with a ROW area of ~5.98 acres.
- **Tuttletown 17.2 kV.** This distribution line is comprised of wood posts. The ROW is 25 feet (ft) wide in total. The length of this ROW segment is 4.20 mi, with a ROW area of 12.73 acres.
- **Gloryhole 17.2 kV.** This distribution line is comprised of wood posts. The ROW is 25 feet (ft) wide in total. The length of this ROW segment is 6.16 mi, with a ROW area of 18.68 acres.

**Table 1: San Joaquin Valley Project Facilities**

Facility Name	Facility Code	Facility Type	Perimeter* (feet)	Total Area* (acres)
Los Vaqueros	LVQ	Substation	839	0.96
Tracy 500-kV Tracy 230-kV and 69-kV Tracy	TCY TRY TMF	Substation Substation Maintenance Facility	4,747 (all facilities are enclosed in one fence)	5.45
Livermore	LLL	Substation	2,203	2.53
New Melones	NML	Substation	1,408	1.61
Coyote	COY	Substation	3,272	3.76
Pacheco	PAC	Substation	1,486	1.71
O'Neill	ONE	Substation	541	0.62

\* Perimeter/Total Area: These values are the distances/areas around the facilities, minus any areas that overlap with the transmission line ROWs.

**Table 2: San Joaquin Valley Project Transmission Lines**

Transmission Line*	Start Point	End Point	Length of Transmission Line (miles)	ROW Width (feet)	Total Area (acres)
HUR-TRY #1	TWR 37/2 (Sacramento/ San Joaquin County Line)	TWR 69/2	32.14	125	487.05
HUR-TRY #2	TWR 37/2 (Sacramento/ San Joaquin County Line)	TWR 69/2	32.16	125	487.29
HUR-TRY #1&2	TWR 69/2	TRY Substation	3.38	125	51.22
TRY-CC	TRY	TWR 12/8 (Delta Road)	12.75	125	193.19
TRY-CC	TWR 12/8 (Delta Road)	CC4	8.02	50	48.63
TRY-LVQ	TWR 0/1	LVQ	2.46	125	37.24
TRY-LLL	TRY Substation	LLL Substation	12.70	120	184.68
NML-NML 1	NML Powerhouse	NML Substation	0.33	125	1.00
NML-NML 2	NML Powerhouse	NML Substation	~0.50	125	~5.98
Tuttletown	PG&E Tap	End of Line	4.20	25	12.73
Gloryhole	PG&E Tap	End of Line	6.16	25	18.68

\*Each ROW may contain a single-circuit (one set of conductors on one set of towers) or a double-circuit (two sets of conductors on one sets of towers) transmission line. The HUR-TRY transmission line changes from single-circuit to double-circuit along its length; other lines' ROW may change from containing only one set of transmission line towers to containing more than one. For this reason, any one transmission line may be listed more than once with different ROW widths established for different regions of the transmission line.

Routine ROW maintenance activities related to vegetation management include:

- Removing vegetation along the ROW and associated access roads that could grow into the transmission line;
- Applying herbicides to control vegetation in or near the ROW and associated access roads;
- Upgrading and maintaining legal access roads by re-grading and vegetation removal;

Western plans to remove vegetative species with a mature height of greater than 12 feet and to maintain cleared ROW and associated access roads using manual, mechanical, and chemical methods. The cleared ROW will ensure greater transmission reliability and safety.

Other routine ROW maintenance activities include:

- Patrolling the system on the ground and by aircraft;
- Installing, maintaining, and replacing hardware, ground wire, and bird guards;
- Repairing steel equipment at the transmission towers;
- Placing fill or rocks in culverts or around structures;
- Constructing retaining walls and rock buttresses to prevent undermining of roads and structure platforms;
- Conducting geotechnical investigations including soil borings up to 100 feet deep;
- Constructing new tower footings; and
- Improving drainage conditions by diverting water away from slopes and constructing water bars.

Equipment upgrade activities may include:

- Installation of microwave equipment at existing towers;
- Construction of temporary roads for vegetation removal; and
- Installation of fiber optic cables.

### **1.3 The San Joaquin Valley Transmission System**

The study area of Western's San Joaquin Valley transmission system lies within San Joaquin, Contra Costa, Alameda, Calaveras, Tuolumne, Santa Clara, and Merced counties. Twelve transmission line ROWs and associated legal access roads, and substations owned, operated, or maintained by Western, comprise the entire ROW. A list of all project facilities is presented in Table 1 and

### 1.3.1 San Joaquin Valley Access Roads

Much of Western’s infrastructure is not accessible by paved road; therefore, Western has legal access roads that allow personnel to drive to facilities and various locations along the transmission lines. Western’s documented legal access roads are generally dirt or gravel, and require occasional maintenance. For this reason, the ROW of all legal access roads are being considered as part of the project. Table 3 summarizes the total length and ROW width of access roads within the entire project area. Individual access roads are not listed, due to their vast quantity and lack of formal names.

**Table 3: San Joaquin Valley Project Documented Legal Access Roads**

Location	Cumulative Length of Access Roads (miles)	ROW Width (feet)*	Total Area (acres)
San Joaquin Project Area	27.63	30	100.47

\*Cultural surveys will cover a width of 50 feet – 25 feet on each side of the centerline of the road.

## SECTION 2

# Literature Review

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GANDA's cultural resources specialists conducted a review of documented archaeological and historic resources literature pertaining to the San Joaquin Valley Project (SJVROW) to compile a list of previously recorded cultural resources and cultural resource inventories within or near the ROW, associated access roads, and project facilities throughout seven counties. Key sources for the records search were the Northwest Information Center (NWIC) and Central California Information Center (CCIC) of the California Historical Resources Information System (CHRIS) and previous records search documents provided by Western, as well as historic research conducted at numerous libraries and historical repositories discussed below.

## 2.1 Records Search

All previous, updated, and new record searches conducted for this investigation encompass a one-mile radius of the ROW, associated access roads, and project facilities to document all previously recorded cultural resources and prior inventories to: 1) determine whether known archaeological resources had been recorded within or adjacent to the ROW, associated access roads, and project facilities; 2) to assess the likelihood of discovering unrecorded archaeological resources based on historical references and the distribution of environmental settings of nearby sites; and 3) to develop a context for identification and preliminary evaluation of identified resources.

The record searches were conducted in three parts, which consisted of:

- 1. Previous Record Searches:** In 2007, a records search of the portion of the ROW within Alameda, Contra Costa (NWIC) and San Joaquin (CCIC) counties conducted by Western cultural staff;
- 2. Updated Record Searches:** In 2008, an updated records search was conducted at both the NWIC and CCIC of the ROW and associated access roads to supplement the previously conducted records search conducted by Western in 2007;
- 3. New Record Searches:** In 2008, the CCIC and the NWIC conducted a new records search for portions of the ROW and associated access roads located within Calaveras, Merced, Santa Clara, and Tuolumne counties.

**Previous Record Searches:** Western cultural staff member Gary Reinoehl conducted two record searches in February 2007; one at the NWIC for portions

of the ROW within Alameda and Contra Costa counties (file #NA) and one at the CCIC (CCIC file # 6613L) for San Joaquin County. The data compiled by Western were reviewed as part of the preparation of this report and the results are included in Appendices A, B, and C.

**Updated Record Searches:** An updated records search was conducted at the CCIC on November 25, 2008 (CCIC file # 7245L) to supplement Western's records search from February 2007 for portions of the ROW and associated access roads within San Joaquin County. An updated records search was also conducted at the NWIC (NWIC file # 08-0576) for Alameda and Contra Costa counties on December 19, 2008 to supplement Western's records search from February 2007. The data compiled by the project staff were reviewed and the results are included in Appendices A, B, and C of this report.

**New Record Searches:** A new records search was conducted at the CCIC (CCIC file # 7244I) in November 2008 in order to address portions of the ROW within Calaveras, Tuolumne, and Merced counties that were not addressed in the previous records search. In addition, the NWIC conducted a new records search on December 19, 2008 (NWIC file # 08-0576) for those portions of the ROW within Santa Clara County that were not previously addressed in February 2007. For this report and background research, the data were compiled and reviewed, and the results are included in Appendices A, B, and C of this report.

All archaeological sites and cultural resources inventories within 1.0 mile of the centerline of the ROW, associated access roads, and project facilities including all of the substations, were plotted on USGS topographic maps by the NWIC and CCIC staff. The data have been compiled, summarized, and focused into tables that address all of the identified resources and inventories within 200 meters of the centerline of the ROW, associated access roads, and project facilities to create the following appendixes for the ROW which includes the associated access roads and project facilities: Appendix A: Previously Conducted Inventories within 200 meters of the ROW; Appendix B: Previously Recorded Sites within 200 meters of the ROW, and Appendix C: Significant and Potentially Significant Previously Recorded Resources more than 200 meters from the ROW.

The reason that this report and the Appendixes do not include all of the previously recorded resources and previous inventories from within 1.0 mile of the ROW, associated access roads, and project facilities is because in order to effectively understand and demonstrate the sensitivity of the actual ROW and the area that will be subject to field survey and on the ground disturbance as a result of project implementation, it is more important to understand the resources that have been identified within and adjacent to the ROW. Those are the resources that will likely be encountered in the field and have the potential to be impacted during project implementation.

Both the NWIC and CCIC provided complete bibliographies and copies of relevant inventory reports and archaeological site records. The NWIC and CCIC also reviewed the *California Inventory of Historical Resources* (CA-OHP 1976), the *California Historical Landmarks* (CA-OHP 1996), *California Points of Historical Interest* listing (CA-OHP May 1992 and updates through 2004), the *Historic Properties Directory Listing* (CA-OHP 2008b,c), which includes updated listings of the National Register of Historic Places, the California Register of Historical Resources, and the Archaeological Determination of Eligibility (CA-OHP 2008a), GLO Plats, historic United States Geological Survey (USGS) topographic maps, and other pertinent historic data available for each specific county.

## 2.2 Archival Research

The project architectural historian conducted archival research at the following local historical society and research institutions:

- San Joaquin County Historical Society, Lodi, California;
- Contra Costa County Historical Society, Martinez, California;
- Amador-Livermore Valley Historical Society, Pleasanton, California;  
and
- Livermore Heritage Guild, Livermore, California.

The materials consulted include historic maps, books, and documents used to develop a broad historic context of the project areas. The architectural historian conducted archival research on historic USGS topographic maps at the following institutions:

- California State University, Chico, Meriam Library Special Collections, California Historic Topographic Map Collection;
- UC Berkeley, Earth Sciences Library, Historic Topographic Maps of the San Francisco Bay Area.

## SECTION 3

### Field Strategy

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The field strategy portion of this report presents the methods that the cultural resources team will employ to provide a comprehensive and accurate cultural resources inventory for the SRJROW Project. First, the goals of the field survey and the actual parameters of the field survey are presented and where, in relation to the SJVROW Project, the survey will be conducted. Second, the basis for the field methods and the preliminary sensitivity analysis for the presence of cultural resources within the ROW, associated access roads, and project facilities is presented. These are based on: 1) the maintenance goals of the SJVROW Project, 2) existing conditions and land use, which include access issues and the basic natural setting, and 3) the results of the background research. Finally, the cultural resources sensitivity for each segment of the SJV ROW is discussed.

As stated earlier in this report, previously recorded studies within 200 meters of the centerline of the ROW, associated access roads, and project facilities have been conducted using greatly varying degrees of intensity and different strategies over many decades. Further, because of the passage of time since some of the surveys have occurred, it is possible that some of these sites have since been impacted or destroyed. Therefore, all portions of the ROW and associated access roads will be subject to 100 percent survey coverage, where access allows, achieving a consistent and accurate inventory of all cultural resources within the ROW.

#### 3.1 Goals of the Field Survey

The goals of the field survey within the SJVROW Project area are:

1. To identify and record all cultural resources, i.e., prehistoric sites, historic sites 45 years or older (including transmission lines and substations), and traditional cultural properties.
2. Identify areas not surveyable due to density of vegetation, inclination of slope, or other physical obstacles;
3. Re-record previously recorded sites; (If the determination is made that the site form is accurate and current, no new form is required; however, a new site map will be drawn to include Western's project activities)
4. Evaluate potential significance of the cultural resources;
5. Assess the potential impact of ROW maintenance on significant, or potentially significant cultural resources; and

6. Identify possible measures for avoiding, reducing, or mitigating impacts to significant cultural resources.

### **Survey Area- Area of Potential Effects/ROW and Access Roads**

All activities to be conducted as part of the proposed project would occur within the existing ROW for each of the transmission lines, substations, and associated legal access roads. The area of potential effects (APE) is defined as the ROW of the existing transmission lines and legal access roads, and a 50 foot radius around the substations.

The cultural resources team will conduct a 100 percent coverage pedestrian survey of the APE no more than 20-meter transects wherever the ROW is accessible. The survey area for both archaeological and architectural resources is considered to be width of the ROW for each transmission line (see Table 2 above), and for each legal access road, the survey area will encompass 25 feet on either side of the centerline of the road, or 50 feet total.

Due to the nature of project maintenance, the depth of ground disturbance is expected to be extremely limited and will not exceed the top 12 inches of surface soil for most maintenance activities. Therefore, archaeological inventory will not encompass an analysis of the geomorphology of the ROW because there is a very low potential for impacting buried prehistoric archaeological resources.

### **Documentation of Cultural Resources during Survey**

The cultural resources team will use a GPS unit capable of sub-meter accuracy to record the locations of all cultural resources and project features, as well as areas that could not be surveyed due to a lack of access because of dense vegetation or inclination of slope. Areas not surveyed will be labeled in the Project GIS mapping as “not surveyed.”

The cultural resources team will record all cultural resources within the APE including isolated finds, prehistoric and historic sites, historic structures and features, and traditional cultural properties (TCPs). All resources will be recorded on Department of Parks and Recreation (DPR) 523 forms, plotted on a USGS map using GPS coordinates, a sketch map of the resources will be prepared, and the resource will be photographed. There will be no artifact collection in the field. All diagnostic artifacts will be drawn and photographed and plotted on maps using GPS. In addition, archaeologists will record the complete visual surface boundaries of each site, including portions of sites that extend beyond the boundaries of the ROW, if that land can be legally and logistically accessed.

## **3.2 Field Strategy Factors and Potential Sensitivity of the ROW**

The primary factors influencing the field strategy will include the 1) SJVROW maintenance needs, 2) the existing conditions and land use/natural setting, and 3) the results of the previous background research. However, the field strategy will remain as consistent as possible throughout the entire ROW and the goal will be 100 percent survey coverage using transects that do not exceed 20 meters in width. All accessible portions of the ROW and associated access roads will be surveyed including orchards, plowed and cultivated agricultural fields, and all other portions of the ROW that are not submerged, on steep slopes, paved, or obscured by dense vegetation, or other obstacles.

The survey will be classified in three ways:

- **Protocol:** 20-meter transects
- **Non-protocol:** more than 20-meter transects in areas of limited access
- **Not surveyed:** unable to survey due to inaccessibility (i.e. steep slopes, impenetrable vegetation, etc.)

The type of survey will depend on the accessibility of each portion of the ROW and existing conditions.

**1. San Joaquin Valley ROW Maintenance Project Requirements** - Western may require access to all areas within the ROW and along the legal access roads for project related activities such as erosion control, vegetation management, drainage control, and ongoing maintenance of project facilities. Activities which are most likely to have an impact on cultural resources are those which involve some ground disturbance including, but not limited to: grading access roads, placement of water bars, embankments, and other erosion control structures. Western's vegetation management practices could cause ground disturbance as well within the topsoil as plants are extracted during initial clearing. Generally, the maintenance of project facilities such as towers and transmission lines will not likely have an impact on cultural resources due to the lack of ground disturbance. Other considerations are the effects of visual impacts and geoaerchaeological considerations, which are discussed below.

*Visual Impacts:* There will be no new construction as a result of the project; therefore, visual impacts to cultural resources and, particularly with respect to historic architectural resources, will not be a consideration, except for locations of new substations, or within 50 feet of substations that will be modified.

*Geoarchaeological Considerations:* Based on the project description of maintenance that Western is planning for the ROW, the ROW will not be subject to deep ground disturbances. While much of the Central Valley floor has been subject to considerable alluvial deposition during the Holocene period (approximately the past 10,000 years) and are likely sensitive for the presence of

buried archaeological deposits, due to the nature of the project, no deep ground disturbances will occur. Therefore, there is no need to analyze the potential for the presence of buried archaeological deposits within the ROW because project activities would not affect such resources.

**2. Existing Conditions and Land Use/Natural Setting-** The present natural setting of the Project ROW is shaped by a variety of landscapes. These include agricultural lands on the San Joaquin Valley floor, the dry rolling hills and rangelands of the Coastal Mountain Range, the scrub oak dotted foothills east of the Sierra Nevada Range Mountains, and small riparian corridors near major and minor watercourses. This natural topography helps to inform the potential for prehistoric and historic archaeological sensitivity; California prehistoric occupation sites types are regularly identified near natural water sources.

**Agricultural Lands/Valley Floor:** Within the ROW and associated access roads, there are large stretches of cultivated fields, orchard, and vineyards that are not likely to be sensitive for the presence of surface deposits. Valley floors that have been subject to considerable alluvial deposits over the past ten thousand years and are likely more sensitive for the presence of buried archaeological deposits. However, due to the nature of the project, no deep ground disturbances will occur.

**Rolling Hills/Rangelands:** These portions of the ROW are not likely to be sensitive for prehistoric archaeological resources due to the lack of dependable or any water sources, shelter, oaks to procure acorns, and additional resources that would have been attractive for Native American habitation and use. These areas are, however, sensitive for the presence of historic archaeological resources and features related to the mining industry that was prevalent throughout the foothills of the Central Valley.

**Riparian Corridors/Wetlands:** Portions of the ROW within, adjacent to and near areas where there are year-round water sources such as the Stanislaus River, the San Joaquin River and Delta, and secondary tributaries such as streams, rivers, and seasonal watercourse will be the most sensitive areas for the presence of prehistoric archaeological resources. This is due to the dependable water sources and abundance of essential natural resources such as plants and game that Native American populations used for their subsistence. These portions of the ROW are also sensitive for the presence of historic archaeological resources and features associated with the mining industry that was prevalent throughout the Central Valley that often used water resources as part of the hydraulic mining industry.

### **3. Results of the Background Research-**

While the cultural resources team will be conducting intensive pedestrian survey in all accessible portions of the ROW and associated access roads, there are portions of the ROW that are particularly sensitive for the presence of

archaeological sites and historic features. The purpose of the extensive background research is to understand what types of resources have been identified within each segment of the ROW so that the cultural resources team can predict what types of resources may be identified in the field and the potential for cultural resources sensitivity throughout the ROW.

*Previous Survey Coverage-* Large portions of the ROW have not been subject to systematic intensive survey; therefore, it is clear that in order to create one comprehensive, accurate and current inventory, the entire ROW and associated access roads requires full survey coverage. Below, each segment of the ROW is described in terms of what types of resources have been identified, the general natural setting, documented site density and general percentage of prior survey coverage, in addition to presumed sensitivity for the presence of cultural resources.

### 3.3 Summary of Cultural Resources Sensitivity of the ROW by Project Segment:

#### Hurley-Tracy #1 and #2:

##### **Archaeological Sensitivity**

Previous archaeological inventories within this project segment, located in San Joaquin County, have resulted in one prehistoric resource along the north rim of the historic Atlas Tract Levee (P-39-004529) consisting of an occupation and burial site (P-39-000269/CA-SJO-151) at Bear Creek. This is indicative of California occupation site types which are regularly identified near natural water sources. There are eleven occupation and burial sites recorded near this segment and are located within 200 m of the ROW to the east and west along the Mokelumne River, Mokelumne Lake, and Dry Creek. Known and presumed archaeological site density is relatively high in areas around these naturally occurring water sources. Approximately 85 percent of the project segment has not been surveyed.

##### **Historic Architectural Sensitivity**

Specific to this segment, reclamation in the San Joaquin Valley Delta began in the 1850s and 1860s as a result of the Swamp and Overflow Land Act of 1850 which transferred ownership of the Delta from the federal government to the state, and opened up the land for speculation by land developers. The Delta was a series of waterways interspersed with islands formed by natural sand levee deposits. Beginning in the 1850s and 1860s, reclamation districts were established and Delta islands were reclaimed with the construction of new levees that were engineered to be a more permanent levee system. A series of ditch systems and pumping stations were constructed as components to the reclamation/levee systems.

Agricultural resources in this portion of the ROW include agricultural farm and ranch complexes. Asian Labor Camps were prominent in the mid-19<sup>th</sup> and early 20<sup>th</sup> centuries, and sometimes canneries were built next to the fields and water sources.

Ferries were the initial means of transportation, including ferry landings. Later, railroads became the main form of transporting goods. The historic Western Pacific Railroad Main Line (P-39-000098/CA-SJO-292H) and a Western Pacific Railroad grade spur, and the Atchison, Topeka & Santa Fe Railroad (P-39-000112/CA-SJO-293H) cross the ROW.

Natural water resources include the Mokelumne River, Dry Creek, Mosher Slough, Pixley Slough, Bear Slough, Five Mile Slough, the Middle River, Old River, the Stockton Deep Water Channel, the San Joaquin River, Burns Cutoff, and Clifton Court Forebay. The Mokelumne Aqueduct (P-39-004399/P-07-002612/CA-SJO-286H) runs through the ROW in San Joaquin County primarily as an underground pipeline. The Grant Line and Fabian and Bell canals run just east of the project area, and the West Canal (P-39-004856) runs just west of the project area near Clifton Court Forebay.

The towns and cities that developed within, adjacent or near to the ROW include Holt, and Rough & Ready Island/US Navel Supply Annex.

### **Tracy- Contra Costa:**

#### **Archaeological Sensitivity**

This segment of the ROW, situated in Contra Costa County, is a densely populated urban area with approximately 20 percent agricultural land. The archaeological inventories have resulted in the recordation of engineering structures such as canals, aqueducts, bridges and a Railroad segment. No prehistoric archaeological resources have been identified.

Archaeological surveys have been limited to the agricultural landscape. Known archaeological inventories have been completed within 50 percent of the ROW. Known and presumed archaeological site density along this project segment is low.

#### **Historic Architectural Sensitivity**

This part of Contra Costa County is known for its agricultural history. In the late 19<sup>th</sup> century, dry land wheat and barley grain farming were prominent. When technological advancement led to irrigated farming, fruit crops such as apricots, peaches, nectarines, and row crops such as nuts and vegetables became prominent in this region.

Water conveyance systems within and crossing the ROW include the Mokelumne Aqueduct (P-07-002612 /P-39-004399/CA-SJO-286H), the Contra Costa Canal (P-07-002695) and related features such as pumping stations, farm and automobile bridges, and the East Contra Costa Irrigation District main canal complex (P-07-002914).

Transportation resources are the result of popular use of wagons, horses, stage lines and riverboats which were the main forms of transportation for people and goods prior to the arrival of the railroad in 1878. Point of Timber Landing and Iron Horse Landing, both located adjacent to the ROW and associated access roads, are examples of landings used for the transport of goods and people by boat. Two railroads that cross the ROW include the Atchison, Topeka and Santa Fe Railroad (P-07-000776/CA-CCO-718H), and the San Pablo and Tulare Railroad/ San Francisco and New Orleans Line (now Southern Pacific). The towns of Oakley and Bixler are located adjacent to the ROW and Point of Timber Landing, a small village, was historically located adjacent to the ROW and associated access roads.

Natural water resources include Dutch Slough, on the historic delta of Marsh Creek, a former tidal marsh that was diked and drained for agriculture in the mid 19<sup>th</sup> century. Emerson, Little Dutch Slough, and portions of the Dutch Slough located adjacent to the project area, are artificial channels dredged between 1904 and 1910.

### **Tracy- Los Vaqueros:**

#### **Archaeological Sensitivity**

A prehistoric human burial (P-07-000413/CA-CCO-653) and three lithic scatter sites (P-07-000072,-000085,-000086/CA-CCO-130, -143, -144) have been recorded in the ROW in the vicinity of the Italian Slough and Clifton Court Forebay in Contra Costa County. Site record notes (P-07-000413/CA-CCO-653) indicate a possible "mound" approximately two miles away near the San Joaquin River. At present, 25 percent of this project segment is known to have been surveyed. Known and presumed archaeological site density along this project segment is low to moderate.

#### **Historic Architectural Sensitivity**

The California Aqueduct, Clifton Court Forebay, and Italian Slough are water conveyance resources that cross or are located adjacent to the ROW and associated access roads in this segment. Natural water resources that cross or are directly adjacent to the ROW include Old River and Kellogg Creek. Transportation resources within this segment include the San Pablo and Tulare Railroad/ San Francisco and New Orleans Line (now Southern Pacific).

### **Tracy- Lawrence Livermore Lab:**

#### **Archaeological Sensitivity**

The archaeological sites in this project segment in Alameda County consist of ranch or farm complexes in varying states of condition, and engineering structures, such as transmission line towers and bridges that intersect the project ROW and associated access roads. One prehistoric cave site (P-01-000178/CA-ALA-456) has been identified within the project ROW, making the likelihood of additional sites and isolates probable. Known and presumed archaeological site density along this project segment is relatively low. The project segment has been 85 percent surveyed.

#### **Historic Architectural Sensitivity**

Today, the dry and barren rolling hills in the ROW are used for cattle grazing and wind farms. The area is sparsely populated. Transportation resources include railroads, railroad bridges and underpasses within the ROW and associated access roads, and include the Western Pacific Railway/Railroad (now Union Pacific Railroad; P-01-001773), and the Central Pacific Railroad/Transcontinental Niles-Sacramento Line (now Southern Pacific Railroad; P-01-010501) historic railroad grade. Segments of an historic road and telegraph line (on 1860 and 1870 GLO maps) from Mission San Jose to Stockton crossed the project area in several locations.

The former town of Altamont was located adjacent to the ROW and associated access roads. Water conveyance systems within and crossing the ROW include the South Bay Aqueduct (P-01-010629) and two associated farm bridges, the California Aqueduct, the Bethany Reservoir and South Bay Pumping Station, and the Delta Mendota Canal (P-01-010435).

### **New Melones-Tuttletown 17.2 kV Distribution Line:**

#### **Archaeological Sensitivity**

This project segment in Tuolumne County is part of the New Melones Archaeological (Historical) District (P-05-002075) documented primarily by M.J. Moratto et al. in 1988. Listed on the *California Register of Historic Resources* (CA-OHP 2008c) and determined eligible for listing on the *National Register of Historic Places* (CA-OHP 2008c). The District is generally located in the Stanislaus River Drainage of Calaveras and Tuolumne counties, which is considered the heart of the Gold Rush country. It contains more than 627 historic and prehistoric sites. All recorded resources within this segment of the ROW and associated access roads are associated with Gold Rush mining operations. Historic and prehistoric sites include ranching complexes, bedrock milling stations,

mining prospect pits, and tailing piles. Known archaeological inventories have been completed within 30 percent of the ROW. Known and presumed archaeological site density is high throughout this project segment.

### **Historic Architectural Sensitivity**

This segment of the ROW and associated access roads is located west of Tuttletown, adjacent to Jackass Hill, a gold mining area that received its name from the jackasses in the pack trains traveling on their way to and from the mines. Mark Twain spent time on Jackass Hill in 1864-1865.

Transportation resources are related to a segment of the Angels Branch of the Sierra Railway (P-55-002305/CA-TOU-1309H) (1898-1902) a National Register eligible resource. While no longer featuring its ties or rails, the railroad grade is located directly adjacent to the ROW. The Angels Branch, a 21-mile long railroad spur serving communities and mines along its length, was built to provide passenger and freight rail service between Angles Camp in Calaveras County and Jamestown in Tuolumne County.

## **Gloryhole 17.2 kV Distribution Line:**

### **Archaeological Sensitivity**

The New Melones Archaeological (Historical) District (P-05-002075) listed on the *California Register of Historic Resources* (CA-OHP 2008c) and determined eligible for listing on the *National Register of Historic Places* (CA-OHP-2008c), dominates this project segment. The District is generally located in the Stanislaus River Drainage of Calaveras and Tuolumne counties, in the heart of the Gold Rush country. It contains more than 627 historic and prehistoric sites that include ranching complexes, bedrock milling stations, mining prospect pits, and tailing piles. All of the recorded resources within this segment of the ROW are related historic features associated with Gold Rush mining operations. Known archaeological inventories have been completed within 20 percent of the ROW. Known and presumed archaeological site density is high throughout this project segment.

### **Historic Architectural Sensitivity**

This area of Calaveras County is rich in gold mining history and is part of the Albany Flat and Angels Camp Mining District. The Albany Flat region, directly adjacent to the project area, and flanked by the flourishing mining towns of Angels Camp and Carson Hill, was well populated in the 1850s with 2,000 inhabitants of several nationalities. The Bruner Mine is located within the ROW and associated access roads, and therefore, it is highly

probable that additional historic mining features and other historic era sites exist within the project area (such as mining ditches).

The Stanislaus River is a natural water resource located adjacent to the ROW. A portion of the New Melones Reservoir (constructed in 1966-1978) is on Bureau of Reclamation land and is a unit of the Central Valley Project, providing irrigation water, hydroelectric power, and flood control.

### **New Melones Substation:**

#### **Archaeological Sensitivity**

While this portion of the project facilities is within the New Melones Archaeological District, the substation footprint itself encompasses no known archaeological sites. Based on the more than 627 prehistoric and historic cultural resources identified in the project segments within the Archaeological District along the Stanislaus River, and the tendency for prehistoric sites along such tributaries, discovery of archaeological resources is highly probable. It appears that 80 percent of this project area has been subject to archaeological survey. There are no known archaeological sites within the project area. The archaeological site density is presumed to be moderate to high throughout this project area given the nature of the District.

#### **Historic Architectural Sensitivity**

Transportation resources include the Central Ferry site which is located adjacent to and downstream from the project facility. Early travel routes in this area were Indian trails that were later improved into horse trails by miners in the mid-19<sup>th</sup> century. The roads were integrally linked to the ferries they serviced. These ferrying operations were an essential part of early transportation since the Stanislaus River was too swift and deep to be crossed by horse. Often, ferrying stations offered more than just transportation across the rivers; they also included stores, lodging and other businesses. The site of the Central Ferry was surrounded by several homes and businesses during this time period.

The Stanislaus River is a natural water resource located adjacent to and downstream from the project facility. A portion of the New Melones Dam and the Powerhouse is located upstream from the Stanislaus River.

### **Coyote Substation:**

#### **Archaeological Sensitivity**

There are no known archaeological sites documented in this SJVROW facility within Santa Clara County. The Coyote Substation is surrounded by orchards and vineyards. Two lithic scatter sites (P-43-000171/CA-

SCL-159/H and P-43-000172/CA-SCL-160) and one large midden site (P-43-000364/CA-SCL-358) have been identified on historic ranch properties located approximately 0.25-miles from the ROW, near Coyote Creek. Archaeological inventories have been completed within 20 percent of the ROW. Known and presumed archaeological site density is likely to be moderate.

#### **Historic Architectural Sensitivity**

Anderson Reservoir, constructed circa 1950, operated by the Santa Clara Valley Water District, and the surrounding County Park, are located adjacent to this project facility. This area of Santa Clara County has a long history of ranching. Two historic houses, the Rhodes House and the Phegley House, are located adjacent to the project facility.

#### **Pacheco Substation:**

##### **Archaeological Sensitivity**

The Pacheco Substation in Merced County is located within the San Luis Gonzaga Rancho (patented in 1871) (P-24-001856) and the San Luis Gonzaga Archaeological District (P-24-000489) which consists of five midden deposits and bedrock milling stations. Owned by the California State Parks, the property encompasses approximately 100,000 acres. The historic landscape consists of ranch features, stone culverts, adobe ruins, and stone walls. Three inventories and an excavation of prehistoric lithics, ornamental and stone artifacts (ME-3228/P-24-001856/CA-MER-27) were completed within 200 meters of this project facility. It appears that a very small portion of this segment has been surveyed, less than 20 percent. Given the proximity to the project area, to the San Luis Reservoir and Recreational areas, known and presumed archaeological site density is likely to be moderate to high within this project segment.

##### **Historic Architectural Sensitivity**

The area around this project facility has historically been a region physically isolated from the population and transportation centers of California. Lieutenant Gabriel Moraga traversed Pacheco Pass by horseback in 1805 on his exploratory journey into the San Joaquin Valley near this area. Since that time, it has been used as a trail, toll road, stagecoach road, and highway. This substation site is adjacent to the San Luis Reservoir constructed in the 1960s.

#### **O'Neill Substation:**

##### **Archaeological Sensitivity**

The O'Neill Substation is located in Merced County on the northeastern shore of the O'Neill Forebay. No cultural resources have been identified within 200 meters of this SJVROW project facility. No inventories have

been conducted in this project segment. The area appears to be a barren hill landscape traversed by canal and aqueduct systems. Archaeological site sensitivity is unknown but likely low.

**Historic Architectural Sensitivity**

This area around the project facility has historically been a region physically isolated from the population and transportation centers of California. In the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, areas adjacent nearby were used for livestock grazing and wheat growing. This site is adjacent to the San Luis Dam, O'Neil Forebay, the California Aqueduct, and the Delta Mendota Canal, water conveyance system resources that are part of the Central Valley Project, and were constructed in the 1960s.

## SECTION 4

# Conclusions

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### 4.1 Field Strategy

The goal of this document is to determine the sensitivity of the ROW, associated access roads, and project facilities for the presence of cultural resources and to present the appropriate field strategies that will be used in order to create an accurate, comprehensive cultural resources inventory for the entire SJVROW for Western's use during maintenance activities and to comply with Section 106, and, specifically, 36 CFR 800.4, the identification of cultural resources.

Field strategies are summarized below:

- 1) The survey area will encompass Western's ROW, associated access roads and within 25 feet of each side of the centerline of the legal access roads, and a 50 foot radius around all project facilities.
- 2) Field survey for the entire ROW, associated access roads, and project facilities will be conducted by teams of cultural resources specialists using no more than 20-meter transects as access allows. Surveyors will record all cultural resources on the appropriate DPR form, prepare sketch maps, photograph diagnostic artifacts, and take GPS readings of each resource using a GPS unit capable of sub-meter accuracy. All previously recorded resources will be updated with a sketch map and GPS readings, and DPR form if necessary. The boundaries of each resource will be mapped and recorded beyond the limits of the ROW if the site extends outside the ROW and if that area is accessible.
- 3) Areas that cannot be accessed within the ROW or within 25 feet of the legal access roads will be mapped using a GPS unit and classified as "not surveyed."
- 4) Based on the extensive analysis of the records searches conducted within the ROW and associated access roads, it does not appear that many portions of the ROW have been subject to systematic, recent investigations, and Western has not completed any surveys within the ROW. Areas surveyed by other entities will be resurveyed. Therefore, the entire ROW will be subject to intensive survey where access allows.

- 5) All GPS units used during the field work will contain digital layers of all previously recorded cultural resources within 200 meters of the ROW and associated access roads in order to aid the cultural resources team during survey in relocating previously recorded resources and to provide data regarding the sensitivity of each portion of the ROW.

## 4.2 Sensitivity of the ROW for Cultural Resources

This document contains a comprehensive analysis regarding the existing knowledge of cultural resources within and near the ROW, associated access roads, and project facilities as presented in Appendices A, B, and C. From this data, a preliminary analysis of the sensitivity for the presence of cultural resources is presented. This sensitivity analysis is preliminary because many portions of the ROW and associated access roads have not yet been inventoried, and for those areas that have been surveyed, it is clear that the intensity, quality, accuracy, and consistency of these previously conducted inventories vary significantly. Thus, the cultural resources team will present the methods, findings, and conclusions of the complete, up-to-date inventory that will be conducted within the SJVROW project in the Section 106 Inventory Report upon completion of the field work.

**Table 4: Summary of Sensitivity of the ROW by Project Segment**

<b>Project Segment</b>	<b>Approximate Amount of Previous Survey</b>	<b>Preliminary Sensitivity for the Presence of Cultural Resources</b>
Hurley-Tracy Lines 1&2	15% surveyed	High
Tracy-Contra Costa	50% surveyed	Low
Tracy-Los Vaqueros	25% surveyed	Low to moderate
Tracy- Lawrence Livermore Lab	85% surveyed	Low
New Melones-Tuttletown 17.2 kV Distribution Line	30% surveyed	High
Gloryhole 17.2 kV Distribution Line	20% surveyed	High
New Melones Substation	80% surveyed	High
Coyote Substation	Less than 20% surveyed	Moderate
Pacheco Substation	Less than 20% surveyed	Moderate to high
O'Neill Substation	No previous surveys	Low, unknown

## SECTION 5

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 1914 Union Island, CA Topographic Quadrangle map  
 1916 Byron, CA Topographic Quadrangle map

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 1917 Morgan Hill, CA Topographic Quadrangle map  
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 1948 Sonora, CA Topographic Quadrangle map  
 1952 Stockton West, CA Topographic Quadrangle map  
 1952 Terminus, CA Topographic Quadrangle map  
 1953 Lodi North, CA Topographic Quadrangle map  
 1953 Lodi South, CA Topographic Quadrangle map  
 1953 San Luis Creek, CA Topographic Quadrangle map  
 1962 Melones Dam, CA Topographic Quadrangle map  
 1662 Angels Camp, CA Topographic Quadrangle map

### Alameda County General Land Office (GLO) Plat Maps

<u>Township/Range</u>	<u>Sheet #</u>	<u>Date of Survey</u>
T2S/R3E	-	1857, 1874
T3S/R3E	-	1862, 1874
T1N/R3E	-	1862, 1867
T2N/R3E	-	1862, 1872

T1S/R4E - 1877

Contra Costa County General Land Office (GLO) Plat Maps

<u>Township/Range</u>	<u>Sheet #</u>	<u>Date of Survey</u>
T2N/R2E	-	1862, 1867, 1876
T1N/R3E	-	

San Joaquin County General Land Office (GLO) Plat Maps

<u>Township/Range</u>	<u>Sheet #</u>	<u>Date of Survey</u>
T5N/R5E	41-387	1853-1869
T5N/R6E	41-388	1853-1869
T4N/R5E	41-294	1853-1864
T4N/R6E	41-296	1853-1865
T3N/R5E	41-201	1853-1867
T3N/R6E	41-202	1853-1865
T2N/R5E	41-089	1853-1879
T2N/R6E	41-090	1853-1865
T1N/R5E	41-010	1878-1879
T1N/R6E	41-011	1851-1877
T1N/R4E	-	-
T1S/R4E	44-006	1851-1870
T1S/R5E	-	-
T2S/R4E	44-108	1851-1857

Santa Clara County General Land Office (GLO) Plat Maps

<u>Township/Range</u>	<u>Sheet #</u>	<u>Date of Survey</u>
Y9S/R3E	-	1876

Merced County General Land Office (GLO) Plat Maps

<u>Township/Range</u>	<u>Sheet #</u>	<u>Date of Survey</u>
T10S/R8E	44-691	1854-1860
9S/8E	44-616	1859-1860
9S/9E	44-617	1853-1860
10S/9E	-	-
10S/10E	44-691	1854-60
T10S/R7E	44-690	1858-1879

Calaveras and Tuolumne County General Land Office (GLO) Plat Maps

<u>Township/Range</u>	<u>Sheet #</u>	<u>Date of Survey</u>
T1N/R13E	41-022	1855-1885
T2N/R13E	41-112	1859-1871
1N/13E	41-022	1855-1885
1N/14E	41-029	1855-1871
2N/13E	41-112	1859-1871
2N/14E	41-132	1859-1871

## **Appendix A: Previously Recorded Inventories within 200 meters of the Right-of-Way**

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Note: This appendix is being submitted separately to reviewing agencies under a request for confidentiality because it contains information regarding the locations and contents of cultural resource sites.

## **Appendix B: Previously Recorded Resources within 200 meters of the Right-of-Way**

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Note: This appendix is being submitted separately to reviewing agencies under a request for confidentiality because it contains information regarding the locations and contents of cultural resource sites.

**Appendix C: Significant and Potentially  
Significant Previously Recorded Resources more  
than 200 meters from the Right-of-Way**

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Note: This appendix is being submitted separately to reviewing agencies under a request for confidentiality because it contains information regarding the locations and contents of cultural resource sites.

# Appendix K

## Native American Correspondence

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**Department of Energy**  
Western Area Power Administration  
Sierra Nevada Customer Service Region  
114 Parkshore Drive  
Folsom, California 95630-4710

**SEP 30 2009**

Ms. Debbie Pilas-Treadway  
Native American Heritage Commission  
915 Capitol Mall, Room 364  
Sacramento, CA 95814

Dear Ms. Pilas-Treadway:

The Western Area Power Administration (Western), Sierra Nevada Region, an Agency of the U.S. Department of Energy, is preparing an Environmental Assessment (EA) to assess the potential effects of upgrades and new requirements in its operation and maintenance (O&M) program for our existing transmission lines, access roads, and substations in the San Joaquin Valley area (enclosure 1). This Project is referred to as the San Joaquin Valley Right-of-Way (ROW) Maintenance Environmental Assessment (SJVEA). The Project area lies within San Joaquin, Contra Costa, Alameda, Calaveras, Tuolumne, Santa Clara, and Merced Counties.

The purpose of the San Joaquin Valley ROW maintenance program is to maintain Western transmission lines and legal access roads. Maintenance activities include access road upgrades, erosion control measures, tower repair, and vegetation control using manual or mechanical methods. Routine ROW maintenance activities related to vegetation management also include:

- Removing vegetation along transmission line ROWs and associated access roads,
- Applying herbicide to control vegetation, and
- Upgrading and maintaining legal access roads by re-grading and vegetation removal.

Other routine ROW maintenance activities include:

- Installing, maintaining, and replacing hardwire, ground wire, and bird guards,
- Repairing steel equipment at the transmission towers,
- Placing fill or rocks in culverts,
- Constructing retaining walls and rock buttresses to prevent undermining of roads and structure platforms,
- Conducting geotechnical investigations including soil borings up to 100 feet deep,
- Installation of microwave equipment at existing towers,

- Installation of microwave equipment at existing towers,
- Construction of temporary roads for vegetation removal, and
- Installation of fiber optic cables.

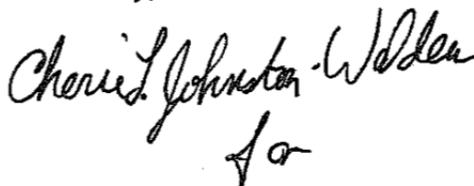
These and other related O&M activities are being evaluated in the SJVEA.

Enclosure 2 provides you with United States Geological Survey maps depicting the existing transmission line ROWs covered in the SJVEA Project area. Enclosure 2 also provides you with a list of the quadrangles, the township, section, and range for the Project area.

Pursuant to §800.2(c)(ii)(A) of CFR Part 800 (amended August 5, 2004) implementing regulations for Section 106 of the National Historic Preservation Act, Western is consulting with Native American groups who may have an interest in the San Joaquin Valley ROW EA Project area. At this time we are requesting your assistance in providing Western with a contact list of Native American groups and Native American individuals or organizations that may have knowledge of cultural resources or traditional cultural properties in the Project area. In addition, please conduct a record search of your sacred land files to assist us in identifying any known cultural resources within the Project area.

If convenient, please send your response to Ms. Cherie Johnston-Waldeal by fax at (916) 985-1935 or by email at [waldeal@wapa.gov](mailto:waldeal@wapa.gov). If you require any additional information, please contact Ms. Johnston-Waldeal at (916) 353-4035.

Sincerely,

A handwritten signature in black ink that reads "Cherie Johnston-Waldeal" followed by a smaller signature that appears to be "for".

Stephen Tuggle  
Natural Resources Manager

2 Enclosures

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

**NATIVE AMERICAN HERITAGE COMMISSION**

915 CAPITOL MALL, ROOM 364  
SACRAMENTO, CA 95814  
(916) 653-4082  
Fax (916) 657-5390  
Web Site [www.nahc.ca.gov](http://www.nahc.ca.gov)



October 27, 2009

Stephen Tuggle, Natural Resources Manager  
DEPARTMENT OF ENERGY  
Western Area Power Administration  
Sierra Nevada Customer Service Region  
114 Parkshore Drive  
Folsom, CA 95630-4710

Sent by Fax: 916-985-1935  
Number of Pages: 9

Re: Proposed County San Joaquin Valley Right-of-Way Maintenance Environmental Assessment, Merced, Santa Clara County, Tuolumne County, Calaveras County, Alameda County, Contra Costa County, San Joaquin County, .

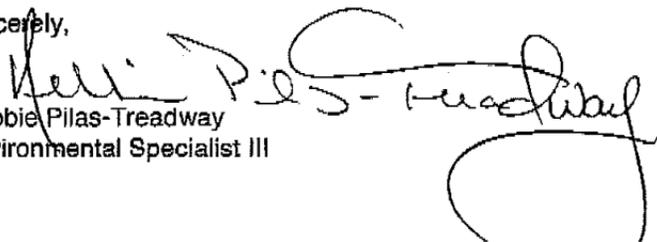
Dear Mr. Tuggle:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

  
Debbie Pilas-Treadway  
Environmental Specialist III

[Note: because of potential sensitivity in releasing full personal contact information, the following list of Native American contacts is summarized from the original Native American Heritage Commission correspondence.]

### **San Joaquin Native American Contacts**

Southern Sierra Miwuk Nation  
California Valley Miwok Tribe  
Muwekna Ohlone Indian Tribe of the SF Bay Area  
Tuolumne Band of Me-Wuk  
Wilton Rancheria  
Wilton Rancheria  
Tuolumne Band of Me-Wuk  
Amah/Mutsun Tribal Band  
Calaveras County Mountain Miwok Indian Council  
Ione Band of Miwok Indians  
Tuolumne Band of Me-Wuk  
The Ohlone Indian Tribe  
Trina Marine Ruano Family  
Calaveras Band of Miwuk Indians  
Calaveras Band of Miwuk Indians  
California Valley Miwok Tribe  
Southern Sierra Miwuk Nation  
Southern Sierra Miwuk Nation  
Amah/Mutsun Tribal Band  
Amah Mutsun Tribal Band  
Chicken Ranch Rancheria of Me-Wuk  
Choinumni Tribe  
Buena Vista Rancheria  
Ione Band of Miwok Indians  
Indian Canyon Mutsun Band of Costanoan  
Calaveras Band of Miwuk Indians  
Calaveras Band of Miwuk Indians  
Amah/Mutsun Tribal Band  
Ione Band of Miwok Indians



**Department of Energy**  
Western Area Power Administration  
Sierra Nevada Customer Service Region  
114 Parkshore Drive  
Folsom, California 95630-4710

NOV 24 2009

See Address List

Dear «Title»

The Western Area Power Administration, Sierra Nevada Region (Western), an agency of the Department of Energy, is preparing an Environmental Assessment (EA) to assess the potential effects of upgrades and new requirements for its Operation and Maintenance (O&M) program for existing transmission lines, access roads and substations in the San Joaquin Valley area (enclosure 1). This project is referred to as the San Joaquin Valley Maintenance Environmental Assessment (SJVEA). The project area lies within San Joaquin, Contra Costa, Alameda, Calaveras, Tuolumne, Santa Clara, and Merced Counties.

The purpose of the San Joaquin Valley Right-of-way (ROW) maintenance program is to maintain existing Western transmission lines, legal access roads and substations. Maintenance activities include access road upgrades, erosion control measures, tower repair, and vegetation control using manual or mechanical methods. Routine ROW maintenance activities related to vegetation management also include:

- Removing vegetation along transmission line ROWs and associated access roads,
- Applying herbicide to control vegetation, and
- Upgrading and maintaining legal access roads by regrading and vegetation removal.

Other routine ROW maintenance activities include:

- Installing, maintaining, and replacing hardwire, ground wire, and bird guards,
- Repairing steel equipment at the transmission towers,
- Placing fill or rocks in culverts,
- Constructing retaining walls to prevent undermining of roads and structure platforms,
- Conducting geotechnical investigations including soil borings up to 100 feet deep,
- Installation of microwave equipment at existing towers,
- Construction of temporary roads for vegetation removal, and
- Installation of fiber optic cables.

These and other related O&M activities are being evaluated in the SJVEA.

Enclosure 2 provides United States Geological Survey maps depicting the existing transmission line ROWs covered in the SJVEA project area.

Pursuant to Section 106 of the National Historic Preservation Act, Western is consulting with Native American groups who may have an interest in the SJVEA Project area. Executive Order 13007 and the American Indian Religious Freedom Act also require that Western identify any impacts to sacred places or religious resources that could result from Western activities. Compliance with Section 106 requires that we identify and evaluate cultural resources in the area of potential effect. We have recently completed a cultural resource reconnaissance survey of our existing transmission lines ROWs and access roads within the SJVEA project area. We are interested in any information you can share with us regarding special ethnographic or archaeological resources, sites, or properties that would not normally be identified through cultural resource surveys that Western should be aware of. We would also appreciate your assistance in identifying any other Tribes with whom we should consult on this project. A listing of other Tribes included in this consultation is enclosed (enclosure 3).

Please contact me at our Western office in Folsom, California at (916) 353-4035 or by email at [waldear@wapa.gov](mailto:waldear@wapa.gov) within 30 days of receipt of this letter if you would like to discuss Western's proposed O&M activities in this area. I look forward to hearing from you.

Sincerely,



Ms. Cherie Johnston-Waldear  
Native American Liaison  
Sierra Nevada Region

3 Enclosures

cc:  
S. Tromley, A7400, CSO - 2W/220



**Department of Energy**  
Western Area Power Administration  
Sierra Nevada Customer Service Region  
114 Parkshore Drive  
Folsom, California 95630-4710

MAY 28 2010

See Address List

Dear :

By letter dated November 24, 2009 (enclosure 1), Western Area Power Administration (Western), Sierra Nevada Region (SNR), contacted you regarding the preparation of an Environmental Assessment (EA) that would assess the potential effects of project activities involving upgrades and new requirements to our operation and maintenance (O&M) program for our existing transmission lines, access roads, and substations in the San Joaquin Valley area (enclosure 1). This project, referred to as the San Joaquin Valley Right-of-Way Maintenance Environmental Assessment (SJVEA), encompasses approximately 115 miles of transmission lines and associated rights-of-way (ROW), 28 miles of access roads, 7 substations, and 1 maintenance facility within San Joaquin, Contra Costa, Alameda, Calaveras, Tuolumne, Santa Clara, and Merced Counties. Proposed O&M activities include, but are not limited to, facility inspection/repair, vegetation management, and equipment upgrades (see enclosure 1).

A copy of the Draft EA is available for comment and review. The Draft EA has been prepared in accordance with the regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (Public Law 91-190, 42 U.S.C. section 4321-4347, January 1, 1970), amendments, and the Department of Energy's Implementing Regulations (10 CFR Part 1021).

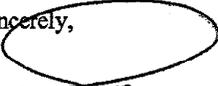
The comment period ends on July 1, 2010. To ensure consideration, please submit your comments by that time. Comments received after the deadline will be considered to the extent practicable. The Draft EA can be downloaded Western's website at <http://www.wapa.gov/sn/environment>. You may also obtain a hard copy of the Draft EA from the contact below.

In addition to the above, Western also contacted you for any comments, concerns, or information you may wish to share to assist us in identifying potential impacts to sacred places or religious resources that could result from Western activities (enclosure 1), or special ethnographic or archaeological resources that would not normally be identified through cultural resource surveys.

As part of the SJVEA planning process, we recently completed a cultural resource reconnaissance survey of our existing transmission lines ROWs and access roads within the SJVEA project area. A copy of the draft cultural resource report is available for your review and comment upon request. A listing of other Tribes included in this consultation is enclosed (enclosure 2).

For further information, or to obtain a hardcopy of the Draft EA or a copy of the draft cultural resource report, or if you have any questions, please call Ms. Cherie Johnston-Waldeal, SNR Native American Liaison, at (916) 353-4035, or email [waldeal@wapa.gov](mailto:waldeal@wapa.gov).

Sincerely,

  
David Young  
Acting for  
Stephen Tuggle  
Natural Resources Manager

2 Enclosures

## Appendix L

# Section 106 Consultation/Programmatic Agreement

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**OFFICE OF HISTORIC PRESERVATION  
DEPARTMENT OF PARKS AND RECREATION**

P.O. BOX 942896  
SACRAMENTO, CA 94296-0001  
(916) 653-6624 Fax: (916) 653-9824  
calshpo@ohp.parks.ca.gov  
www.ohp.parks.ca.gov



January 21, 2010

In Reply Refer To: WAPA970411Z

Thomas R. Boyko  
Regional Manager  
Western Area Power Administration  
Sierra Nevada Customer Service Region  
114 Parkshore Drive  
Folsom, California 95630-4710

Re: Executed Programmatic Agreement Concerning Emergency and Routine Operation and Maintenance Activities at Western Facilities in California.

Dear Mr. Boyko:

Enclosed are three executed copies of the *Programmatic Agreement Among Western Area Power Administration, The Advisory Council on Historic Preservation, and the California State Historic Preservation Officer Concerning Emergency and Routine Operation and Maintenance Activities at Western Facilities in California.*

If you require further information, please contact William Soule, Associate State Archeologist, at phone 916-654-4614 or email [wsoule@parks.ca.gov](mailto:wsoule@parks.ca.gov).

Sincerely,

A handwritten signature in cursive script that reads "Susan H. Stratton for".

Milford Wayne Donaldson, FAIA  
State Historic Preservation Officer



February 26, 2010

Mr. Thomas R. Boyko  
Regional Manager  
Western Area Power Administration  
Sierra Nevada Customer Service Region  
114 Parkshore Dr.  
Folsom, CA 95630-4710

REF: Programmatic Agreement for emergency and routine activities at Western facilities in California

Dear Mr. Boyko:

Enclosed are the two copies of the executed Programmatic Agreement for the referenced programs. By carrying out the terms of the Agreement, the Western Area Power Administration will have fulfilled its responsibilities for these undertakings under Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's regulations.

We appreciate your cooperation in reaching this agreement. If you have any questions, please call Dr. Tom McCulloch at 202-606-8505.

Sincerely,

Caroline D. Hall  
Assistant Director  
Federal Property Management Section  
Office of Federal Agency Programs

Enclosures

ADVISORY COUNCIL ON HISTORIC PRESERVATION  
1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004  
Phone: 202-606-8503 • Fax: 202-606-8647 • achip@achp.gov • www.achp.gov

Contract 09-SNR-01363

PROGRAMMATIC AGREEMENT  
AMONG  
WESTERN AREA POWER ADMINISTRATION,  
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND  
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER  
CONCERNING EMERGENCY AND  
ROUTINE OPERATION AND MAINTENANCE ACTIVITIES AND OTHER ROUTINE  
ACTIVITIES AT WESTERN FACILITIES IN CALIFORNIA

WHEREAS, The Western Area Power Administration (Western), Sierra Nevada Region and Desert Southwest Region operate and maintain extensive electrical transmission systems that includes transmission lines, substations, communication sites, maintenance facilities, and ancillary features; and

WHEREAS, Western conducts emergency and routine operation and maintenance (O&M) activities necessary to ensure the reliability of the electrical system and other routine activities; and

WHEREAS, these activities include the actions described in Appendix B; and

WHEREAS, certain of these emergency and routine O&M activities and other routine activities are considered undertakings and may have an effect upon historic properties included in or eligible for inclusion in the National Register of Historic Places; and

WHEREAS, Western has consulted with the Advisory Council on Historic Preservation (ACHP) and the California State Historic Preservation Officer (SHPO) pursuant to 36 C.F.R. §800.14(b)(iv) of the regulations implementing Section 106 of the National Historic Preservation Act, 16 U.S.C. §470f, as amended (NHPA); and

WHEREAS, the parties to this Agreement desire to create an efficient mechanism to ensure that Western's emergency and routine O&M activities and other routine activities identified in this Agreement comply with NHPA requirements; and

WHEREAS, other Federal agencies have been invited to concur in this Agreement because of their land management responsibilities on lands where Western has easements. These agencies include the U.S. Forest Service, the Bureau of Reclamation, and the Bureau of Land Management. The agencies have chosen not to participate as concurring parties; and

WHEREAS, the definitions given in Appendix A are applicable throughout this Agreement; and

WHEREAS, on December 10, 1997, Western, ACHP, and SHPO executed an agreement titled Agreement Concerning Emergency and Routine Maintenance Activities at Western Facilities in California (1997 Agreement). The 1997 Agreement provides for Western to conduct routine and

emergency maintenance activities on Western-owned or -managed facilities in accordance with the stipulations of the 1997 Agreement satisfying Western's Section 106 responsibilities; and

WHEREAS, this Agreement supersedes and replaces the 1997 Agreement referenced above; and

NOW, THEREFORE, Western, ACHP and SHPO agree that Western's emergency and routine O&M program and other routine activities described in this Agreement shall be administered in accordance with the following stipulations to satisfy Western's Section 106 responsibility.

### STIPULATIONS

Western will ensure that the following measures are carried out.

- I. The Natural Resources Manager from each region will be responsible for the implementation of and compliance with this Agreement. The Regional Historic Preservation Official (RPO) will coordinate with Western's Federal Historic Preservation Officer (FHPO), Western's Maintenance Supervisor and the Natural Resources Manager to ensure consistent implementation of this Agreement. The RPO will be responsible for developing and reviewing scopes of work, consultant proposals, historic preservation reports, the Area of Potential Effects (APE) of Projects and project impacts, the need for identification and evaluation of historic properties, and the treatment of historic properties affected by routine operation and maintenance actions and other routine activities if avoidance by project design is not appropriate.
- II. The classes of activities listed in Section I of Appendix B will not require any cultural resources investigations or any additional consultation among the parties to this Agreement. These activities have little likelihood of impacting cultural resources. Western will carry out these activities without consulting the SHPO.
- III. The classes of activities listed in Section II of Appendix B have a low probability of affecting cultural resources because they have limited potential to result in surface disturbances or other impacts. The RPO will consult with the Maintenance Supervisor and the Natural Resources Manager to determine the project area and scope and APE for each activity in Section II they plan to undertake and conduct a project review. Such project review will include, but is not limited to, a Class I records and literature search for known cultural resources in the vicinity of the project, information on the location of previously conducted surveys and survey results, and information about the likelihood of the project area containing cultural resources, including integrity of surface conditions and existence of facilities of 45 years or older. Western need not consult with the SHPO if Class III (intensive) level surveys have been completed and no historic properties have been identified or if the undertaking proposed involves facilities less than 45 years of age. If the project area has not been surveyed to Class III (intensive) level or the identified historic property cannot be avoided, the RPO will evaluate existing environmental data to determine the possible existence of cultural resources, the likelihood of impacting such resources, and further actions required. The RPO will determine whether or not a field survey, archeological monitoring or other historic preservation efforts are necessary. In

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large areas where dense vegetation prevents a Class III survey, mechanical means of vegetation removal (use of a masticator) may be used provided best management practices (BMP) as outlined in Appendix C are followed. Western shall discuss every determination in the annual report in accordance with Stipulation IX of this Agreement.

- IV. The classes of activities listed in Section III of Appendix B will be subjected to Class I and Class III inventories by a qualified cultural resource specialist if they have not been subjected to a prior inventory. Additionally, any routine O&M activities and other routine activities Western undertakes that are not identified in one of the three classes will be subjected to Class I and Class III inventories by a qualified cultural resource specialist, if they have not been subjected to a prior inventory. Western's RPO, in consultation with the Natural Resources Manager and Maintenance Supervisor, will determine the APE. They will identify areas not requiring additional survey based on a records search, previous survey and consultation indicating that no historic properties were present and places where there is no potential for survival of the historic property. Western shall discuss every determination in the annual report in accordance with Stipulation IX if this Agreement.
- V. If the surveys that take place under Stipulations II and III find no resources that meet California's SHPO and land-managing agencies' site definition, no consultation with the SHPO in accordance with 36 C.F.R. §§ 800.4 and 800.5 is required. If an archaeological or historic site is located, but the APE can be changed in order to avoid the site, no consultation among the signatories of this Agreement is required. After reviewing for completeness and evaluating for eligibility to the National Register of Historic Places, Western will forward to the SHPO and the land-managing agencies or Tribe (as appropriate) any field survey data including any site survey report as well as site information within four weeks of the acceptance of the completed report and site information. If historic properties meeting site definitions are located and cannot be avoided, consultation will take place in accordance with 36 C.F.R. §§ 800.4 through 800.6.
- VI. Western will review building acquisition, modification, upgrading, disposal, and demolition projects to determine whether historic properties will be impacted. If historic properties will be impacted or if structures (including substation equipment) are more than 45 years old, Western will consult with the SHPO according to 36 C.F.R. §§ 800.4 through 800.6.
- VII. Emergency activities will be carried out without consultation. Emergency activities are defined as situations of unplanned or unscheduled power outages or imminent outages that potentially threaten human life and property. These activities may take place between or at towers and within existing facilities such as substations, and may include replacing structures (including crossarms, insulators, and/or conductors) and tree removal. If one has not been conducted, Western will conduct a Class III survey of the emergency activity APE as soon as practicable and notify the SHPO and the local land-management agency of the findings.

- VIII. Western will provide each land-management agency represented herein with information and any changes on the location of its rights-of-way and facilities within their jurisdiction. Each land-management agency will provide Western with appropriate information on sites identified on Western's rights-of-way or at its facilities subsequent to the preparation of this Agreement.
- IX. On an annual basis, Western will prepare a report detailing actions taken under this Agreement for the portions of the emergency and routine O&M program and other routine activities listed under Section II and III of Appendix B. This report will be submitted to the ACHP and the SHPO by October 1 of each year beginning in 2010. The report will list the actions taken, a short description of each action, the date each action was reviewed, results of records search and inventory (if applicable), any consultations with and by whom, and the decision made based upon this information. The report will also include a general discussion of Western's efforts to identify historic resources, an evaluation of the effectiveness of the Agreement, information about Western's public involvement efforts, and items related to Western's historic property protection program.
- X. Western shall develop and implement a plan for discovery should project activities encounter a previously unknown historic property. All work that might affect the property shall cease until Western, in consultation with all appropriate parties (including the SHPO, Western's HPO, Tribes, private landowners, and state, local, and land-management agencies), can evaluate the property's eligibility and project probable effects. Western shall consult with the SHPO and the land-management agencies or individuals to determine what measures can be taken to mitigate the effects or avoid the property. The consultation shall also determine when work at the location of the discovery may resume.
- XI. Treatment of human remains and items of cultural patrimony will be handled on a case-by-case basis with involvement of the appropriate parties listed in Stipulation X. In the event that human remains or items of cultural patrimony as defined by the Native American Graves Protection and Repatriation Act, 25 U.S.C. § 3001, *et seq.*, (NAGPRA) are encountered on lands under the ownership of Western, Western shall consult with the lineal descendants and culturally affiliated Tribe(s) to establish the appropriate disposition of any Native American human remains or items of cultural patrimony in compliance with NAGPRA. On Federal lands managed by another Federal agency, the Federal land manager, with Western's cooperation, will assume responsibility for compliance with NAGPRA. If Native American human remains are encountered on state or private land, Western shall follow the procedures set forth in the California Public Resources Code § 5097, *et seq.* If a private landowner desires to maintain ownership of archeological items, records, and materials, copies of records shall be maintained by Western, and copies of records shall be forwarded to the appropriate office of the California Historical Resources Information System.

- XII. Curation of Recovered Data:
- A. Any cultural items (artifacts), materials, and records associated with the collection of those cultural items that were obtained by Western in activities associated with this Agreement shall be maintained at a local curatorial facility in accordance with the standards specified in 36 C.F.R. Part 79, as required by any other Federal agency. A curatorial agreement shall be executed between Western, or its representatives, and the curatorial facility prior to the implementation of any collection or recovery. If no suitable facility can be identified to house the material recovered during the implementation of this Agreement, Western shall consult with the SHPO to identify and finalize alternative arrangements.
- B. Western shall return all archeological items, records, and materials recovered from privately held lands to the owner as established under the Archaeological Resources Protection Act, 16 U.S.C. § 470aa-mm (ARPA). If these items, records, or materials are refused by their owner or donated to an appropriate Federal agency, Western shall ensure that the receiving agency acquires title to these items, records, or materials and makes binding arrangements to curate such property. If the owner desires to maintain ownership of the archeological items, records, and materials, copies of the records shall be maintained by Western, and copies of reports shall be forwarded to the appropriate office of the California Historical Resources Information System.
- XIII. The land-management agencies shall provide information to Western about the location of historic properties included in, or eligible for inclusion in, the National Register of Historic Places within Western's rights-of-way and about the location of historic preservation activities (surveys) that did and did not result in the identification of historic properties; e.g. both positive and negative historic property findings.
- XIV. Any signatory party to this Agreement may terminate the Agreement by providing thirty (30) days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event that the parties agree to terminate this Agreement, Western will comply with 36 C.F.R. §§ 800.4 through 800.6 with regard to all activities covered by this Agreement.
- XV. Any signatory party to this Agreement may propose to the other signatory parties that this Agreement be amended, whereupon the parties will consult in accordance with 36 C.F.R. 800.6(c)(1) and (7) to consider such an amendment. Other parties may be added to this Agreement upon mutual agreement of the original signatories.
- XVI. Should any party to this Agreement object within 30 days to any actions proposed pursuant to this Agreement, Western shall consult with the objecting party to resolve the objection. If Western determines that the objections cannot be resolved, Western shall forward all documentation relevant to the dispute to ACHP. Within thirty (30) days after receipt of the pertinent documentation, ACHP shall either:

A. Provide Western with comments which Western will take into consideration in reaching a decision regarding the dispute; or

B. Notify Western that it will comment pursuant to 36 C.F.R. § 800.7(c), and proceed to comment. Any ACHP comment provided in response to such a request will be taken into account by Western in accordance with 36 C.F.R. § 800.7(c)(4) and Section 110(1) of the NHPA with reference to the subject of dispute.

Any recommendation or comment provided by ACHP will be understood to pertain only to the subject of the dispute. Western's responsibility to carry out all actions under this Agreement that are not the subject of the dispute will remain unchanged.

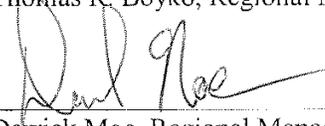
XVII. All appendices attached to this Agreement shall be in force and in effect, as part of this Agreement, until suspended or amended, or until the termination of this Agreement.

Execution and implementation of this Programmatic Agreement and its transmittal by Western to the ACHP in accordance with 36 C.F.R. §800.6(b)(1)(iv), and subsequent implementation of its terms shall evidence, pursuant to 36 C.F.R. §800.6(c) that Western has satisfied its Section 106 responsibilities for all individual undertakings of its emergency and routine operation and maintenance program and other routine activities in California described in this Agreement.

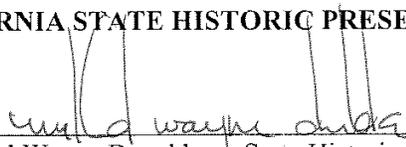
**SIGNATORY PARTIES:**

**WESTERN AREA POWER ADMINISTRATION**

By:  Date: 11/2/10  
Thomas R. Boyko, Regional Manager, Sierra Nevada Region

By:  Date: 12/29/09  
Darrick Moe, Regional Manager, Desert Southwest Region

**CALIFORNIA STATE HISTORIC PRESERVATION OFFICER**

By:  Date: 20 JAN 2010  
Milford Wayne Donaldson, State Historic Preservation Officer

**ADVISORY COUNCIL ON HISTORIC PRESERVATION**

By:  Date: 2/1/10  
John M. Fowler, Executive Director

**APPENDIX A**  
Definitions

All-dielectric Self-supporting Cables (ADSS) - Cables installed on transmission and distribution lines for grounding and transferring communication data throughout the transmission line system (see OPGW).

Aircraft Warning Devices - These devices consist of both signs and marker balls. Signs are usually placed on the tops of transmission line structures. "Marker balls" are large colored balls placed around overhead groundwires to make the groundwires more visible to aircraft and birds.

Anchors - Anchors are metal pins or concrete weights attached to the ends of guy wires to secure them to the ground.

Armor Rod - Protective pre-formed wires wrapped around aluminum conductor to prevent damage at point of support. Also used to repair minor conductor damage.

Auger Truck - A truck equipped with a bed-mounted auger used to dig holes for poles or structure foundations.

Bird Guard - A specially designed device placed on transmission line structures to prevent birds from being electrocuted.

Bobcat - A small front-end loader.

Brushhog - A debris chipper that grinds vegetation.

Bucket Truck - A specially designed truck equipped with a bucket and hydraulic arm used to lift men and equipment to the top of transmission line structures during construction, maintenance and inspection of transmission line structures.

Bushing - An electrically insulating lining for a hole to protect a through conductor.

Capacitor Banks - Capacitors are devices which store an electrical charge. Capacitors are grouped in "banks" inside switchyards and substations. Capacitor banks perform various functions including increasing power flow, compensating for voltage drops, and improving power at the point of delivery.

Cellular Tower Antennae - Antennae installed on a Western transmission line tower or other Western facilities by private telecommunication companies for wireless services and telecommunication projects. Installation of cellular tower antennae usually involves the need for other nearby components such as small equipment cabinets, and underground or aerial telephone line connections.

Circuit Breakers or "Breakers" - A circuit breaker is any device designed primarily to provide safe, rapid interruption of abnormal current flow. Circuit breakers interrupt a faulted circuit, and reclose as soon as the fault has been cleared.

Class I Survey - A literature and records search of previously identified archaeological and historic site records within or near the project APE.

Class II Survey - A professionally-conducted sample survey designed to characterize an area.

Class III Survey - An intensive, professionally-conducted, cultural resources survey to identify cultural resources present in the APE. Intensive surveys should be no more than 20 meter transects apart and cover 100% of the APE.

Clipping - The task of permanently attaching the conductor to the insulators during construction. Clipping is the last step in completing conductor stringing.

Communication Sites - Four communication systems are used by Western to track and monitor the power system: microwave transmissions, power line carriers, radio, and leased telephone lines. Microwave communication sites are being used more and more. A microwave site consists of a fenced, level pad occupied by a tower and small control building.

Conductor - Conductors, often called wires or lines, are the actual carriers of current in a transmission system. They are usually made from solid or stranded aluminum and reinforced with steel.

Crossarms - The crossarm is the crossing member of a wood pole or steel transmission line structure which supports the insulators for the conductors.

Cultural Resources - Any definite location of past human activity, occupation, or use. Cultural resources are identifiable through inventory, historical documentation or oral evidence. Cultural resources include archeological, historic, pre-historic, or architectural sites, structures, places, objects, or artifacts and all records and remains related to or located within such resources.

Cut Out Fuse - A fuse is an electrical safety device that melts and interrupts the circuit when the current exceeds certain amperage.

Dampener Installation - Vibration dampeners are installed to inhibit the conductor or overhead ground wires from oscillating, whipping, and/or bouncing. They may be installed using bucket trucks.

Disconnect Switches - A switch is used to open or close a circuit. An open switch stops current from flowing in a circuit, while a closed switch allows current to flow again. Disconnect

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switches are used throughout an electrical system to separate various parts of the system during a fault, and to allow for maintenance and repair.

Footings – An enlargement at the base of a structure used to distribute the load or weight of the structure. Footings are dug with an auger into the ground and sometimes are filled with concrete.

Ground Mat - A large wire mesh mat buried under a substation or other electrical facility used to help ground electrical equipment.

Ground Rod - A metal pole installed in the ground to a depth of at least 5 feet. The rods are attached to grounding cables.

Ground Wire - A safety device that directs current to the earth or “ground”. Overhead ground wires act as lightning rods. They are connected to the transmission line structures and extend down into the ground.

Guy Wire - A steel wire used to support or strengthen a structure. A guy wire securely anchors the structure to the ground. Guy wires are used at deadend and turning structures and at endpoints such as substations.

Insulators - An insulator keeps current from flowing to earth or another conductor. Insulators usually hang from the transmission line structure crossarms. An insulator inhibits the flow of electricity to earth or another conductor. Insulators are usually bell-shaped, arranged in strings, and are made of porcelain, Pyrex glass or plastic.

Knee Brace - An angle support device used to support a transmission line structure’s crossarm.

Light Beacon - A light attached to a tower used for guidance or aircraft warning.

Lightning Arrestor - Any attachment, usually a metal bayonet, used to attract lightning away from the transmission system and direct it to a ground wire and the ground.

Masticator - A tractor-type machine used for mechanically removing vegetation. Two types of masticators are generally used:

1. Feller Buncher - A tractor-type piece of machinery used to mechanically clear or mow dense vegetation. This is a method of vegetation removal that mechanically blades high growth vegetation down to 6-8 inches high while avoiding soil disturbance during normal operations.
2. Hydroax - A hydro-axe is an articulated tractor with a mower-mulcher mounted on the front of the machine. It has rubber flotation-type tires that cause little disturbance to the surface ground in dry soil. The mower-mulcher clips and mulches vegetation from 4 to 10 inches above ground. The hydroax can also be used to remove tree stumps from the ground.

Microwave Radio Tower - A tower, usually constructed of steel lattice, equipped with a microwave receiving dish.

Overhead Fiber Optic Ground Wires (OPGW) - A type of cable that is installed overhead on electric power transmission and distribution lines. OPGW combines the functions of electrical grounding and sending communication data.

Parabolic Dish - A bowl-shaped antennae or reflector used in microwave communications.

Pole Guard - A metal collar or brace used to add strength to a pole. See also "stub".

Portable or Mobile Substation - A mini-substation that can be transported by truck and installed anywhere along the transmission system.

Reactors - Devices used to introduce inductive reactance into a circuit. Usually installed in groups or banks, they help limit current to a safe value and protect equipment from excessive power surges during a fault.

Reclosers - A device associated with a circuit breaker that allows the circuit to close automatically after a fault.

Regulators - See voltage regulators.

Solar Power Array - A collection or grouping of devices such as mirrors or photovoltaic cells, capable of capturing solar energy for use in generating electricity.

Shoo-fly - A temporary tap line used to direct current around a piece of the transmission system that is under construction or repair. It also refers to a temporary road used to get around an obstruction in the normal right-of-way.

Stabilizer or Outrigger Pads - Metal plates used to support lifting equipment.

Stub - A temporary reinforcement done at the base of a pole to provide additional strength. A stub usually consists of a short piece of another pole.

Steel Transmission Line (TL) Structure - A steel structure, usually in a lattice or single pole configuration which can be used in special construction situations and to carry large transmission voltages.

Substations - On-ground facilities consisting of electrical equipment used to transform (step down or up) the voltage for delivery and consumer use.

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Switches (Switchgear) - Substation equipment designed and operated to switch electrical circuits and to interrupt power flow.

Tap Changers - Devices in some transformers that increase or reduce the potential by changing the transformer turns ratio. Tap changing transformers are used to control voltage at loads, substations, and direct current ties.

Transformers - Transformers transfer energy from one circuit to another circuit and are used to increase or decrease voltage in an alternating current system. A transformer consists of two “windings”, or many turns of magnetically coupled wires or coils, placed very close together within an oil cooled cylinder.

Voltage Regulators - Electric devices that regulate voltage flowing through distribution lines. It automatically raises and lowers the voltage to maintain required voltage levels for service.

Wave Traps - A wave trap is used in carrier communications to confine the carrier signal to one transmission line section. It is a parallel circuit tuned to the frequency of the carrier signal.

Wood Transmission Line (TL) Structures - Structures built from large wooden poles (usually of fir, pine, larch or cedar) that are treated with a preservative chemical to protect them against decay fungi.

X-Braces - X-braces, usually constructed of wood, provide reinforced support to large wooden transmission line structures.

**APPENDIX B**

Routine Operation and Maintenance Activities and Other Routine Activities

I. Activities with No or Minor Associated Surface Disturbance:

Many of these activities take place within the confines of an existing substation or communications site. Most substations have been leveled and graveled. Equipment used for these activities consist of rubber-tired vehicles such as bucket trucks, backhoes, front-end loaders, cranes, auger trucks, bobcats, and pole trucks. Many vehicles require stabilizer pads which can compact a ground area of about 2' by 2'.

A. **Substation Activities:**

- 1) Maintenance and replacement of transformers and breakers.
- 2) Servicing and testing of equipment at existing substations, including oil changeouts.
- 3) Installation or replacement of bushings.
- 4) Cleaning or replacement of capacitor banks.
- 5) Maintenance or installation of propane tanks within a substation yard.
- 6) Maintenance of switches, voltage regulators, reactors, tap changes, reclosers and valves.
- 7) Replacement of wiring in substations and switch yards.
- 8) Replacement of existing substation equipment including regulators, capacitors, switches, wave traps, radiators, and lightning arresters.
- 9) Installation of cut-out fuses.
- 10) Adjust and clean disconnect switches.
- 11) Placement of temporary transformer.
- 12) Maintenance, installation and removal of solar power array and controller.
- 13) Clean up of chemical spills when clean up remains above the ground mat.
- 14) Installation of foundation for storage buildings above ground mat within existing substation yard.
- 15) Ground mat repairs.
- 16) Clearing vegetation by hand within the boundary of a fenced substation.

B. **Transmission Line Activities:**

- 1) Ground and aerial patrols.
- 2) Climbing, inspection, and tightening hardware on wood and steel transmission line structures.
- 3) Replacement or repair of ground wire.
- 4) Replacement or placement of aircraft warning devices.
- 5) Replacement or cleaning of insulators.
- 6) Installation of bird guards.
- 7) Replacement of cross arms on wood pole transmission line structures.
- 8) Cut and drop danger trees.

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- 9) Replacement or repair of steel members of steel transmission line structures.
- 10) Inspection of hardware on wood and steel transmission line structures.
- 11) Installation, repair or replacement of X-brace and knee brace.
- 12) Removal or installation of structure mile markers.
- 13) Dampener installation.
- 14) Installation of ADSS or OPGW.
- 15) Replacing ground spike on wood pole structures.
- 16) Brush removal by hand.
- 17) Installation of ground rods.
- 18) Installation of armor rod and clipping-in structures.
- 19) Replacement of conductor.
- 20) Application of wood preservatives on existing wooden pole structures.
- 21) Place fill or rocks around existing towers or structures.
- 22) Place fill or rocks around existing culverts.
- 23) Adding rock to bases of poles or structures where the soil is blown out.
- 24) Installation of cellular antenna on Western facilities when no underground trenching is required.

**C. Communication System Activities:**

- 1) Microwave radio tower maintenance.
- 2) Communication tower and antennae maintenance.
- 3) Installation of light beacons.
- 4) Removal of microwave dish.
- 5) Installation, removal and repair of parabolic dish.

**D. General Maintenance at Facilities:**

- 1) Building maintenance including interior and exterior painting; and roof, ceiling, floor, window and door maintenance.
- 2) Application of soil sterilants and herbicides.
- 3) Clearing vegetation by hand.
- 4) Place fill or rocks around existing culverts.

**II. Activities with Minimal Surface Disturbance:**

These activities may cause minimal and restricted surface disturbance.

**A. Substation Activities:**

- 1) Excavation for and installation of new footings.
- 2) Repair or replacement of ground mats.
- 3) Replacement or repair of footings for electrical or communications equipment within an existing substation or communications facility.
- 4) Remediation of small spills of oil and hazardous materials.

**B. Transmission Line Activities:**

- 1) Replacement of existing culverts (use of a backhoe/front-end loader within an existing access road).
- 2) Installation of gates where no new posts need to be installed.
- 3) Digging out buried anchors.
- 4) Uncovering tower legs from soil deposition.
- 5) Installation of anchors.
- 6) Wood pole replacements.
- 7) Stub an existing wood pole structure.
- 8) Rip-rap installation on creek or river banks where no recontouring is required.
- 9) Repair of pole guards.
- 10) Placement of single post informational signs for accessing the right-of-way.
- 11) Place fill in erosional features on access roads.
- 12) Remediation of small spills of oil and hazardous materials.
- 13) Vegetation removal using a masticator following BMPs in Appendix C.

**C. Communication System Activities:**

- 1) Removal of foundations or footings at communication sites.
- 2) Installation or removal of solar power array and controller.

**D. General Maintenance at Facilities:**

- 1) Repair fences and gates.
- 2) Pull existing fences.
- 3) Grounds maintenance for existing facilities, including the use of brush hogs.
- 4) Erosion control projects within an existing facility.

**III. Activities Causing Extensive Surface Disturbance:**

These types of activities may include the use of bulldozers, graders, backhoes, front-end loaders. Activities could take place on any Western facility including transmission line rights-of-way, substations, communication facilities, microwave facilities, and office locations.

- 1) Access road construction or upgrading. (This activity may take place adjacent to, or outside of, Western facilities.)
- 2) Installation of new culverts.
- 3) Installation of foundation for storage buildings outside graveled area at an existing substation.
- 4) Installation of fences and gates where posts or poles must be installed.
- 5) Erosion control projects outside existing facilities.
- 6) Propane tank and pad installation at a communication site.
- 7) Erosion control projects outside existing substation.
- 8) Vegetation clearing by bulldozer or grader.

Contract 09-SNR-01363

- 9) Installation of microwave and radio tower.
- 10) Rip-rap installation that includes recontouring on creek or river banks.
- 11) Underground installation of water, power, communication or ground electrical line below ground mat or outside a substation.
- 12) Installation of water diversion bars on existing access roads.
- 13) Installation of foundation for storage buildings inside communication site yards.
- 14) Setting up portable substations outside of an established substation.
- 15) Propane tank installation outside of an established substation.
- 16) Excavation for and installation of new footings on a transmission line or at a communication site.
- 17) Installation of cellular antenna on Western facilities when underground trenching is required.

**APPENDIX C**  
Best Management Practices

For project areas where dense vegetation prevents a Class III survey and where due to the scale of the project area vegetation removal by hand is not feasible, mechanical means of vegetation removal using mastication machinery as defined in Appendix A may be used provided the following requirements for best management practices (BMP) are in place.

BMP 1: Western will require mastication operators to prevent blading devices from removing vegetation at ground level to avoid soil disturbance. All mowed vegetation shall not be cut below 6 inches.

BMP 2: Mastication equipment will not be used within areas recently subjected to heavy rains in order to prevent rutting in wet soils from equipment tires.

BMP 3: A qualified archaeologist will be on site during mastication activities to monitor survey areas being cleared of vegetation. Should any cultural resources be detected, mastication activities will cease in the area until an assessment and the significance of the find is made. Results of the monitoring and survey activities will be provided in the annual report.

Contract 09-SNR-01363

**APPENDIX D**

Differences between the 1997 Programmatic Agreement and this 2009 Programmatic Agreement

The following changes and additions have been made in this Agreement when compared to the 1997 Agreement.

**Title:** “Other Routine Activities” have been added to “Emergency and Routine Maintenance Activities”. Other routine activities are those activities that Western performs on a regular basis but that are not defined as operation and maintenance activities. Such activities do not include new transmission line construction or other new facility construction.

**Second Whereas Clause:** “Other routine activities” have been added to “emergency and routine and operation maintenance activities” and throughout.

**Last Whereas Clause:** Statement of “first amended Agreement” has been added.

**STIPULATIONS:**

- I. Environmental Manager is changed to Natural Resources Manager.
- II. Regional Historic Preservation Official (RPO) is added as responsible for decisions regarding actions carried out under the Agreement. RPO is responsible for historic preservation requirements at the regional level but is still required to coordinate with Western’s Federal Historic Preservation Officer who oversees activities at the Agency level.
- III. The following language has been added to Stipulation III. “In large areas where dense vegetation prevents a Class III survey, mechanical means of vegetation removal (use of a masticator) may be used provided best management practices (BMP) as outline in Appendix –are followed”.

Throughout: References to 36 C.F.R. Part 800 have been revised/updated to reflect the amendments to 36 C.F.R. Part 800 effective August 5, 2004.

**Appendix A:**

The following definitions have been added to Appendix A:

Cellular Tower Antennae - Antennae installed on a Western transmission line tower or other Western facilities by private telecommunication companies for wireless services and telecommunication projects. Installation of cellular tower antennae usually involves the need for

other nearby components such as small equipment cabinets, and underground or aerial telephone line connections.

Class III Survey - An intensive, professionally-conducted, cultural resources survey to identify cultural resources present in the APE. Intensive surveys should be no more than 20 meter transects apart and cover 100% of the APE.

Masticator – A Masticator is a tractor-type machine used for mechanically removing vegetation. Two types of masticators are generally used:

1. Feller Buncher – A tractor-type piece of machinery used to mechanically clear or mow dense vegetation. This is a method of vegetation removal that mechanically blades high growth vegetation down to 6 to 8 inches high while avoiding soil disturbance during normal operations.
2. Hydroax – A hydro-axe is an articulated tractor with a mower-mulcher mounted on the front of the machine. It has rubber flotation-type tires that cause little disturbance to the surface ground in dry soil. The mower-mulcher clips and mulches vegetation from 4 to 10 inches above ground. The hydroax can also be used to remove tree stumps from the ground.

## **Appendix B**

The following activities have been added to Appendix B:

BI.B.24. “Installation of cellular antenna on Western facilities when no underground trenching is required.”

BII.B.13. “Vegetation removal using a masticator following BMPs in Appendix C.”

BIII.17. “Installation of cellular antenna on Western facilities when underground trenching is required.”

## **Appendix C**

Appendix C has been added for “Best Management Practices”.

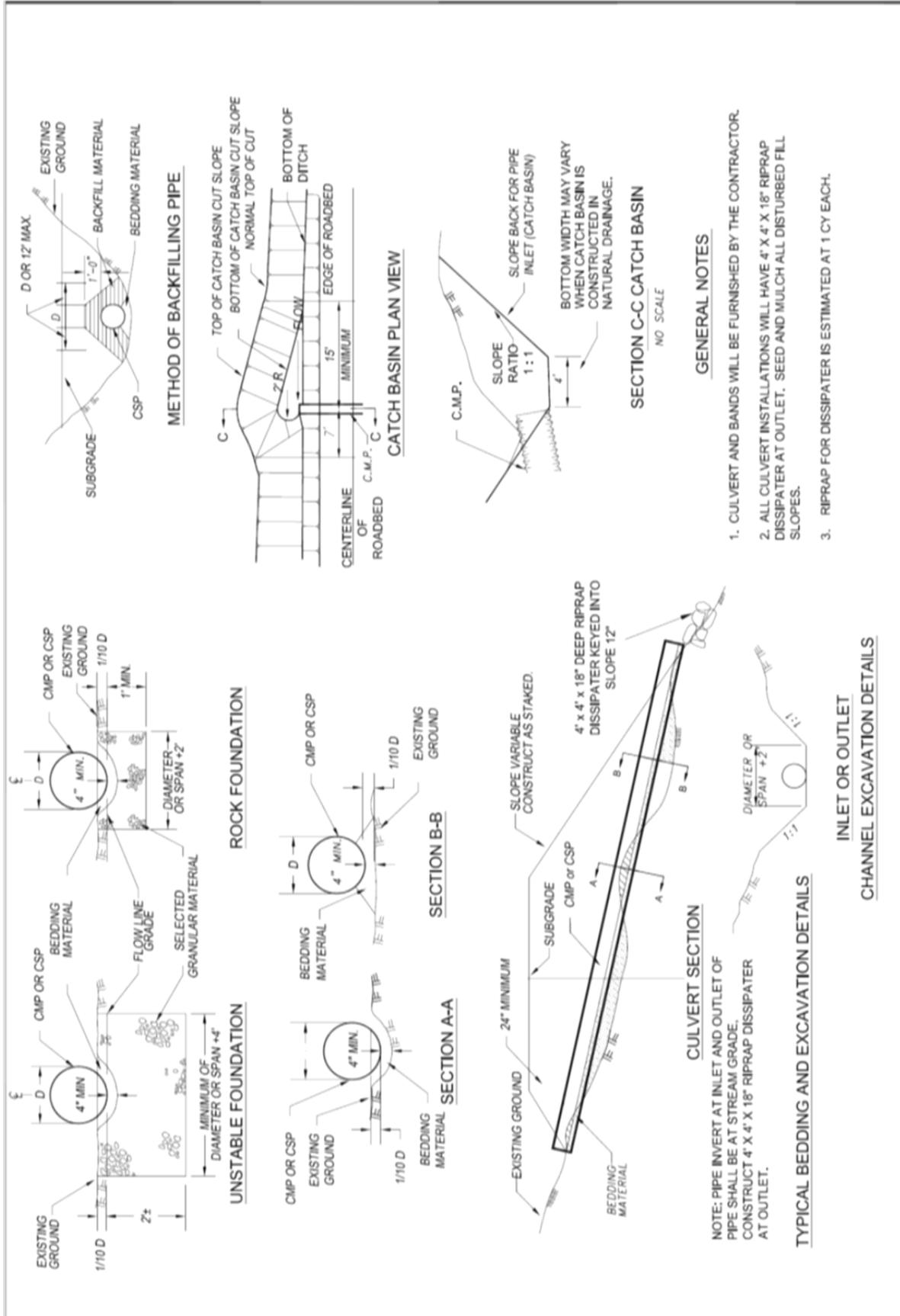
## **Appendix D**

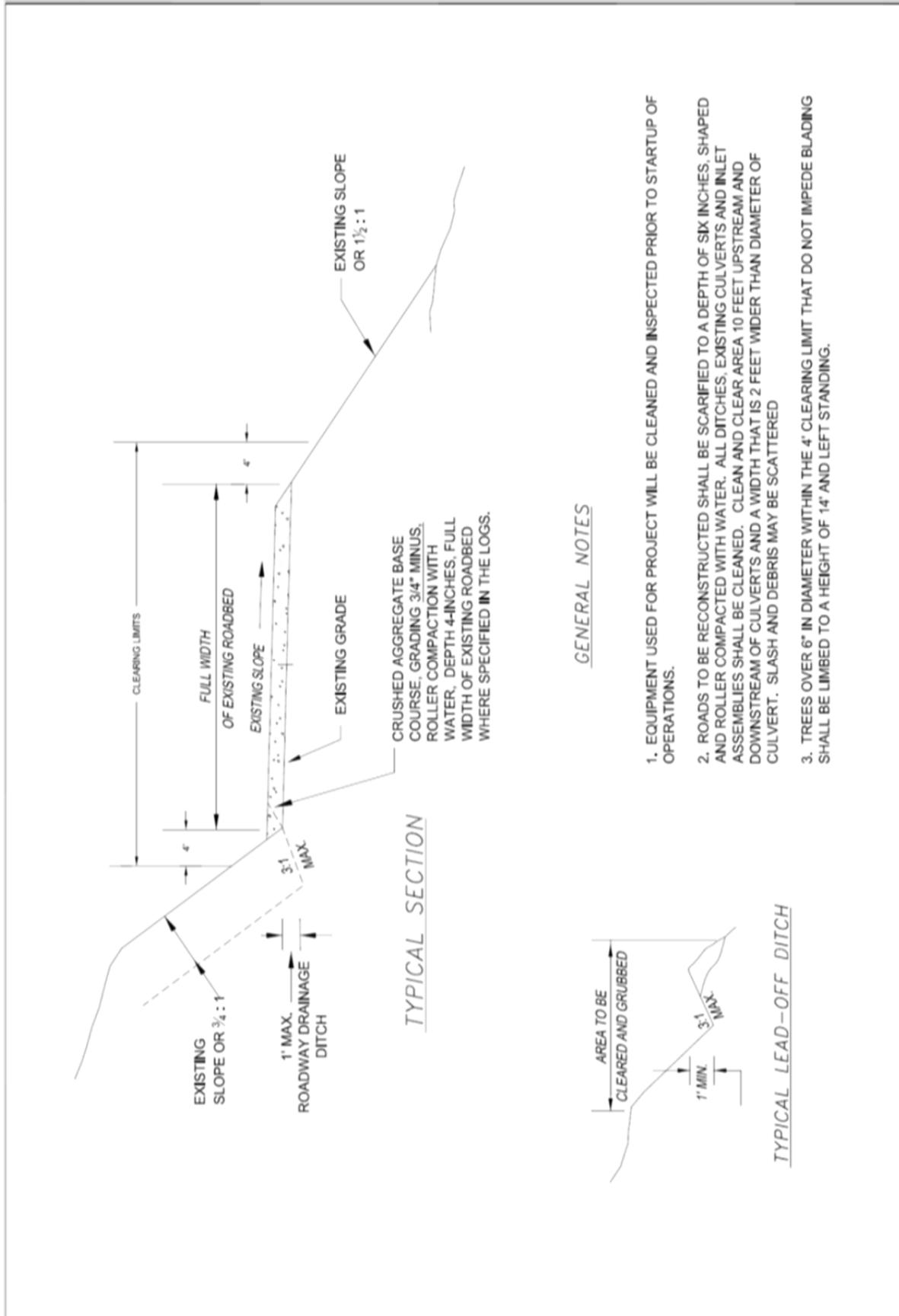
Appendix D has been added to summarize amendments.

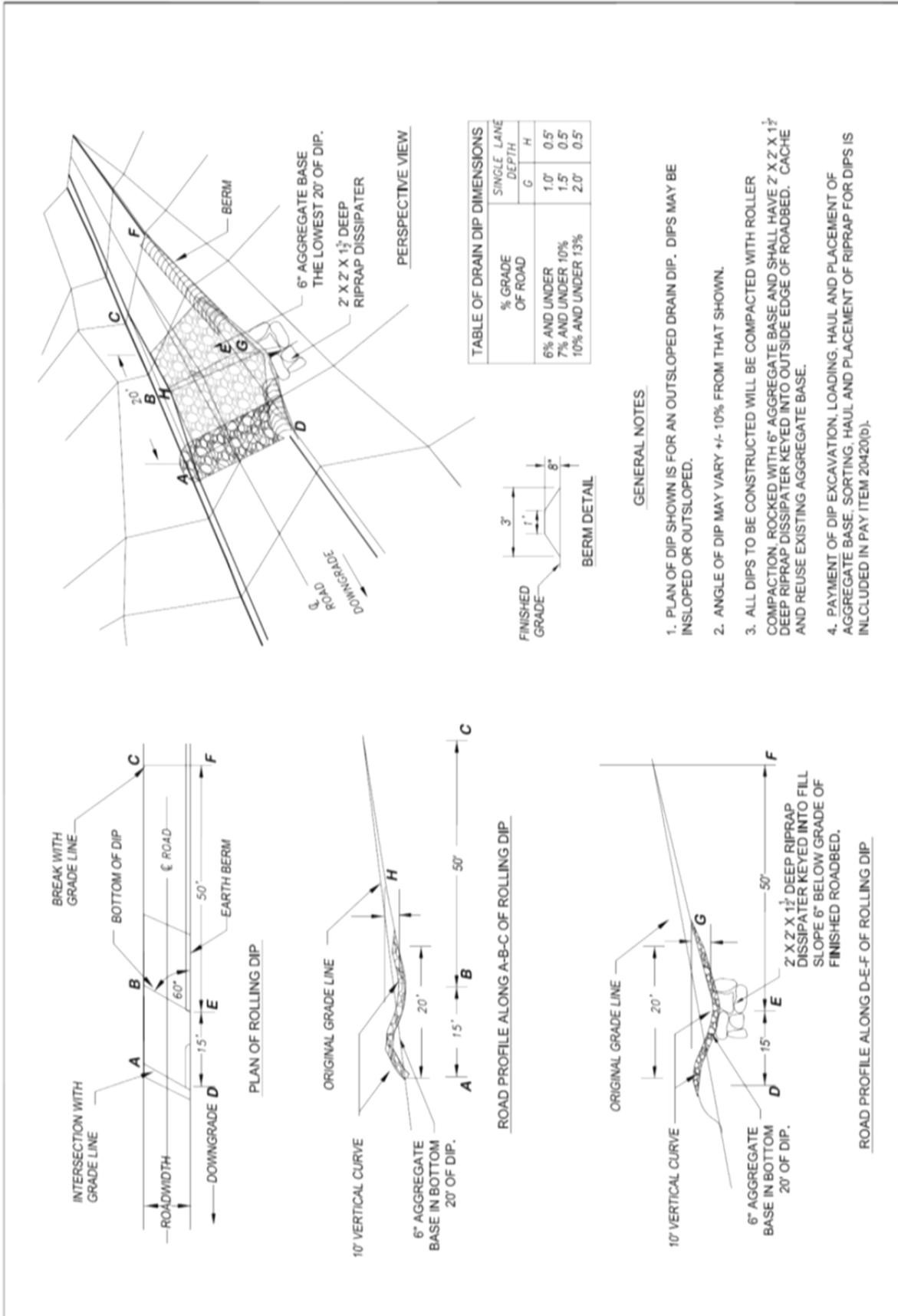
# Appendix M

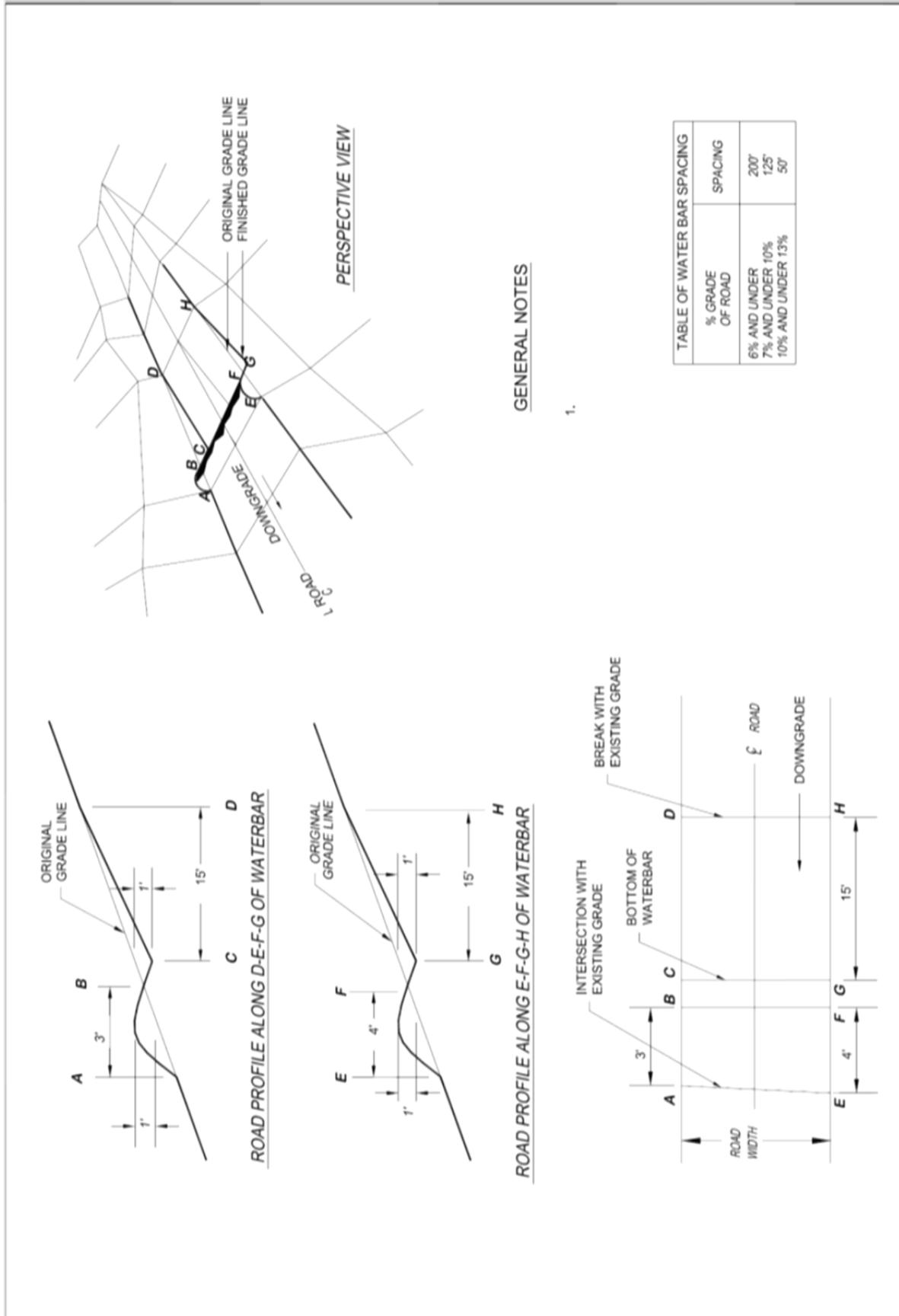
## Culverts and Drainage Dip Specifications

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# Appendix N

## Comments and Responses

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**From:** Clinton, Patricia L [mailto:PClinton@usbr.gov]  
**Sent:** Friday, June 25, 2010 3:33 PM  
**To:** VELARDE@wapa.gov  
**Cc:** Brockman, Melissa A  
**Subject:** San Joaquin Valley Right-of-Way Maintenance Project DEA

Good afternoon,

Steve Tuggle emailed me that you were the point of contact for the subject Draft EA. I have been in contact with our Folsom Office and they have received a copy of the draft EA. I do not think that our office has received one yet. I can access it on line; however, I was told by our Water District that the comment period closes July 1, 2010. Since the South-Central California Area Office has not received a copy of the draft EA, I would like to request an extension of two weeks, if possible, to submit Reclamation's comments.

Thank you.

Sincerely,

*Patti Clinton*  
Natural Resource Specialist  
Bureau of Reclamation  
1243 "N" Street  
Fresno, CA 93721-1613  
(559) 487-5127  
pclinton@usbr.gov

## Response to Comment 1-1

Mr. Ricardo Velarde of Western responded to Ms. Clinton at the Bureau of Reclamation, Fresno, via e-mail on June 28, 2010, as follows:

Ms. Clinton,

Western values the input of the Bureau of Reclamation in the NEPA process for the San Joaquin Valley Right-of-Way Maintenance Project. To this end, we have coordinated with the Bureau's South-Central California Office throughout development of the Draft EA:

- On November 12, 2009, Western mailed an invitation Michael Jackson to learn about the project, ask questions, and discuss the resource data that was being collected.
- On February 28, 2010, a CD of the Preliminary Draft EA was mailed to Michael Jackson, along with a letter inviting BOR to participate in the EA process.
- On June 1, 2010, Notices of Availability and CDs of the draft EA were mailed to Michael Jackson and Sheryl Carter in the Fresno office.
- On June 4, 2010, hardcopy draft EAs were mailed to Michael Jackson and Sheryl Carter.

At this time Western does not plan to extend the 30-day comment period. At its discretion, Western can consider late comments in preparation of the Final EA.

Western did not receive any comments from the Bureau of Reclamation, Fresno, during or after the comment period.

| 1-1

[via e-mail]

Cherie Johnston-Waldeal  
Regional Historic Preservation Official  
Western Area Power Administration  
Sierra Nevada Region  
(916) 353-4035

From: "Roselynn Lwenya" <roselynn@buenavistatribe.com> 6/24/2010  
10:58 AM

Dear Ms. Cherie Johnson:

I want to take this earliest opportunity to thank you for the letter dated June 11, 2010 and also a copy of Cultural Resources Inventory Report I received from Stephen Tuggle, Natural Resources Manager. I have reviewed the report and conclude that you have given consideration to/ and proposed all the necessary actions to be taken by Western to continue O & M activities to avoid the Areas of Potential Effect. At this point we do not have cultural resource information to add to this. However, if inadvertent discoveries are found, we would like to be notified.

2-1

2-2

Once more thank you for the reports and for your time.

Roselynn Lwenya Ph.D  
Environmental Resources Director  
Buena Vista Rancheria  
P.O. Box 162283  
Sacramento, CA 95816  
Phone: (916) 491-0011  
Fax: (916) 491-0012  
roselynn@buenavistatribe.com <mailto:paul@buenavistatribe.com>

**Response to Comment 2-1**

Comment noted.

**Response to Comment 2-2**

PCM-C001 requires Western to consult with tribes upon inadvertent discoveries. As requested, Western will notify the Buena Vista Rancheria in the event of inadvertent discoveries of cultural resources along its San Joaquin Valley right-of-way.

[via e-mail]

Cherie Johnston-Waldeal  
Regional Historic Preservation Official  
Western Area Power Administration  
Sierra Nevada Region  
(916) 353-4035

From: <s.burley@californiavalleymiwoktribe-nsn.gov> 6/5/2010 12:25 AM

Dear Ms. Johnston-Waldeal,

Our Tribe is in receipt of a letter written by Mr. Stephen Tuggle (signed by David Young, Acting for Stephen Tuggle) dated May 28, 2010. Attached to the letter is a copy of the Nov 24, 2009 letter signed by you with cc's. I am writing to clarify our official contacts/representatives for the California Valley Miwok Tribe, and our address/email info.

Ms. Debra Grimes is the Cultural Resource Specialist for the Calaveras Band of Mi-Wuk Indians. She is also a Tribal member of the Calaveras Band of Mi-Wuk Indians (state recognized).

Our Tribe, the California Valley Miwok Tribe (federally recognized), hired Ms. Debra Grimes in April 2009 as our Cultural Preservation Director. The contact information for Ms. Debra Grimes regarding our Tribe is as follows:

Ms. Debra Grimes  
CVMT Cultural Preservation Director  
P.O. Box 1015  
West Point, California 95255  
Email: d.grimes@californiavalleymiwoktribe-nsn.gov

My contact information is as follows:

Silvia Burley, Chairperson  
s.burley@californiavalleymiwoktribe-nsn.gov  
Cell Ph: (209) 470-5963

### **Response to Comment 3-1**

Western has updated its contact information and appreciates the clarification.

3-1

Physical address:

California Valley Miwok Tribe  
10601 Escondido Pl  
Stockton, California 95212  
Tribal Office: (209) 931-4567  
Fax: (209) 931-4333

Mailing address:

California Valley Miwok Tribe  
1163 E. March Lane  
Suite D-PMB #812  
Stockton, California 95210-4512

3-1

Note: Mail can be sent to either address -

Please, do not hesitate to contact me if you have any questions.

\*\*I also contacted Chairperson Dolores 'Midge' Turner of the Calaveras County Mountain Miwuk and Vice Chairman Mark Fountain of the Calaveras County Mountain Miwuk to either call or email you to make certain that you have their updated information.\*\*

Sincerely,

Silvia Burley, Chairperson  
California Valley Miwok Tribe  
<http://www.californiavalleymiwoktribe-nsn.gov>

[via e-mail]

Cherie Johnston-Waldear  
Regional Historic Preservation Official  
Western Area Power Administration  
Sierra Nevada Region  
(916) 353-4035

From: <cesarcaballero@shinglespringsreservation.com> 6/5/2010 11:46 PM

Dear Ms. Cherie Johnston-Waldear, SNR Native American Liaison.

Chairperson Ms. Sylvia Burley from the California Valley Miwok tribe forwarded your letter to us. We noticed we are not on the contact list. If you would please add our contact information to your list, it would be greatly appreciated. We are listed in the federal register and listed in the list of voting tribes in the 1934 IRA from the Shingle Springs Indian Reservation in El Dorado County. est. 1914. If you need any further information please do not hesitate to contact us.

4-1

Thank you,

Chief Cesar Caballero  
Shingle Springs Miwok Tribe  
6368 Pleasant valley Rd  
El Dorado Ca. 95623  
[www.shinglespringsmiwoktribe.com](http://www.shinglespringsmiwoktribe.com)  
[www.mewuktribe.com](http://www.mewuktribe.com)

### **Response to Comment 4-1**

Western has added the Shingle Springs Miwok Tribe to its contact list for this Environmental Assessment.



California Natural Resources Agency  
DEPARTMENT OF FISH AND GAME  
North Central Region  
1701 Nimbus Road, Suite A  
Rancho Cordova, CA 95670  
(916) 358-2900  
http://www.dfg.ca.gov

ARNOLD SCHWARZENEGGER, Governor  
John McCamman, Director



June 30, 2010

Ricardo Velarde  
Western Area Power Authority  
114 Parkshore Drive  
Folsom, CA 95630-4710

Dear Mr. Velarde:

The California Department of Fish and Game (DFG) has reviewed the draft Environmental Assessment (EA) for the Right-of-Way Maintenance in the San Joaquin Valley, California project (project) (SCH#2010064001). The project consists of a plan to maintain and operate Western Area Power Authority's facilities including the transmission lines, associated right-of-way (ROW), access roads, seven substations, and a maintenance facility. The project is located in portions of San Joaquin, Contra Costa, Alameda, Calaveras, Tuolumne, Santa Clara, and Merced Counties.

Wildlife habitat resources consist of a wide variety of vegetation and habitat along the 115 mile ROW, which includes habitat for sensitive species. Significant natural resources include wetlands, streams, and woodlands. The following comments pertain to those portions of the project that fall within the DFG's North Central Region, namely those portions that are in Calaveras County, and on the east side of Highway I-5 in San Joaquin County.

We are less concerned with project activities that maintain vegetation in its current condition versus those activities that will result in cutting, removing, or pruning additional trees or scrubs within or adjacent to the ROW. Specifically, we are concerned that the project may potentially result in the take of the State-listed/threatened Swainson's hawk (*Buteo swainsoni*), or result in the loss of Swainson's hawk nesting habitat. In San Joaquin County, Swainson's hawks may nest in riparian habitat or in single scattered trees through-out the project area. Although the EA contains Project Conservation Measure PCM-B080, it does not address the loss of nesting habitat if project activities result in the loss of a nesting tree. Loss of Swainson's hawk nesting habitat is a significant effect. We recommend that the EA be revised to address the loss of raptor nesting habitat, particularly, the loss of Swainson's hawk nesting habitat. We recommend that the EA contain a requirement for a nesting raptor survey within any area scheduled for project activities. If the survey reveals the location of an active Swainson's hawk nest, then the provisions of PMC-B080 should be enacted. Additionally, if the activity results in the loss of nesting habitat, then the loss should be mitigated to below a level that is significant.

This project will have an impact to fish and/or wildlife habitat. Assessment of fees under Public Resources Code Section 21089 and as defined by Fish and Game Code

*Conserving California's Wildlife Since 1870*

**Response to Comment 5-1**

Project Conservation Measure (PCM)-B080 addresses Swainson's hawk. The measure includes establishment of buffer zones around potential Swainson's hawk nest trees, within which there will be no intensive disturbances until assessed by a qualified biologist.

Western is Federal agency and the project does not involve a state cooperating agency. Western protects state-listed species to the extent practical.

**Response to Comment 5-2**

Western has developed Standard Operating Procedures (SOPs) that address environmental issues. The Environmental Assessment lists 15 SOPs for biological resources in Table 2.4-1. In addition, the Proposed Action includes PCMs that protect fish and wildlife habitat. PCMs for biological resources are listed in Table 2.4-2 of the Environmental Assessment. As a Federal entity, Western is obligated to protect species under Federal laws, such as the *Endangered Species Act* and the *Migratory Bird Treaty Act*. In addition, Western is committed to the implementation of PCMs defined for the project that protect state-listed species to the extent feasible.

Because maintenance activities incorporate SOPs and PCMs, Western has determined that the project will have no significant impact to fish and/or wildlife habitat.

**Response to Comment 5-3**

Western is a Federal Agency under the U.S. Department of Energy and therefore is not subject to fees under Public Resources Code Section 21089 or Fish and Game Code Section 711.4.

5-1

5-2

5-3

Mr. Velarde

2

June 30, 2010

Section 711.4 is necessary. Fees are payable by the project applicant upon filing of the Notice of Determination by the lead agency.

5-3,  
cont.

Pursuant to Public Resources Code Sections 21092 and 21092.2, the DFG requests written notification of proposed actions and pending decisions regarding this project. Written notifications should be directed to this office.

5-4

Thank you for the opportunity to review this project. If the DFG can be of further assistance, please contact Mr. Dan Gifford, Staff Environmental Scientist, telephone (209) 369-8851 or Mr. Jeff Drongesen, telephone (916) 358-2919.

Sincerely,



4 Jeff Drongesen  
Acting Environmental Program Manager

ec: Jeff Drongesen  
Dan Gifford  
Department of Fish and Game  
North Central Region

cc: Susan Jones  
U.S. Fish and Wildlife Service  
2800 Cottage Way, Room W2605  
Sacramento, CA 95825-1888

### **Response to Comment 5-4**

As Western is a Federal Agency under the U.S. Department of Energy, the project is exempt from the requirements of the *California Environmental Quality Act (CEQA)*; therefore, Public Resources Code sections 21092 and 21092.2, specifically for environmental impact reports or a negative declarations under CEQA, do not apply.

## San Joaquin Valley ROW Maintenance EA

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**From:** [Canuela, Jon](#)  
**To:** "[sjv\\_ea@wapa.gov](mailto:sjv_ea@wapa.gov)"  
**Cc:** [Ellinghouse, Leroy](#); [Gayou, Nadell](#)  
**Subject:** Draft EA for San Joaquin Valley, SCH 2010064001  
**Date:** Monday, June 28, 2010 1:00:11 PM  
**Attachments:** [SCH2010064001.pdf](#)

---

Mr. Velarde,

Thank you for the opportunity to review and comment on the draft EA for right-of-way maintenance by Western Area Power Administration in the San Joaquin Valley. The attached letter has CA Department of Water Resources, Division of Operations & Maintenance's comments.

If you have questions about the attached letter, you can reach me at (916) 653-5095. Again, thank you for the opportunity.

-Jonathan Canuela  
Water Resources Engineering Associate  
Division of Operations and Maintenance  
CA Department of Water Resources  
Sacramento, California

STATE OF CALIFORNIA – THE RESOURCES AGENCY  
**DEPARTMENT OF WATER RESOURCES**  
 1416 NINTH STREET, P.O. BOX 942836  
 SACRAMENTO, CA 94236-0001  
 (916) 453-5791

ARNOLD SCHWARZENEGGER, Governor



JUN 24 2010

Ricardo Velarde  
 Environmental Protection Specialist  
 Western Area Power Administration  
 Sierra Nevada Region, N1411  
 114 Parkshore Drive  
 Folsom, California 95630-4710

Draft Environmental Assessment For Existing Electrical Transmission Line Infrastructure, Rights of Way, and Access Roads in San Joaquin Valley, Western Area Power Administration (Western), San Joaquin, Contra Costa, Alameda, Santa Clara, and Merced Counties, Approximately Between Mileposts 0.93 and 17.31, Delta Field Division, SCH2010064001

Dear Mr. Velarde:

Thank you for the opportunity to review and comment on the draft environmental assessment (Draft EA) for right-of-way maintenance by Western for the San Joaquin Valley. Western has prepared the Draft EA in order to analyze proposed operation and maintenance (O&M) procedures for its existing electrical transmission line infrastructure, rights of way, and access roads at three geographical regions of Tracy, Morgan Hill/San Luis, and New Melones.

The Department of Water Resources (DWR) State Water Project (SWP) has facilities located at the geographical region of Tracy. In July 1988, DWR issued Encroachment Permit 746 (EP 746) to Western for the transmission line project. EP 746 contains guidelines that include maintaining access roads and warning signs within DWR right of way. Any proposed O&M activities within DWR's right of way shall adhere to EP 746. These guidelines can also be viewed at:

[http://www.doe.water.ca.gov/Services/Real\\_Estate/Encroach\\_Rel/index.cfm](http://www.doe.water.ca.gov/Services/Real_Estate/Encroach_Rel/index.cfm)

Please provide DWR with a copy of any subsequent environmental documentation when it becomes available for public review. Any future correspondence relating to this environmental assessment should be sent to:

Leroy Ellinghouse, Chief  
 SWP Encroachments Section  
 Division of Operations and Maintenance  
 Department of Water Resources  
 1416 Ninth Street, Room 641-2  
 Sacramento, California 95814

**Response to Comment 6-1**

Encroachment Permit 746 (EP 746) was issued to Western from the California Department of Water Resources (DWR) for construction of the 230-kV transmission line only. In August 1988, DWR issued a Director's Deed for the easement to erect, construct, reconstruct, replace, remove, maintain, and use one line of poles as necessary for the transmission and distribution of 230-kV of electric energy, including a right of way for maintenance purposes.

Neither EP 746 nor the Director's Deed contains any guidelines relevant to maintenance of access roads and warning signs. These maintenance activities within DWR's right of way under the proposed project shall adhere to the guidelines presented on DWR's website, to the extent practical.

**Response to Comment 6-2**

Western is providing Mr. Leroy Ellinghouse of the California Department of Water Resources with a copy of this Final Environmental Assessment.

6-1

6-2

Ricardo Velarde  
JUN 24 2011  
Page 2

If you have any questions, please contact Leroy Ellinghouse, Chief of the SWP Encroachments Section, at (916) 659-7168 or Jonathan Canuela at (916) 653-5095.

Sincerely,



David M. Samson, Chief  
State Water Project Operations Support Office  
Division of Operations and Maintenance

cc: State Clearinghouse  
Office of Planning and Research  
1400 Tenth Street, Room 121  
Sacramento, California 95814

**From:** [John Torrey - ISA Associates](#)  
**To:** ["SJV\\_EA@wapa.gov"](#)  
**Cc:** ["john.torrey@comcast.net"](#); [Mark Seedall](#); ["pclinton@usbr.gov"](#)  
**Subject:** CCWD Comments on WAPA Draft EA for ROW Maintenance in San Joaquin County  
**Date:** Friday, July 02, 2010 4:52:36 PM  
**Attachments:** [WAPA\\_EA Comments.doc](#)

---

Attn: Ricardo Velarde, Environmental Protection Specialist

Attached please find Contra Costa Water District comments on the WAPA Draft EA for ROW Maintenance in San Joaquin County.

John Torrey  
CCWD On-Call Contractor  
[john.torrey@comcast.net](mailto:john.torrey@comcast.net)

Contra Costa Water District Comments on the WAPA EA for the Right-of-way Maintenance in the San Joaquin Valley  
July 2, 2010

The Western Area Power Administration (WAPA) owns, operates, and/or maintains 17.2-kilovolt (kV), 69-kV, and 230-kV transmission lines, a 17.2-kV distribution line, associated substations, and a maintenance facility in San Joaquin, Contra Costa, Alameda, Calaveras, and Tuolumne counties, and owns and operates additional substations in Santa Clara and Merced counties, California. Western also has legal use of various, improved and unimproved access roads to their transmission lines. Collectively, these transmission line and associated access road rights-of-way (ROWs), substations (including a 50-foot buffer surrounding each substation), and maintenance facility comprise the project area.

CCWD notes that according to an existing agreement with the U.S. Bureau of Reclamation, poles and lines up to the substations would be maintained by WAPA. Substations and lines from the substation to the pumping plants would be maintained by CCWD.

CCWD also notes that 3 types of O&M activities are documented in the EA:

1. **Vegetation maintenance (transmission line ROW, access road ROW, substation, and maintenance facility).** Vegetation maintenance would ensure that vegetation did not interfere with human safety, transmission line conductors, towers, other hardware, or impede access to the transmission lines or other equipment for maintenance crews. In general, vegetation maintenance could be performed using a variety of methods including manual (hand-controlled, powered, or non-powered tools such as chainsaws and clippers), mechanical (such as heavy-duty mowers), and herbicidal applications (used to control non-native vegetation).

2. **Access road maintenance.** Access road maintenance would include activities to ensure that legal access roads were in appropriate condition for all-weather access to transmission lines by maintenance and inspection crews. These activities would include grading, surfacing, erosion control measures, and constructing water diversions such as culverts, ditches, and water bars.

3. **Maintenance of transmission line, substation, maintenance facility, and associated structure, hardware, and equipment.** This category of activities would include equipment and system maintenance and upgrades, routine aerial and ground patrols of transmission lines and ROWs, and transmission system repairs.

WAPA facilities within U.S. Bureau of Reclamation right-of-way potentially affected by WAPA O&M activities include the following:

-69 kV transmission line between Contra Costa canal milepost 0.0 and Contra Costa Canal milepost 7.0

-4 substations (1 at each of 4 CCWD pumping plants along the Contra Costa Canal)

-1 substation at the CCWD Old River Pump Station

-1 substation at the new Middle River Pump Station at Victoria Island

CCWD/USBR have the following comments at this time on the EA:

-With respect to WAPA system maintenance and upgrades, routine aerial and ground patrols of transmission lines and ROWs, and transmission system repairs, CCWD would like the opportunity to review plans to ensure that storm water runoff from any area of the proposed maintenance project does not enter the Contra Costa Canal.

7-1

-Access to Reclamation property along the Contra Costa Canal has been agreed to in advance via an existing agreement between WAPA and the U.S. Bureau of Reclamation. Existing access roads are to be used at all times.

7-2

**Response to Comment 7-1**

Western does not coordinate with the Contra Costa Water District prior to routine maintenance, repairs, and aerial and ground patrols of Western's transmission lines and ROWs. Western will provide any non-routine project-specific plans to the the Contra Costa Water District for review.

**Response to Comment 7-2**

Western agrees to use existing access roads along the Contra Costa Canal, per its agreement with the U.S. Bureau of Reclamation.

-National Environmental Policy Act (NEPA) review will be required if there are any impacts to Reclamation property.

-Special-status species potentially affected proximate to CCWD facilities include the Giant garter snake and the Western burrowing owl. WAPA proposed Standard Operating Procedures in Table 2.4-1 (by issue area) and Fish and Wildlife Project Conservation Measures in Table 2.4-3 appear adequate to protect these species. CCWD does however note that it seeks to avoid impacts to the Giant garter snake between October 1 and April 1 when the Giant garter snake may be hibernating underground. If any ground disturbing activities are required between October 1 and April 1 by WAPA it is recommended that a qualified biologist conduct a pre-maintenance survey to avoid impacts to the Giant garter snake.

7-3 **Response to Comment 7-3**

In the event of significant adverse environmental impacts to U.S. Bureau of Reclamation property, Western would perform a review of this Environmental Assessment under the *National Environmental Policy Act* to identify the need for modification of maintenance practices or PCMs.

7-4 **Response to Comment 7-4**

PCM B066 on page 2-59 of the Final Environmental Assessment states that “[a U.S. Fish and Wildlife] Service-approved biologist will conduct a preactivity survey no more than 24 hours before O&M activities began and will be on site during all activities in potential giant garter snake aquatic and upland habitats.” This addresses ground-disturbing activities that occur between October 1 and April 30.