Draft Environmental Assessment

ELECTRICAL DISTRICT 5 - PALO VERDE HUB PROJECT

Western No: DOE/EA-1864

Prepared for:

Western Area Power Administration

US Department of Energy
Western Area Power Administration

DRAFT
ENVIRONMENTAL ASSESSMENT

DOE/EA-1864

Electrical District 5 – Palo Verde Hub Project
Maricopa and Pinal Counties, Arizona

US Department of Energy
Western Area Power Administration
Desert Southwest Customer Service Region
615 South 43rd Avenue
Phoenix, Arizona 85009

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LIST OF ABBREVIATIONS AND ACRONYMS

ACC	Arizona Corporation Commission
ADEQ	Arizona Department of Environmental Quality
AGFD	Arizona Game and Fish Department
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
ALRIS	Arizona Land Resources Information System
APS	Arizona Public Service
ARRA	American Recovery and Reinvestment Act
ASLD	Arizona State Land Department
ASM	Arizona State Museum
ATIS	Arizona Transportation Information System
AZ	Arizona
BLM	US Bureau of Land Management
BMPs	Best Management Practices
CATS	Central Arizona Transmission System
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
dBA	decibel "A"-weighted
DOE	US Department of Energy
EA	Environmental Assessment
EIS	Environmental Impact Statement
ED3	Electrical District Number 3
ED4	Electrical District Number 4
ED5	Electrical District Number 5
ED5-PVH	Electrical District Number 5 – Palo Verde Hub project
EMF	electric and magnetic fields
ESA	Endangered Species Act of 1973 as amended
ESRI	Environmental Systems Research Institute
FEMA	Federal Emergency Management Agency
FPPA	Farmland Protection Policy Act
GIS	Geographic Information System
kV	kilovolt
kV/m	kilovolts per meter
mG	milligauss
MW	megawatts
NAD	North American Datum
NEPA	National Environmental Policy Act

NESC	National Electrical Safety Code
NHPA	National Historic Preservation Act
NIEHS	National Institute of Environmental Health Sciences
NRCS	National Resources Conservation Services
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
PVH-PW	Palo Verde Hub – Pinal West segment
PW-SEV/BRG	Pinal West – Southeast Valley/Browning
PW-TTT	Pinal West – Test Track segment
Rd	road
RF	radio frequency
ROW	Rights-of-Way
RMP	Resource Management Plan
SEV	Southeast Valley Project
SHPO	State Historic Preservation Office
SRP	Salt River Project Agricultural Improvement and Power District
SWPPP	Stormwater Pollution Prevention Plan
Thornton Rd-ED5	Thornton Road – Electrical District Number 5 segment
TTT-Thornton Rd	Test Track – Thornton Road segment
US	United States
USC	United States Code
USCB	US Census Bureau
USDA	US Department of Agriculture
USFWS	US Fish and Wildlife Service
UTM	Universal Transverse Mercator
VRM	Visual Resources Management
Western	Western Area Power Administration

1.0 INTRODUCTION

This Environmental Assessment (EA) complies with the Council on Environmental Quality's (CEQ) National Environmental Policy Act (NEPA) regulations published in the Code of Federal Regulations (CFR) 40 CFR §1500 – 1508 and the United States (US) Department of Energy (DOE) implementing procedures described in 10 CFR §1021.

The potential impacts to the environment as a result of this project are discussed in detail within this document. This EA provides the basis for decisions on whether the effects to land, farmlands, visual, water, biological, and cultural resources, as well as socioeconomic conditions, would be significant. If Western Area Power Administration (Western) decides to accept the Proposed Action it would fund, review designs for, and manage the project.

Western, as the lead agency, and other project stakeholders include the participants of the Southeast Valley Project (SEV): the Salt River Project Agricultural Improvement and Power District (SRP), Tucson Electric Power, Southwest Transmission Cooperative Inc., Electrical District Number 2, Electrical District Number 3 (ED3), and Electrical District Number 4 (ED4). SRP would design and construct the selected Proposed Action as approved by Arizona Corporation Commission (ACC) on right-of-way (ROW) that has been granted by the underlying land management agency or private property holders.

1.1 PROJECT BACKGROUND

Western's mission is to market and deliver reliable, low-cost hydroelectric power and related services to its customers. Western markets and delivers over 10,000 megawatts (MW) of power generated by 57 power plants to a 15-state region covering approximately 1.3 million square miles. Western operates and maintains 17,474 miles of transmission lines, 268 substations, and other related facilities. The Desert Southwest Region, with headquarters in Phoenix, Arizona, markets and delivers power in portions of Arizona, California, and Nevada to wholesale customers such as towns, rural electric cooperatives, public and private utilities, irrigation districts, Federal and state agencies, the military, Native American Tribes, and power marketers.

The Proposed Action for the *Electrical District 5 – Palo Verde Hub* project (ED5-PVH) begins near the Palo Verde Nuclear Generating Station located near Wintersburg, Maricopa County, Arizona, and trends southeasterly beyond the southern edge of the city of Casa Grande ending at the Electrical District 5 Substation (ED5) near Picacho Peak, Pinal County, Arizona (Figure 1-1).

Within the project area there are two transmission lines and six substations/switchyards. These transmission lines and substations service private utilities and irrigation districts around central Arizona who in turn distribute power to the communities of Casa Grande, Eloy, Maricopa, Mobile and Stanfield; the Ak-Chin Indian Community and Tohono O'odham Nation, and outlying areas of central Arizona. SPR operates two of the substation/switchyard facilities, Palo Verde Hub and Pinal West, which are part of the Palo Verde Hub – Pinal West (PVH-PW) transmission line. The PVH-PW line and Pinal West Substation were constructed in 2007 and energized in 2008. Western owns and operates four substations: the Casa Grande, Empire, Test Track, and ED5; and a transmission line in the project area, the Casa Grande – Saguaro transmission line. The Casa Grande – Saguaro transmission line, formerly known as Maricopa-Saguaro 115–kilovolt (kV) transmission line, was originally constructed in the 1940s as a wooden pole line. The ROW for the Casa Grande – Saguaro was acquired in the 1940s by Western's predecessor, the US Bureau of Reclamation, for the operation and maintenance of the transmission line. The existing four substations are on Western owned land. Land for the Casa Grande and ED5 substations was acquired in the early 1950s, 2010 for the Empire substation, and 2005 for the Test Track substation.

Western's long-term infrastructure needs were assessed for central and southern Arizona (http://www.wapa.gov/about/faqsrto.htm) in studies prepared by the Regional Transmission Organization. These studies concluded that transmission lines need to be interconnected with the central Arizona regional grid to improve the reliability of the system. System reliability is an industry term which is defined as meeting the electrical needs of the client, even when equipment failures or other manmade or natural factors reduce the amount of available electricity. The studies identified areas that may require transmission or substation upgrades and the need for new transmission lines or substations to improve reliability.

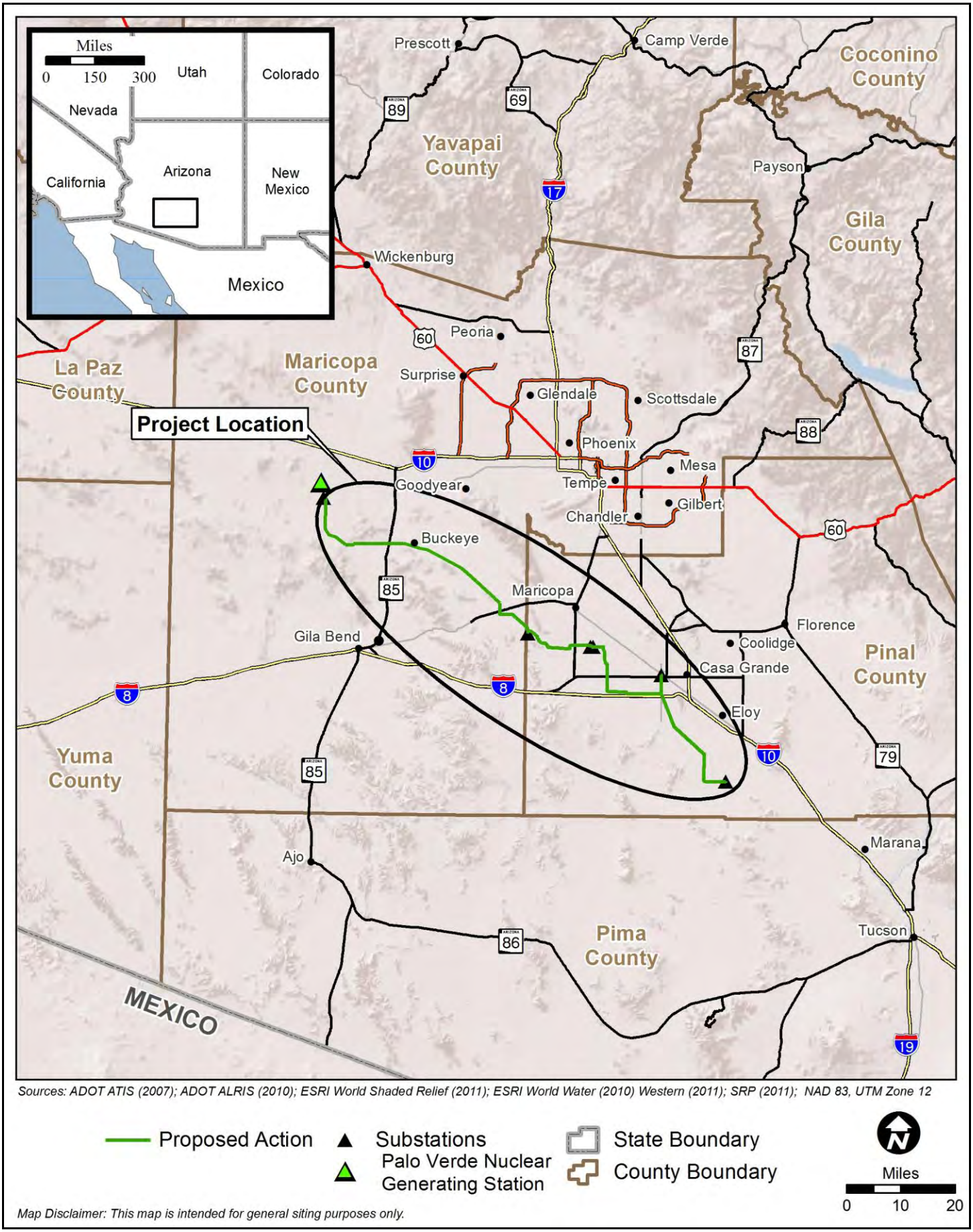

Figure 1-1 Project Location Map

As part of long-term planning, in June 2000, 18 public and private utility companies in central Arizona, along with State of Arizona agencies, collaboratively prepared a regional study to assess the need for improving the transmission infrastructure. This Central Arizona Transmission System (CATS) study evaluated the need for increased transmission capacity to avoid an energy crisis due to increasing demand for energy delivery (BLM 2004 EA). Capacity needs is defined as the instantaneous amount of power to meet client demand. As a result of the CATS study, it was determined that central Arizona needed new power transmission capacity due to increased demands from the projected increase in load growth.

Based on the early CATS study, the SEV project participants planned two transmission projects to address the increased energy demands. For the first phase, the Bureau of Land Management (BLM) completed an *Environmental Assessment for the Palo Verde to Pinal West Project* in 2004, BLM EA No. AZ – 020-2003-0045, which granted ROW across 30 miles of BLM lands for the PVH-PW segment. The ACC approved the certificate of environmental compatibility for the PVH-PW project in May 2004. The PVH-PW project was completed and started operating in 2008.

For the second phase, the planned Pinal West – Southeast Valley/Browning (PW-SEV/BRG) 500-kV line was approved by the ACC in August 2005. The approval for the PW-SEV/BRG 500-kV transmission line project was amended to include additional 230-kV circuits in December 2006 and November 2008. PW-SEV/BRG has not been constructed and is still being designed.

Western may borrow funds from the United States Treasury under Section 402 of the American Reinvestment and Recovery Act (ARRA), 42 U.S.C. 16421a, Public Law 111–5, 123 Stat. 141, Div A, Title IV, 402 (2009) (adding Section 301 to the Hoover Power Plant Act of 1984, Pub. L. 98–381, Title III, 301), to construct, finance, facilitate, plan, operate, maintain, and/or study construction of new or upgraded electric power transmission lines and related facilities, with at least one terminus in Western's marketing area, that deliver or facilitate the delivery of power from renewable resources constructed or reasonably expected to be constructed after the date of enactment of the ARRA. Western developed the Transmission Infrastructure Program, to carry

out the requirements of ARRA funding by identifying, selecting, and prioritizing those projects that would benefit Western integration of renewable energy, transmission reliability, and their clients. Western is proposing to participate as a joint owner in the project.

1.2 PURPOSE AND NEED

Western's mission is to market and deliver low-cost power and maintain the effectiveness and integrity of its transmission system. This mission aligns with the mission of the DOE to ensure America's security and prosperity by addressing its energy, environmental, and nuclear challenges through transformative science and technology solutions (DOE 2011).

Demand for electricity continues to grow in south central Arizona and the existing transmission grid across the region is aging and increasingly operating at its full capacity during peak periods of electric use. Western and other utilities have identified the need to improve system reliability and enhance transfer capability between the Palo Verde Hub and ED5. As the request of its customers, Western is partnering with other utilities to ensure adequate and reliable electric service to the area.

This project is jointly proposed by Western and southern Arizona electrical providers to build and operate a new transmission segment, and upgrade an existing line segment between Palo Verde Hub near Arlington, Arizona and the ED5 substation near Picacho Peak, Arizona. This project would help supply energy to customers and improve electric system reliability by enabling delivery of electricity from existing and new generating resources, including renewable resources.

1.3 CONFORMANCE WITH RESOURCE MANAGEMENT PLANS AND OTHER LAND USE PLANS

With the 1988 Record of Decision for the *Final Lower Gila South Resource Management Plan (RMP)/Environmental Impact Statement* (EIS), the BLM designated 1-mile-wide, multiple-use utility corridors to accommodate existing utility systems and provide for orderly development of future systems. The four existing utility rights-of-way corridors within the project area are within one such BLM-designated multiple-use corridor (BLM corridor): the Palo Verde – Kyrene 500-kV Transmission Line, the Palo Verde – Pinal West Dual 500-kV Transmission Line, the El Paso Natural Gas Company pipelines, and the Tucson Electric Power Company Westwing – South 345-kV Transmission Line. The Proposed Action would, therefore, be in conformance with Lower Gila South RMP/EIS for ROW located on BLM-managed lands.

The *Pinal County Comprehensive Plan,* approved in November 2009, serves as a roadmap for the county's future growth by preserving the quality of life and promoting sustainability, while encouraging economic vitality through integrated environmental stewardship. Although the plan is not a regulatory document nor does it grant entitlements, it fosters and encourages a coordinated effort and open communication for planning that achieves mutual visions. Through the CATS study mentioned earlier, the county recognizes that approximately 10 MW of new power generation would be required to sustain the expected growth. While the plan does not designate utility corridors, it does identify the need for electrical services. In the county plan, energy conservation is a keystone to the overall energy plan; however, the county also recognizes the need for the planning of electrical facilities for future expansion with stakeholder involvement. As a key stakeholder for the region, Pinal County recognizes their involvement would be to ensure plans are compatible with the county's vision and goals outlined in the comprehensive plan. The ED5-PVH project conforms with the long-range goals of *Pinal County's Comprehensive Plan* by ensuring safe and reliable power services throughout the area.

1.4 APPLICABLE REGULATORY REQUIREMENTS AND REQUIRED COORDINATION

The following Table 1-1 summarizes applicable laws and regulations as they pertain to the project.

Table 1-1 Summary of Applicable Laws and Regulations	
Law / Regulation	**Applies to**
American Indian Religious Freedom Act	Archaeological resources and Tribal consultation
Antiquities Act of 1906	Archaeological resources and Tribal consultation
Archaeological Resources Protection Act	Archaeological resources and Tribal consultation
Clean Air Act	Air pollution prevention and control Emission levels of regulated pollutants
Clean Water Act (Sections 401/402/404)	Surface water quality Discharge or dredge or fill materials into jurisdictional waters of the US
Endangered Species Act (ESA)	Threatened and endangered species
Executive Order 11593	Protection and enhancement of the cultural environment
Executive Order 11988/11990	Floodplains and wetlands
Executive Order 12898	Environmental justice
Executive Order 13112	Noxious weeds
Executive Order 13175	Consultation and coordination with Tribal government
Executive Order 13212	Energy policy
Farmland Protection Policy Act	Prime and unique farmlands
Federal Land Policy and Management Act	Management of public lands
Migratory Bird Treaty Act	Protection of selected bird species
National Environmental Policy Act	Federal undertakings / DOE NEPA regulations
National Historic Preservation Act (NHPA)	Historic and traditional cultural properties
Native American Graves Protection and Repatriation Act of 1990	Archaeological resources and Tribal consultation
Noise Control Act of 1972, as amended	Noise protection
Occupational Safety and Health Act	Health and safety standards
Pollution Prevention Act of 1990	Reducing potential for pollution sources
Secretarial Order 3206	Endangered Species Act and Tribal Trust responsibilities

1.5 PERMITS, LICENSES, AND ENTITLEMENTS

Table 1-2 summarizes permits, licenses, and entitlements required for this project.

Table 1-2 Summary of Permits and Authorization	
Permitting Agency	**Permit/Authorization**
Arizona State Historic Preservation Offices	Section 106 National Historic Preservation Act (NHPA), as amended
Bureau of Land Management	Federal Land Policy and Management Act of 1976 or ROW authorization granted
Arizona Department of Environmental Quality	Arizona Pollutant Discharge Elimination System Permit for construction activities and Clean Water Act Section 401 water-quality certification
Arizona State Land Department (ASLD)	Authorization of ASLD grant easements
US Army Corps of Engineers	Sections 401 and 404 of the Clean Water Act

1.6 ENVIRONMENTAL REVIEW

In addition to the DOE implementing procedures, other applicable policies and programs of federal, state, and local agencies also were evaluated for the planning, consultation, and assessment processes. This EA evaluates the potential environmental impacts of the Proposed Action and No Action alternative on the following resources:

- Land Use
- Visual Resources
- Cultural Resources
- Biological Resources
- Water Resources, Floodplain, and Wetlands
- Wild and Scenic Rivers
- Solid and Hazardous Wastes
- Air Quality and Noise
- Socioeconomics
- Environmental Justice/Title VI
- Solid Waste and Hazardous Materials
- Geology, Mineral, and Soil Resources
- Health and Safety
- Intentional Destructive Acts

1.7 SCOPING

Western initiates EA-level documents through careful planning, internal coordination, and external coordination with interested agencies, Tribes, and organizations. Agency notifications, newspaper advertisements, and a public open house meeting provided the public and agencies with information about the Proposed Action and the preparation of the EA. These efforts were carried out pursuant to the ~~"s~~coping process" as defined by CEQ's regulations implementing NEPA. Issues and concerns identified during this scoping process, primarily from agencies, have been considered in the preparation of this EA. A list of the agencies contacted can be found in Section 4.0. Western received the following responses to the agency scoping letters:

Pinal County Transportation Department, City of Maricopa and City of Casa Grande

- The Pinal Transportation Department requested a geographic information system (GIS) overlay of Western's transmission lines to update the county's transportation system. The Pinal County Public Works Department stated they would review the GIS files to confirm no conflicts with the Proposed Action.
- The City of Maricopa requested the GIS shapefile of the line to confirm it does not interfere with a municipal grade–separation project the city has proposed.

- The City of Casa Grande requested the GIS shapefiles for the transmission line south of Interstate 8 to Empire Substation and pictures/drawings of what the structures would look like.

Arizona Department of Environmental Quality (ADEQ)

- The Water Quality Division provided general construction permit information for stormwater discharges associated with construction activities and the permits required if 1 acre or more of ground disturbance occurs (Arizona Pollutant Discharge Elimination System with a Stormwater Pollution Prevention Plan [SWPPP]).
- The Air Quality Division provided general information for reducing particulate matter during construction. The Division also provided rules applicable to reducing dust, and codes for Maricopa County and Pinal County.

US Fish and Wildlife Service (USFWS)

- The USFWS sent a letter stating that a list of endangered, threatened, proposed, and candidate species is available online and provided general information on Section 7 requirements for federally funded projects.

Arizona Game and Fish Department (AGFD)

- The AGFD provided general comments for the construction of the transmission line. These comments included: requests to adhere to existing roads, trail, and ROW; minimize impacts to shrubs and/or brush when clearing an area; revegetate and restore all new disturbed areas with native plants; prevent or minimize impacts to raptors; schedule construction during the least amount of risk to wildlife breeding seasons; avoid removal of deadfall/snags; survey for Tucson shovel-nosed snake, Sonoran desert tortoise, and burrowing owls; and coordinate plant salvage efforts with the Arizona Department of Agricultural (see *3.4 Biological Resources*). Western had a conference call with the AGFD on March 31, 2011 to discuss the comments and resolve other concerns.

Public Open House

- Western solicited public comment via newspaper notifications that announced the location, date, and time of the public open house on March 9, 2011 in the Dispatch for City of Casa Grande, the Maricopa Monitor for City of Maricopa, and the Eloy Enterprise for the City of Eloy (see Appendix F). The open house was held at the City of Casa Grande Parks and Recreation Department office. No attendees were opposed to the project. One member of the public representing small public-utility irrigation districts and electrical districts attended in support of the Proposed Action (see Appendix F for handouts, posters, and sign-in sheet for the public open house meeting).

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

Western and southern Arizona utility districts and public utilities, are considering to plan, design, fund, and construct the Proposed Action. The action includes the granting of electrical transmission rights over the existing PV-PW and proposed PW-SEV/BRG line segments, the construction of a new transmission line segment (Test Track – Thornton Road double circuit 500/230-kV line), the addition of a bundle of 230-kV conductors to the Casa Grande-ED5 transmission line, and expanding three substations (Figure 2-1).

Planned Segment Improvements Under Separate Actions

Two transmission line segments cleared under previous documentation will be constructed or upgraded prior to the Proposed Action of this EA. A segment of the PW-SEV/BRG line, Pinal West to Test Track, will be constructed by SRP before the Proposed Action would be constructed. The Casa Grande-ED5 115-kV transmission line will be removed and replaced with a 230-kV transmission line which Western cleared by categorical exclusion in September 2010. Under the Proposed Action, a segment of the Casa Grande-ED5 transmission line would be double circuited.

The Proposed Action would provide transmission access to a major market hub (PVH) and could enhance the viability of renewable resource development in Pinal County. Specifically, this project is located in and would provide a tie between the renewable zones Western Renewable Energy Zones AZ_WE and AZ_SO (Western Governors' Association 2009).

The Proposed Action to acquire capacity rights and improve transmission line segments also includes Western's Standard Construction Practices Section 13 (Appendix B). The Proposed Action is described by line segments that extend between substation facilities or between a geographic location. The four line segments and three substations are further described below along with the project description for each.

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Electrical Distric 5 - Palo Verde Hub Project

Transmission Line Segments

- Palo Verde Hub - Pinal West (51.0 miles) Existing SRP Line
- Pinal West - Test Track (14.5 miles) Proposed SRP Line
- Test Track - Thornton Road (20.9 miles) Proposed Western Line
- Thornton Road - ED5 (22.8 miles) Existing Western Line

Land Ownership

- Indian Reservation
- Bureau of Land Management
- Department of Defense
- Bureau of Reclamation
- National Park Service
- AZ State Land Department
- Local/ State Park
- Private/Non-Public Land

Miles
0 5 10

Sources: ADOT ATIS (2007); ADOT ALRIS (2010); ESRI World Shaded Relief (2011); SRP (2011); Western (2011); NAD 83, UTM Zone 12

Map Disclaimer: This map is intended for general siting purposes only.

Figure 2-1 Vicinity and Jurisdiction Map

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2.1.1 Proposed Transmission Line Segments

Palo Verde Hub – Pinal West (PVH-PW) Segment (51 miles)

- Western proposes to acquire transmission line rights from SEV project participants ED3 and ED4 to send power over the line.
- No further construction activities would be required for this segment.

Pinal West – Test Track (PW-TTT) Segment (14.5 miles)

- Western proposes to acquire transmission line rights from SEV project participants ED3 and ED4 to send power over the line.
- Construction activities ongoing under a separate approved project, but none of these construction activities are included in this EA.

Test Track – Thornton Road (TTT-Thornton Rd) Segment (20.3 miles)

Western proposes to construct, own and operate a new 230-kV transmission line by:

- Modifying the planned 500-kV PW-SEV/BRG design for a steel monopole or H-frame structure to add a 230-kV underbuild circuit
- Stringing an overhead fiber optic communication ground wire

Thornton Road – ED5 (Thornton Rd-ED5) Segment (22.5 miles)

Western proposes to upgrade, own, and operate the planned 230-kV transmission line by:

- Installing a second 230-kV circuit (double circuited) to the planned 230-kV transmission line upgrade
- Stringing an overhead fiber optic communication ground wire

2.1.2 Substations

Test Track, Casa Grande, and ED5

The existing 2.2 acres Casa Grande Substation expansion would be 500 feet × 725 feet (approximately 8.32 acres), the 3.4 acres ED5 Substation would expand by 497 × 340 feet (approximately 3.90 acres*), and the 2.7 acres Test Track Substation would expand by 110 × 440 feet (approximately 1.10 acres) (see Figures 2-2, 2-3, and 2-4). The activities included for each of the three Western-owned and operated substation expansions:

*Western may acquire up to 5.90 acres depending on expansion needs.

- Removing existing fencing around the expansion area and installing fencing around the expansion area once the ground work is completed
- Grading and leveling the site
- Installing a subsurface electrical ground mat beneath the expansion area
- Installing bays for future electrical equipment
- Placing decomposed granite or ground cover on the surface to control dust
- Adding electrical equipment to the substation yard and control room
- If needed, upgrading communication equipment and control room within the substation

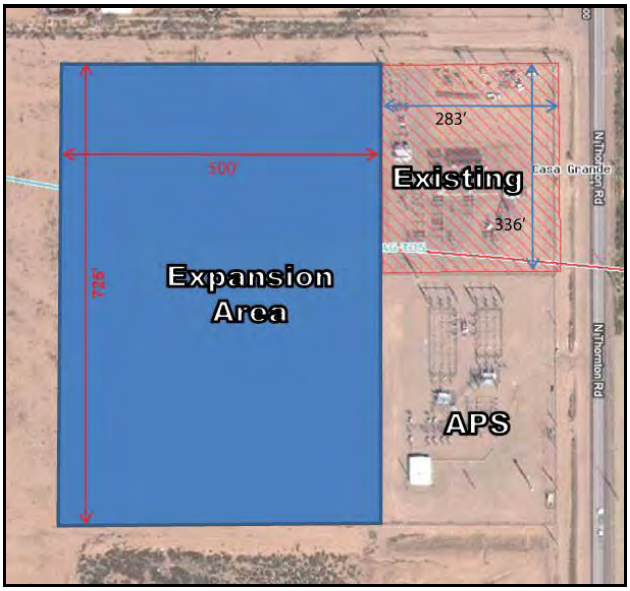


Figure 2-2 Case Grande Substation

Figure 2-3 ED5 Substation

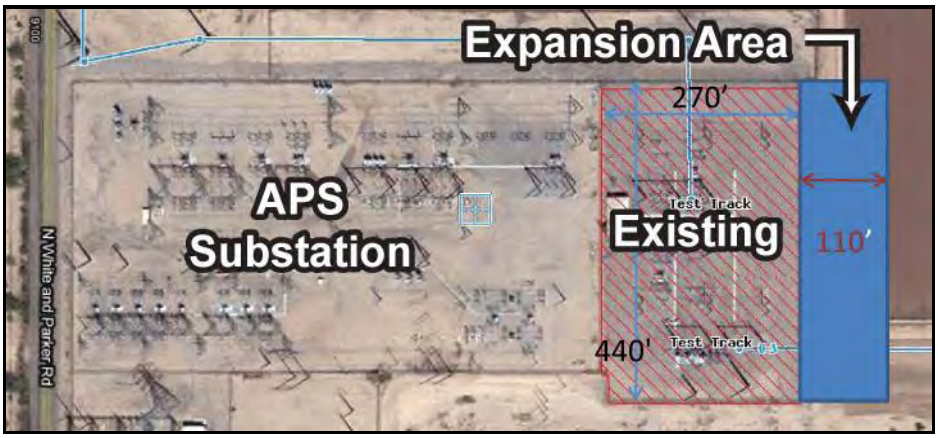


Figure 2-4 Test Track Substation

2.1.3 Right-Of-Way

The existing 130-foot ROW for the PVH-PW was obtained from BLM, ASLD, and private landholders in 2004. The ROW for the PW-TTT, TTT-Thornton Rd, and Thornton Rd-ED5 line segments was acquired previously and varies in width from 100 to 600 feet. Work activities for the Proposed Action would take place within the existing ROW and Western-approved work areas. Additional land to expand the three Western substations would be acquired from private-landowners.

2.1.4 Construction Activities and Schedule

If Western decides to complete the project, the Proposed Action would be constructed over a period of 24 to 30 months, starting in 2012 and placed into service in 2014. Construction for the new 20.3 mile line segment, TTT-Thornton Rd, would be in a carried out according to the Plan of Development for the Proposed Action. Installation of the additional circuit from Thornton Rd-ED5 line would be carried out in similar fashion. Substation improvements would also take place within the 30-month construction period. Modifications to the construction techniques that arise during construction outlined here and described in more detail in the Plan of Development for the Proposed Action would be evaluated and approved by Western prior to implementation, and the EA would be amended if necessary.

2.1.5 Transmission Corridor and Access Roads

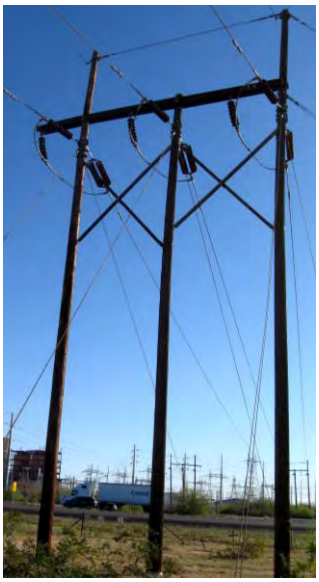
The existing transmission line corridor and existing roads would be used during construction, operation, and maintenance of the Proposed Action. To reduce potential impacts, all construction vehicle movement outside the ROW would be restricted to existing access or public roads. No project-related improvements of access roads are planned; however, if improvements are necessary, the contractor must receive approval from Western.

2.1.6 Design

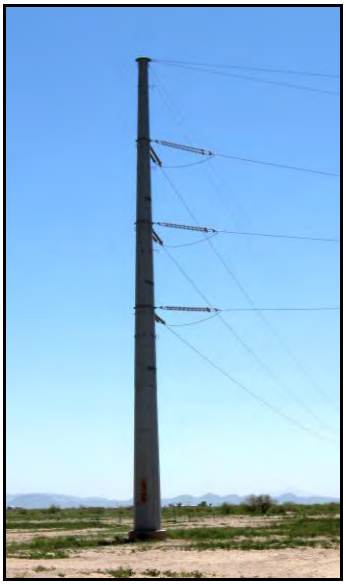
The substation improvements and transmission line segments are designed to meet or exceed the requirements of the National Electrical Safety Code (NESC), US Department of Labor's Occupational Safety and Health Administration (OSHA) Standards, and Western policies for safety and protection of landowners, property, wildlife, and the public.

The transmission line structures would be metal monopole, H-frame (Photograph 2-1), (Photograph 2-2), or three-pole structures (Photograph 2-3). For the new segment to be constructed, TTT-Thornton Road, the proposed transmission line would run in the center of the 130-foot ROW. Photograph 2-4 is an example of a combined 500/230-kV structure, and Figure 2-5 is a drawing of a typical 230-kV structure. Table 2-1 provides a summary of the structure types and other design characteristics.

Photograph 2-1 Example of a Metal H-frame Structure



Photograph 2-3 Example of Three-Pole Structure



Photograph 2-2 Example of a Metal Monopole

Photograph 2-4 Example of 500–230-kV Structure

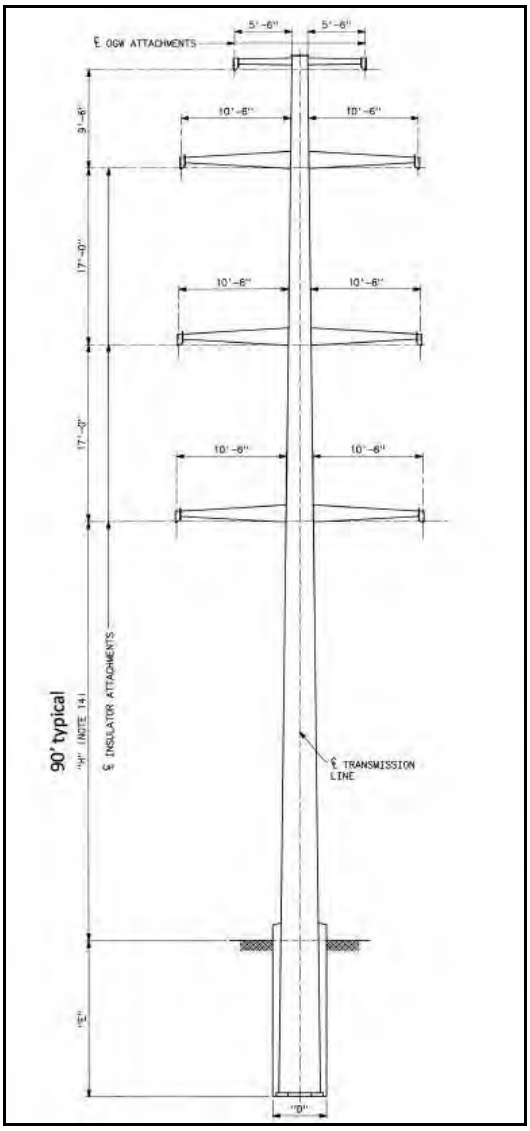


Figure 2-5 Example of Typical 230-kV Structure

Table 2-1 Transmission Line Design Characteristics	
Feature	**Description**
Type of Structures	Tangent structures are in-line and consist of tubular steel – monopole or H-frame types
	Self-supporting structures require no guyed lines
Typical span (feet)	500-kV 1200 – 1300 230-kV 700 – 900
Typical number of structures (per mile)	500-kV 4 – 6 230-kV 6 – 8
Typical height of structures (feet)	500-kV 145 – 185 230-kV 95 – 120
Voltage	500-kV, alternating current PVH-PW, PW–TTT 500-kV with 230-kV Underbuild TTT–Thornton Rd 230-kV double circuited, alternating current Thornton Rd–ED5
Circuit Configuration	Single circuit, multiple conductors/phase for 65.5 miles (PVH-PW & PW-TTT) Double circuit, multiple conductors/phase for 43.7 miles (TTT-Thornton Rd & Thornton Rd-ED5
Ground Clearance of Conductor (NESC Standard)	500–kV 35 feet minimum at 50 degrees Celsius 230–kV 28 feet minimum at 100 degrees Celsius
Conductor Size	Multi-strand aluminum conductor 1.35 inches in diameter

Source: Western 2011a

2.1.7 Site Clearing

Temporary and permanent ground-disturbing activities would occur from the site clearing and leveling for the substation expansions, installation of new structures, future maintenance activities, and creation of approximately 25 temporary pulling stations. Work would be performed with earthmoving equipment, such as a grader, front-end loader, backhoe, or tracked heavy construction machinery to level the substation expansion areas and construct pads at each structure location when necessary. Ground disturbance from construction would be limited to the substation properties and transmission line ROW. Pulling stations (Photograph 2-5) are locations where vehicles with spools are used to collect old conductor (wire) under tension for removal and to supply new conductor being pulled from spools onto the new structures. Each pulling station would be 100-feet wide by 200-feet long and located within the transmission line ROW. Most of the area between structures would remain undisturbed since construction and maintenance activities would only occur intermittently between structures.

Photograph 2-5 Example of Tensioning Equipment

All ground-disturbing activities would take place when soil surface conditions are dry and Best Management Practices (BMPs) would be used to prevent sediment from entering washes or arroyos. Whenever possible, the removal of vegetation would be avoided.

2.1.8 Electrical Outages

Electrical outages would not be required during the construction of the new TTT-Thornton Rd segment transmission line or the installation of the conductor on the Thornton Rd-ED5 segment. Although the Thornton Rd-ED5 segment would intermittently be taken out of service over the

course of the construction period, no long-term interruption of electrical service would be necessary. Electrical service to Western's customers would be rerouted through alternate paths to maintain service on both the Casa Grande and ED5 side of the line during the construction period. The Thornton Rd-ED5 segment would be de-energized in segments to accommodate construction. This process avoids service interruptions to customers, however, puts stress on the system and would only be used for short periods.

2.1.9 Excavation and Foundations

Structure pad locations would be leveled with a backhoe or tracked bulldozer. A typical pad is 100 × 125 feet. The structure holes would be drilled with an auger rig (Photograph 2-6). Structures would be anchored with cement or held in place by compacted earth. Excess excavated material would be placed on top of the native material next to the structure base to provide for subsequent natural compaction.

Photograph 2-6 Example of a Auger Rig

2.1.10 Structure Assembly and Erection

The metal structures, crossarms, and other hardware for monopole structures would be delivered by truck (Photograph 2-7) and assembled either at the pole site or within one of the substation yards along the line segments. The pole structure crossarms, insulators, and other hardware would be assembled at the individual pole location. Once the new structures are in their holes, a boom truck (Photograph 2-8) would be used to straighten the structure and backfill with cement combined with native material removed by auger or compacted native material would be used to

stabilize the structures. Insulators and pulleys needed to string the new conductor would be installed during this step.

Photograph 2-7 Example of Truck Delivery to Assembly Area

Photograph 2-8 Example of a Boom Truck

2.1.11 Conductor Stringing

After the structures are installed, stringing pulleys would be attached on the crossarms of each structure. A sock line (rope or lightweight wire) would be strung from structure to structure through the stringing sheaves. A larger-diameter pulling line would then be attached to the conductor or ground wire to pull it through the pulleys, stringing them from structure to structure.

The conductor/ground wire would be installed under controlled tension, using powered pulling equipment at one end and powered braking or tensioning equipment at the other end (Photograph 2-9). This prevents the conductor/ground wire from contacting the ground and being damaged or disturbing native vegetation. This equipment, when used in concert, establishes the proper tension for crews to clip conductors and ground wires into hardware, thereby maintaining the proper conductor-to-ground clearance. The stringing sheaves would then be removed, and the new conductor would be connected to the new insulators hanging from the crossarms. The ground wire would be attached to the top of the structures to act as lightning arrestors.

Photograph 2-9 Example of a Pulling Station

When two conductor segments are spliced together to form a continuous line, a hydraulic compression process to splice the conductor wire would be used.

2.1.12 Operation and Maintenance

On completion, SRP would manage, operate, and maintain the PVH-PW and PW-TTT transmission lines and substations. Western would own, maintain, and operate the TTT-Thornton Rd and Thornton Rd-ED5 line segments as well as the three substations. The lines and substations would be inspected by either SRP or Western on a regular basis for maintenance needs, and necessary maintenance is scheduled accordingly. Maintenance would include some subset of the activities and equipment required for transmission line and substation construction.

2.1.13 Ground Disturbance

Table 2-2 shows the estimated ground disturbances for the Proposed Action. Most of the ground disturbance activities involve temporary impacts when upgrading the TTT-Thornton Rd segment and pulling/tensioning stations for the new transmission line and the conductoring of the Thornton Road-ED5 line. Permanent impacts focus around the expanded substations and the small areas around each new structure.

Table 2-2 Proposed Action – Ground Disturbing Impact Estimates		
Facility/Action	**Temporary Impact (acres)**	**Permanent Impact (acres)**
PVH-PW	---	---
PW-TTT	---	---
TTT-Thornton Rd	40.60	0.30
Thornton Rd – ED5	45.00	---
Test Track Substation	0.09	1.10
Casa Grande Substation	0.29	8.32
ED5 Substation	0.19	3.90 to 5.90
Pulling/Tensioning	35.00	---
Total	**122.17**	**13.62 to 15.62**

2.2 RESOURCE PROTECTION MEASURES

Resource protection measures specific to the Proposed Action are found in Appendix A. Western's *Construction Standard 13 - Environmental Quality Protection* (Western's Construction Standards 13) and Western's Standard Mitigation Measures for Construction, Operation, and Maintenance of Transmission Lines (Western's standard mitigation measures) are in Appendix B. The resource protection measures include information on the responsible party and what activities would trigger mitigation measures to be taken. The construction contractor would implement the resource protection measures and Western's Construction Standards 13 and standard mitigation measures during project construction activities.

2.3 NO ACTION ALTERNATIVE

The No Action Alternative provides a baseline against which impacts of the other analyzed alternatives can be compared.

Under the No Action Alternative, Western would not build the additional transmission facilities. No Federal ARRA funding would be used to design and construct the TTT-Thornton Rd transmission line segments or to upgrade the Thornton Rd-ED5 Transmission Line to a double-circuit 230-kV line. The three substation expansions and improvements would not be made. Western and their cooperating partners would continue to operate and maintain their systems as they currently exist.

2.4 ALTERNATIVES CONSIDERED BUT NOT FURTHER EVALUATED

Since the alignments were previously set by earlier clearances with BLM and the ACC, no further alignment considerations were taken into consideration other than the build alternative. Several other substations were considered for expansion within the service area. The potential existing substation sites had to include sufficient available vacant lands to accommodate the expansion. Empire, ED3, and ED4 were examined in terms of location, energy needs, future growth, environmental, and construction criteria. The sites were dropped from further consideration based on their location, engineering criteria, and future needs.

Underground installations can be feasible and warranted for short distances of high-voltage transmission lines where an overhead line is not possible. However, underground high-voltage transmission lines demand extremely expensive cable systems and would require a number of parallel cable circuits to match the power transfer capability of an overhead line. Undergrounding causes extensive ground disturbances, and requires other special design requirements, safety requirements, and maintenance needs. In addition, trenching and excavation over long distances associated with construction and maintenance of underground lines would typically result in significantly greater impacts to environmental resources. Technical issues involving reliability, safety, and costs also would affect feasibility of this alternative. Therefore, undergrounding of the line segments was eliminated from further consideration.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes the existing conditions and the potential impacts to the natural, human, and cultural environment within the project area as a result of the Proposed Action and the No Action Alternative. Included in the Proposed Action is the Construction Standards Section 13 and Western's Standard Construction Practices which are part of the evaluation process. Cumulative impacts analysis is presented in Section 3.9 and discusses other known projects around the project area and the cumulative effect to the environment from the Proposed Action.

Effects to resources are characterized as direct, indirect, short-term, long-term, and permanent. Direct effects are caused by the action and occur at the same time and place as project construction activities. Indirect effects are associated with a project and occur later in time or are farther removed in distance, but are still reasonably foreseeable. Short-term effects are temporary and episodic; the duration is limited to completion of transmission line construction and improvements to the substations. Long-term effects occur beyond the duration of short-term impacts but are recoverable. Permanent effects occur for the life of the project or beyond when a resource is not recoverable such as vegetation loss or habitat loss when a structure or substation is installed. The term "project area" means the construction footprint and surrounding lands outside but adjacent to the footprint of the Proposed Action. The term "project vicinity" denotes a more expansive area outside the project area.

3.1 RESOURCES CONSIDERED BUT NOT FURTHER EVALUATED

The following were not considered for further evaluation because either they are not present in the project area or no measurable impacts would occur.

3.1.1 Water Resources

Waters of the US including Wetlands

The proposed transmission line ROW is crossed by numerous ephemeral drainages of various sizes that may be characterized as waters of the US. No wetlands have been documented along the transmission line system. While a section of the PVH–PW line crosses an impaired portion

of the Gila River, the Proposed Action would not discharge material in the Gila River or a wash and therefore would not impact waters of the US or wetlands. Transmission structures and substations and construction and maintenance work would not be located within waters of the US. No discharge of dredge or fill material would occur within waters of the US.

Surface Water and Groundwater

The Proposed Action would exceed one acre of ground disturbance from the installation of poles, pulling stations, and the expansion of the substations. The project would implement BMPs and a SWPPP to prevent stormwater from exiting the construction site; therefore, impacts to surface water due to stormwater would be negligible. The Proposed Action would comply with the Arizona Pollutant Discharge Elimination System permit requirements.

Depth to groundwater within the project area ranges from 100 feet to 650 feet below ground surface (ADWR 2011a–d). Pole depths would not exceed 23 feet below ground surface and would not encounter groundwater; therefore, impacts to groundwater would not occur.

3.1.2 Wild and Scenic Rivers

In Arizona, two waterways are designated as wild and scenic rivers — Verde River and Fossil Creek (National Wild and Scenic Rivers 2011). The project area does not occur in the vicinity of either waterway. Thus, the Proposed Action would not impact wild and scenic rivers.

3.1.3 Geology, Mineral, and Soil Resources

The Proposed Action would not affect geologic or soil resources on a large scale. Localized impacts to geologic or soil resources would occur due to site construction activities for new and upgraded transmission structures and the substation improvements. Construction access would occur on existing roads and would not contribute to ground disturbance. Disturbed areas would be stabilized for erosion control and safety purposes. Because the project would occur when soils are dry, erosion-control measures would be implemented as a component of the SWPPP, and vegetation would be retained where possible. Thus, impacts to soils would be minimal.

Small mining operations occur in the project vicinity including Lee Pit, a sand-and-gravel operation, which is located less than 0.5-mile from transmission line segment. However, the Proposed Action would not impede on or affect access to the neighboring mining operations, and no impacts to mining resources would occur.

3.1.4 Noise

The Proposed Action would occur primarily in rural and undeveloped desert areas. Noise sources would be from construction activities, transmission line and substation noises from the discharge of electricity into the surrounding atmosphere from the high voltage line (corona effects), insulator or wind noise, or natural noises from wildlife and weather. While construction noise levels often range from 75 to 85 A-weighted decibel (dBA) within 50 feet of the activity, the noise will be short term and in remote rural areas (Rau and Wooten 1980). Operational noise including noise from the corona effects or wind, is typically from 40-55 dBA and quickly dissipates with distance. The lines are in rural or remote areas of Pinal and Maricopa Counties with the closest residents approximately a quarter mile from the transmission line or substation and therefore would not impact the human environment. Routine maintenance noise is infrequent and therefore impacts are considered negligible.

3.1.5 Air Quality

Only the PVH-PW section is located in the Phoenix nonattainment area for particulate matter smaller than 10 microns and 8-hour ozone (ADEQ 2011). No construction activities would be occurring within this segment. Corona effects can produce ozone and nitrogen oxides formed from the ionization of air by high voltages under some circumstances.

The primary type of air pollution that would occur during construction would be combustion pollutants from equipment exhaust and fugitive dust from disturbed soils becoming airborne. Air quality impacts from construction of the proposed transmission line and associated facilities would be minimal and short term. Dust control measures would be employed, as needed, to minimize the fugitive dust during construction. Corona effects can be minimized by engineering the correct material needed into the design specifications and ensuring that connections and splices meet electrical standards. Quantities of potential emissions would be very small,

temporary, and localized minimizing impacts to air quality; therefore, National Ambient Air Quality Standards would not be violated.

3.1.6 Solid Wastes and Hazardous Materials

Based on database reviews, no hazardous materials sites were identified within the project area (ADEQ 2010). In addition to database checks, site specific Phase I Environmental Site Assessments followed by Phase II Environmental Site Investigations were performed at the Casa Grande, ED5, and Test Track Substations (Western 2011b-e). Analytical results identified that levels of volatile organic compounds, semi-volatile organic compounds, and polychlorinated biphenyls were below detectable limits. Metals and pesticides were detected; however, the levels were below the State of Arizona's residential soil remediation levels.

In the event of a release of a potential hazardous material during construction or routine operation either SRP, the Contractor, or Western will refer to their spill containment and clean-up plan (see Appendix A). All vehicle maintenance, including the washing of concrete mixing trucks will occur off-site. Any excess concrete generated onsite will be hauled off of the job site. No removal of wooden poles is anticipated based on the current scope of work.

No further investigation of the substation sites or transmission line is required. No measurable effect from hazardous materials and solid waste is expected from the Proposed Action. No materials spills response plans or emergency evacuation plans would be impacted by the Proposed Action. Therefore, solid waste and hazardous materials would not impact public health or the environment in the project area.

3.2 FLOODPLAIN

3.2.1 Affected Environment

Executive Order 11988, *Floodplain Management*, requires an evaluation of impacts to floodplains for all Federal actions and directs Federal entities to reduce impacts to floodplains and minimize flood risks to human safety. The 100-year floodplain within the project area is located along Centennial Wash, the Gila River, Rainbow Wash, West Prong Waterman Wash, Vekol Wash, Greene Wash, Santa Cruz Canal, and Santa Rosa Wash (FEMA 2011).

PVH-PW and PW-TTT Segments

The PVH-PW line crosses the 100-year floodplain at Centennial Wash, the Gila River, Rainbow Wash, and West Prong Waterman Wash. The PW-TTT line crosses Vekol Wash. As previously discussed, the Proposed Action along these segments of the line includes providing rights to Western to transmit power over the existing facilities and ground disturbing activities would not occur to the floodplain.

TTT-Thornton Rd Segment

The TTT-Thornton Rd line crosses the 100-year floodplain associated with Greene Wash, Santa Cruz Canal, and Santa Rosa Wash, and the Thornton Rd line crosses the floodplain across agricultural fields on the Santa Cruz Flats which is associated with Greene Wash and the dissipated tail-end of the Santa Cruz River. However, these segments of the transmission line would be constructed along existing roadway alignments, and impacts due to the installation of new or replaced pole structures and temporary pulling stations would be relatively minor and are not expected to change the floodplain base elevation.

Thornton Rd-ED5 Segment

The Thornton Rd-ED5 Segment crosses the floodplain associated with the Greene Canal and the Santa Cruz River. However, the transmission line conductoring of the second 230-kv line would be along existing roadway alignments, and impacts due to the installation of the conductor and temporary pulling stations would be relatively minor and are not expected to change the floodplain base elevation. The ED5 substation is the only station that occurs within the 100-year floodplain (see Figure 3-1).

3.2.2 Environmental Consequences

A significant impact on floodplains would result if one or more of the following were to occur from construction or operation of the Proposed Action:

- Modification of a floodplain that would impede or redirect flood flows that would result in property damage on- or off-site
- Construction within on-site waters or surrounding rivers that would adversely affect the flood-carrying capacity of the floodplain, the pattern, or magnitude of the flood flow

Figure 3-1 ED5 Substation Floodplain Map

- Increase in scouring during a flood event that would result in structural or property damage

Proposed Action

Under the Proposed Action, the majority of the Proposed Action does not occur within the 100-year floodplain. Any work within the floodplain primarily would occur along the existing roadway alignments, and impacts due to the installation of new or replaced pole structures and pulling stations would be relatively minor and are not expected to change the floodplain base elevation. As discussed, the existing 3.4 acres ED5 substation occurs within the 100-year floodplain. Up to approximately 5.90 acres of ground disturbance would occur within the 100-year floodplain due to the expansion of the ED5 substation. However, the Pinal County Floodplain Administrator would be provided an opportunity to review and comment on the project design to ensure that the project does not modify the floodplain such that flows would be altered threatening property damage, flood carrying capacity is not affected by surrounding rivers, and no increases in scouring during a flood event do not result in property damage.

No Action Alternative

Under the No Action Alternative, the current ED5 Substation will remain in the floodplain. Access roads to the existing portions of the transmission line would be improved at a future date if necessary to provide safe and reliable access for routine or emergency maintenance of the existing transmission line. Improvements would likely consist of minor grading of existing roads. Any grading of an access road within a floodplain would be minor and localized, and would not modify the floodplain, adversely affect the flood-carrying capacity of the floodplain, the pattern, or the magnitude of the flood flow, or increase scouring during a flood event.

3.3 LAND USE AND OWNERSHIP

3.3.1 Affected Environment

3.3.1.1 Land Ownership and Jurisdiction

PVH-PW Segment

Landownership includes privately owned lands, state trust lands managed by ASLD, and Federal lands managed by the BLM. Portions of the line cross the jurisdictional boundaries of the Town of Buckeye and the City of Goodyear. The entire segment is within Maricopa County.

PW-TTT and TTT-Thornton Rd Segments

Land ownership is primarily private. There are some portions that abut state trust lands managed by ASLD, and a 0.5-mile segment abuts Federal lands managed by BLM (see Figure 2-1). An approximately 3-mile segment is located adjacent to the Ak-Chin Indian Reservation. The entire segment is within Pinal County.

Thornton Rd-ED5 Segment

Land ownership is primarily private. Some portions traverse state trust lands managed by ASLD. This segment runs adjacent to a corner of the Tohono O'odham Indian Reservation at the intersection of Battaglia Drive and the Trekell Road alignment. Portions of the line cross the jurisdictional boundaries of the City of Casa Grande and the Town of Eloy. The entire segment is within Pinal County.

Table 3-1 Distance (miles) Across or Adjacent to Public Lands

	ASLD	BLM	Tribal
PVH-PW	8.8	49.65	---
PW-TTT	2.6	0.5	3.2
TTT-Thornton Road	4.6	---	---
Thornton Rd-ED5	9.7	---	0.06
Total	**19.35**	**49.65**	**3.26**

3.3.1.2 Planned Land Use and Zoning

PVH-PW Segment

Planned land use is covered under Maricopa County's Comprehensive Plan (Maricopa County 2002), the Town of Buckeye's General Plan (Town of Buckeye 2008), and the City of

Goodyear's General Plan (City of Goodyear 2009). Land in Maricopa County, on the west end of this segment, is planned for large-lot residential and open space. Land use within the Town of Buckeye is planned for primarily low-density residential and open space with commercial and industrial uses planned at the intersection of Maricopa County Road 85 and Komatke Road. Land in the City of Goodyear is primarily planned for open space with the Sonoran Desert National Monument abutting much of the south side of this segment. The community of Mobile is located at the intersection of Maricopa Road (State Route 238) and Komatke Road. There are a variety of land uses planned in this area including residential, commercial, and industrial development.

Zoning in and around the project area in Maricopa County are zoned for a range of rural densities including Rural-190 and Rural-43. Uses permitted in rural zoning districts include public service of water, gas, and electricity distribution lines, and substations along electrical transmission lines.

PW-TTT and TTT-Thornton Rd Segments

Land use is almost entirely addressed in the Pinal County Comprehensive Plan (Pinal County 2009). This segment is planned for moderate-low density residential use.

In Pinal County, privately owned lands in the project area are within General Rural, Suburban Ranch, and Suburban Home zoning districts. Most unincorporated Pinal County land in the project area is within the General Rural zone. Under Section 2303 of the Pinal County Zoning Ordinance (1994), public utilities, including electrical transmission lines and substations, are permitted in any zoning district.

Thornton Rd-ED5 Segment

Planned land use includes Employment and a General Commercial node near the intersection of Miller Road and Anderson Road. Planned land uses within the City of Casa Grande include rural and agriculture, with commercial/business uses planned along Interstate-8.

3.3.1.3 Prime and Unique Farmlands

This section addresses compliance with the Farmland Protection Policy Act (FPPA) regulations

(Title 7 CFR § 658). The FPPA requires identification of proposed actions that would affect land classified as prime or unique farmland before Federal agency approval of activities that would convert farmland to other uses. The Natural Resources Conservation Service (NRCS), a part of the US Department of Agriculture (USDA), administers the FPPA.

Existing Conditions

The NRCS has designated areas with certain soil types within the project area (USDA 2009) as prime and/or unique farmland if they are used for farming and have an adequate and dependable water supply from precipitation or irrigation. The Phoenix NRCS office interprets this regulation to mean that an irrigation system must be in place and functioning (NRCS 2010).

PVH-PW Segment

The majority of land is undeveloped. There are some areas that have been previously used for farming but are not currently being irrigated.

PW-TTT and TTT-Thornton Rd Segments

The entire PW-TTT segment and the western half of the TTT-Thornton Rd segment abuts land currently used for farming. These lands have not been classified as prime or unique by NRCS, but contain soil types that would support prime or unique farmland if irrigated and used for farming.

Thornton Rd-ED5 Segment

The Thornton Rd- ED5 segment crosses or abuts several areas actively used for agriculture. These lands have not been classified as prime or unique by NRCS, but contain soil types that support prime or unique farmland if irrigated and used for farming.

3.3.1.4 Recreation

PVH-PW Segment

The Sonoran Desert National Monument is located immediately south of this segment (see Figure 3-2). Activities occurring in the monument include hiking, backpacking, stargazing, camping, hunting, motor touring, sightseeing, photography, and horseback riding. There also are

adjacent BLM and ASLD lands where dispersed undeveloped recreational activities are conducted.

PW-TTT and TTT-Thornton Rd Segments

There are no developed or designated recreation areas within or adjacent to this segment. There are ASLD and BLM lands either adjacent or near the segment where dispersed undeveloped recreational activities are conducted. The Sonoran Desert National Monument is located within 2 miles of these segments.

Thornton Rd-ED5 Segment

There are no developed or designated recreation areas within or adjacent to this segment. Ironwood National Monument is located approximately 3 miles south and west of this segment. Picacho Peak State Park is located approximately 4 miles east of the eastern terminus of this segment (see Figure 3-2).

3.3.1.5 Wilderness Areas

PVH-PW Segment

The PVH-PW segment does not cross wilderness areas; however, it is near five BLM-managed wilderness areas (see Figure 3-2):

- Signal Mountain Wilderness area – 6 miles southwest
- Woolsey Peak Wilderness Area – 3 miles southwest
- North Maricopa Mountains Wilderness Area – 0.3 mile south
- South Maricopa Mountains Wilderness Area – 3 miles south
- Sierra Estrella Wilderness Area – 6 miles northeast

PW-TTT and TTT-Thornton Rd Segments

The PW-TT and TTT-Thornton Rd segments do not cross wilderness areas; however, they are within the project vicinity of two BLM-managed wilderness areas (see Figure 3-2):

- South Maricopa Mountains Wilderness Area – 6 miles southwest
- Tabletop Wilderness Area – 6 miles southwest

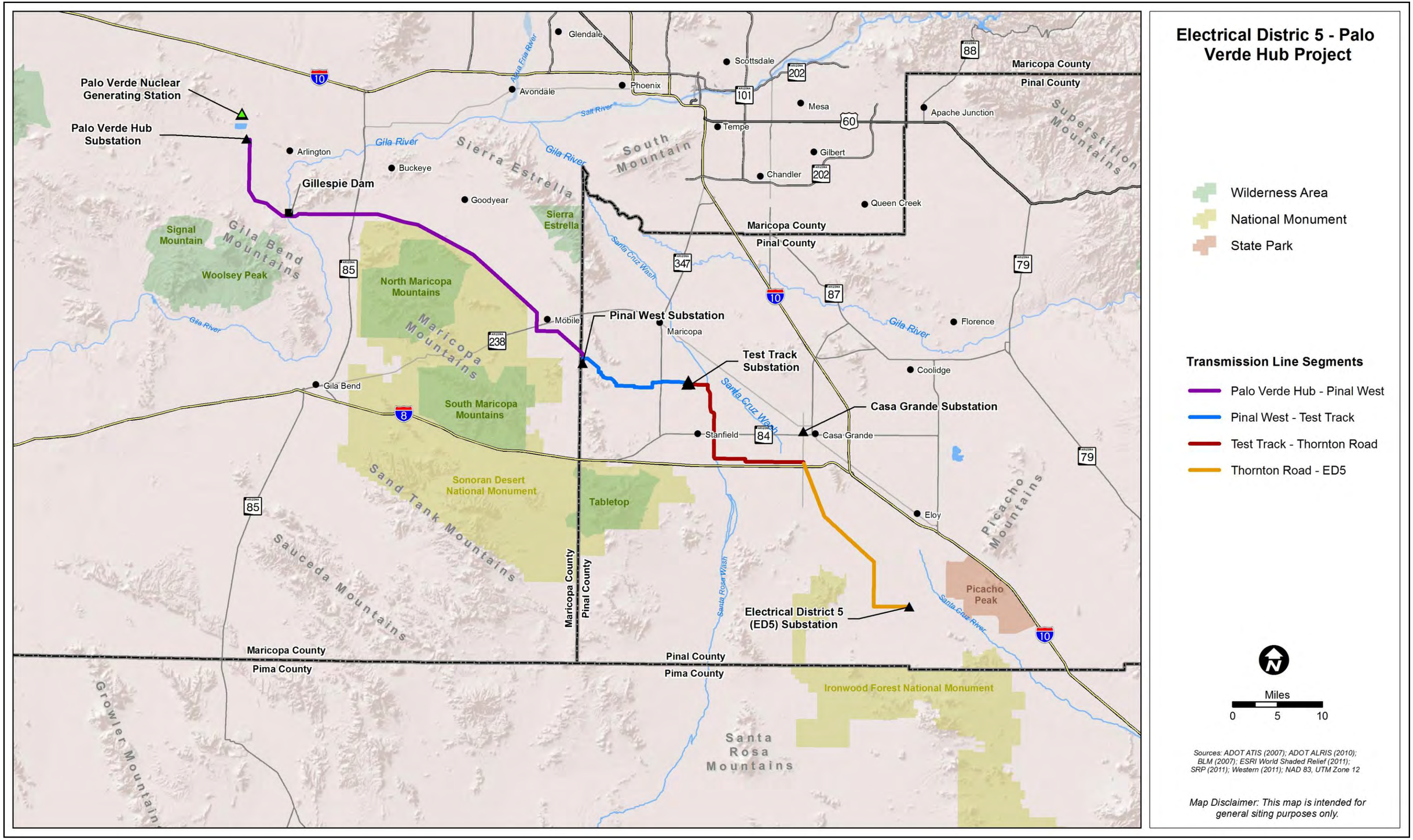


Figure 3-2 Natural Resources Map

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Thornton Rd-ED5 Segment

There are no wilderness areas within the project area or project vicinity.

3.3.2 Environmental Consequences

A significant impact on land use and land ownership would result if one or more of the following were to occur from construction or operation of the Proposed Action:

- Physically divide an area made up of similar or dependent land uses or an established community.
- Displace substantial numbers of housing or numbers of people, necessitating the construction if replacement housing elsewhere.
- Preclude an existing or permitted land use, or create a disturbance that would diminish the function of a particular land use.

Proposed Action

The existing PVH-PW segment was constructed in compliance with the BLM management plan. The proposed PW-TTT, TTT-Thornton Rd, and Thornton Rd-ED5 segments as well as the substation expansion would be consistent with the goals of the Maricopa County Comprehensive Plan, Eye to the Future 2020 (Maricopa County 2002), the Pinal County Comprehensive Plan (Pinal County 2001), the Mobile Area Plan (Maricopa County 1991), the Tonopah/Arlington Area Plan (Maricopa County 2000), and the Buckeye General Development Plan (City of Buckeye 2003).

The alignment of the PW-TTT, TTT-Thornton Rd, and Thornton Rd-ED5 segments do not cross agricultural fields. The lines generally run along existing roads or parcel boundaries. Expansion of the substations would result in a permanent loss of 1.1 acres of agricultural land at Test Track, 8.3 acres of previously cleared land at Casa Grande, and from 3.90 acres up to 5.90 acres of agricultural land at ED5.

Recreational and grazing uses would be temporarily affected during the construction of the lines; however, the proposed transmission lines are not expected to substantially modify or restrict existing access to adjacent public lands. Land would be removed from grazing uses by

the transmission line structures; however, the number of acres removed from these uses is insignificant relative to the total number of acres available for grazing. There are no developed recreation areas within or adjacent to the project area, therefore there would be no impacts to recreation areas from the Proposed Action. Furthermore, the Proposed Action would not impede access to existing or future recreation areas. Similarly there are several wilderness areas in the surrounding area, but there would be no direct impacts to these areas and the Proposed Action would not restrict access to these areas.

No Action Alternative

Under the No Action Alternative, the existing Thornton Rd-ED5 transmission line segment would require increased routine and emergency maintenance, including replacement of individual structures, as the line continues to age. Capacity of the overall system for central and southern Arizona would remain the same potentially limiting capacity and reliability in the area. The substations would not be expanded for new and updated equipment. Operation and maintenance of the line would not result in changes to the existing landowners, land uses, or recreation; and would not impede the implementation of land use plans or special use areas within the project area.

3.4 VISUAL

3.4.1 Affected Environment

The project area is in the Sonoran Desert section of the Basin and Range Lowlands Province in central Arizona, which is characterized by mountain ranges extending north and south with long, linear valleys between the ranges. The project area landscape consists of broad, open, flat to undulating terrain sparsely vegetated with desert scrub, as well as developed irrigated agricultural fields. These areas are backdropped by the Gila Bend and Maricopa Mountains to the south and the Sierra Estrella Mountains and Buckeye Hills to the north and east.

The BLM is required to establish visual quality objectives for all lands managed by the BLM. The Visual Resource Management (VRM) System is used to inventory and establish these management objectives. Objectives for VRM classes define the acceptable degree of visual

change that can occur within a landscape setting. VRM classes are assigned based on a combination of scenic quality, sensitivity level, and viewer distances.

The Lower Gila South RMP/EIS, the current planning documents covering the portions of the project area on BLM managed lands, identified BLM public lands within the project area as VRM Class III and IV. VRM Class III areas are managed to partially retain the existing character of the landscape. There can be a moderate level of change to the landscape from Project activities. Most of the Project Area contains Class IV landscapes. The objective of VRM Class IV is to provide for management activities that may require major modifications to the existing landscape. The level of change to the landscape can be high and may be visually dominant. Class IV landscapes in the Project Area consist of Class C landscapes that are isolated from views where there are residents or visitors who would have a concern for scenic quality.

PVH-PW Segment

This segment is characterized by a natural, undeveloped setting occurring primarily on BLM lands. Existing built features in the landscape include transportation routes, utilities, and some scattered rural residential uses.

PW-TTT and TTT-Thornton Rd Segments

This segment is characterized by a predominance of irrigated agricultural fields within the foreground. Some areas of natural desert exist, scattered throughout this segment.

Thornton Rd-ED5 Segment

This segment is characterized by a mixture of natural undeveloped areas and irrigated agricultural fields within the foreground. Major built features include Interstate-8, other transportation routes, utilities, and some scattered rural residential uses.

3.4.2 Environmental Consequences

A significant affect on VRM resources would result if one or more of the following were to occur from construction or completion of the Proposed Action:

- Creates unresolved conflict with visual standards identified by a federal land management agency (e.g., Bureau of Land Management, National Park Service, U.S. Forest Service)
- Degrades views from, or the visual setting of, designated or planned parks, wilderness areas, natural areas, or other visually sensitive land uses

Proposed Action

The segments where new transmission lines would be constructed are not located near residences, wilderness areas, or other sensitive viewpoints. The more sensitive viewing areas in the PVH-PW segment would not be impacted by the project since the transmission line currently exists in this area and no ground-disturbing or visually evident activities would occur. Because this segment is existing, there would be no conflict with the BLM VRM goals in this area.

The new transmission line associated with the TTT-Thornton Rd segment is not in a location that would be highly visible by the general public. It would be noticeable in the immediate foreground but would not be a dominant visual element in the overall landscape. The expansion of the substations would slightly increase the scale of built features in the environment but the increase would not be visually evident.

No Action Alternative

The No-Action Alternative would not result in additional impacts to the visual landscape.

3.5 BIOLOGICAL RESOURCES

The BLM and others completed biological reports that analyzed the impacts of the existing segments: *Environmental Assessment for the Palo Verde to Pinal West Project* (BLM 2004), resulting in a *Finding of New Significant Impact* (BLM 2004); and *A Biological Resource Survey and Inventory of the Casa Grande to Saguaro Portion of Western's Test Track (formerly Maricopa) Saguaro 115-kV Transmission Line, Pinal County, Arizona* (Archaeological Consulting Services 2010). SRP and Western reviewed the biological considerations of the two new line segments and substation expansions: *Pinal West to Southeast Valley/Browning 500 kV Transmission Project* (Arizona Corporation Commission 2005) and Pinal West to Thornton

Road. Although a stand-alone survey report was not completed, the species considered and results of that evaluation were documented for the project record.

3.5.1 Vegetation

3.5.1.1 Affected Environment

PVH-PW Segment

This segment is located entirely within the Lower Colorado River Subdivision of the Sonoran Desert scrub Biotic Community (Turner and Brown 1994) at elevations ranging from 740 feet to 1,390 feet above mean sea level. The surrounding landscape consists of undisturbed and disturbed natural desert, agricultural lands, irrigation canals, and rural development. The transmission line traverses the relatively flat terrain of the Rainbow Valley, bordered by the Gila Bend and Maricopa Mountains to the south and the Buckeye Hills and Sierra Estrella Mountains to the north. Vegetation throughout the flats is generally sparse, consisting of lower Sonoran Desert species, such as creosotebush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), saltbush (*Atriplex* spp.), brittlebush (*Encelia farinosa*), ocotillo (*Fouquieria splendens*), galleta grass (*Pleuraphis* spp.), and rat (*Krameria* spp.). Cacti such as barrel cactus (*Ferocactus* spp.), cholla (*Cylindropuntia* spp.), and saguaro (*Carnegiea gigantea*) are present in very low densities. The vegetative community on the adjacent foothills exhibits a more complex composition of species of the Arizona Upland Subdivision of Sonoran Desertscrub, such as palo verde (*Parkinsonia spp*.), catclaw acacia (*Acacia greggii*), mesquite (*Prosopis* spp.), white bursage, creosotebush, and higher densities of saguaro, ocotillo, and other cactus species.

Water resources in this segment include the Gila River, a perennial waterway. A native riparian community of cottonwood (*Populus* spp.), willows (*Salix* spp.), and mesquite is established along the river, although tamarisk (*Tamarix spp*.), a non-native, dominates the corridor. Additional natural water sources in the area include numerous ephemeral washes that support xeroriparian vegetation such as arrow weed (*Pluchea sericea*), catclaw acacia, desert willow (*Chilopsis linearis*), ironwood (*Olneya tesota*), mesquite, and palo verde.

PW-TTT and TTT-Thornton Rd Segments

These segments, located within the Lower Colorado River Subdivision at elevations of 1,240 feet to 1,400 feet, span agricultural lands, rural development and canals. Topography through this area is relatively flat, sloping northeasterly towards the Gila River. Low hills are adjacent to the westernmost section of the line and scattered saguaro cacti are present. The segments are located in highly altered terrain and support little native vegetation. Creosote flats dominate those areas that remain natural. The majority of the landscape is a patchwork of agricultural fields containing crop species and disturbance-associated annuals. Most water resources have been channelized into irrigation ditches and canals, although Vekol Wash in the west and Santa Cruz Wash in the east are natural ephemeral drainages that provide a thin corridor of xeroriparian vegetation. The Test Track Substation is surrounded by agricultural land.

Thornton Rd-ED5 Segment

The Thornton Rd-ED5 segment occurs in the Lower Colorado River Subdivision from 1,400 feet to 1,650 feet elevation. Vegetation characteristic of the Arizona Upland Subdivision is present on the nearby bajadas of the Sawtooth Mountains. This transmission line segment crosses active and fallow agricultural fields, grazed creosotebush-bursage flats, small ephemeral washes, and rural development. As a result, native vegetation is sparse. A dense patch of riparian scrubland that contains velvet mesquite (*Prosopis velutina*), ironwood, and palo verde was identified. The Casa Grande Substation is surrounded by disturbed land and commercial development. The ED5 Substation is surrounded by agricultural lands.

The abundance of disturbed lands throughout this segment, such as agricultural, developed areas, road systems, and irrigation canals, have increased the propensity for non-native species to establish. State listed noxious weeds found in this segment include halogeton (*Halogeton glomeratus*). Other weed species present include pigweed (*Amaranthus* spp.), filaree (*Erodium* spp.), and Russian thistle (*Salsola kali*). Tamarisk also dominates the riparian corridor along the Gila River.

3.5.1.2 Environmental Consequences Native Plants

A significant impact on native vegetation would result if one or more of the following occurred from construction or operation of the Proposed Action:

- Loss to a population of sensitive plants that would jeopardize the continued existence of that population
- Loss to a population of plants that would result in a species being listed or proposed for listing as endangered or threatened

Proposed Action

Vegetation would be impacted by installing new structures, clearing pulling sites, and grading the substation properties. Vegetation removal would only occur when necessary and would be minimized by using existing roads, spanning riparian areas, and utilizing previously disturbed land for substation expansions. Impacts to vegetation at pulling sites would be temporary and limited to the duration of construction. Permanent impacts to vegetation would occur at the substation properties and new structure locations. The Proposed Action would result in temporary impact of 35.00 acres of land and a permanent loss of up to 15.62 acres of land (see Appendix C, Table 9-1). Construction would be conducted through creosotebush-bursage flats and altered landscapes (roadsides and agricultural fields) where non-native plants and disturbance-associated species predominate. Therefore, vegetation removal would mostly consist of creosotebush, bursage, and non-native species. However, creosotebush-bursage flats are common in the surrounding area, therefore the Proposed Action would not result in a substantial loss to this vegetative community. All temporarily disturbed areas would be seeded with plant species native to the vicinity to reduce the loss of native flora. As a safety precaution, Western would continue to periodically trim and/or remove tall vegetation around new and existing transmission lines. Tall vegetation in the project area primarily occurs at the Gila River crossing and select ephemeral drainages, otherwise, vegetation throughout the alignment consists of scrubby desert plants that are unlikely to interfere with the structures.

Vegetation removal associated with the Proposed Action would not result in a loss of population of sensitive plants that would jeopardize the continued existence of that population and would not result in a species being listed or proposed for listing as endangered or threatened.

No Action Alternative

The No Action Alternative would not result in change to the existing native vegetative community in the project area. No vegetation removal along the proposed new segments and substations would occur. However, routine and emergency maintenance of transmission lines would likely require occasional vegetation removal, and regular trimming would continue. Western would evaluate impacts to plants for routine maintenance projects. Western's standard practices would be used during maintenance activities to minimize impacts to vegetation (see Appendix A). Vegetation removal associated with the No Action Alternative would not result in a loss of sensitive plants that would jeopardize the continued existence of that population and would not result in a species being listed or proposed for listing as endangered or threatened.

3.5.1.3 Environmental Consequences Invasive Plants

A significant impact regarding invasive plants would result if one or more of the following was to occur from construction or operation of the Proposed Action:

- Introduction or increased spread of invasive plant species that would substantially alter the native plant community in the area

Proposed Action

Invasive plant species are already present in the project area. To prevent the spread of these species outside of the project area, construction personnel would inspect all equipment or trucks and remove all attached plants/vegetation debris prior to leaving the construction site each day. In addition, to prevent the introduction of new invasive species into the project area, all earthmoving and hauling equipment would be washed at the contractor's storage facility (parking and assembly area) each day prior to entering the construction site. Furthermore, all disturbed soils would be seeded using species native to the project vicinity to reduce the likelihood of establishment of non-native plants. Further resource protection measures are included in Appendix A. With the implementation of these measures, the Proposed Action would not result in the introduction or spread of invasive plant species to an area not previously infested.

No Action Alternative

Maintenance and construction vehicles and equipment would continue to access the project area for routine and emergency repairs of the existing transmission lines. Vehicle access and ground-disturbing activities could result in the spread or introduction of noxious weeds if vehicles are not washed prior to and after accessing sites.

3.5.2 Wildlife

3.5.2.1 Affected Environment

PVH-PW Segment

The undeveloped surrounding landscape, presence of a perennial water source, and variation in topography support a diverse assemblage of wildlife species in the area. Typical mammals in the area include desert-adapted species such as woodrat (*Neotoma* spp.), kangaroo rat (*Dipodomys* spp.), desert cottontail (*Sylvilagus auduboni*), black-tailed jackrabbit (*Lepus californicus*), and coyote (*Canis latrans*). Avian species would be most diverse and concentrated at the Gila River crossing and in the xeroriparian corridors. Birds in the area include cactus wren (*Campylorhynchus brunneicapillus*), common raven (*Corvus corax*), Gila woodpecker (*Melanerpes uropygialis*), great blue heron (*Ardea herodias*), and red-tailed hawk (*Buteo jamaicensis*). Amphibians and reptiles present include bullfrog (*Rana catesbeiana*), whiptail lizards (*Aspidoscelis* spp.), and rattlesnakes (*Crotalus* spp.).

PW-TTT and TTT-Thornton Rd Segments

The lack of native habitat and vegetative structure within these segments likely reduces species diversity. Wildlife found in this area are species that benefit from an agricultural setting such as the pocket gopher (*Geomys* spp.), ground squirrel (*Spermophilus* and *Ammospermophilus* spp.), desert cottontail, wintering migratory bird flocks, and birds of prey. Although sections of Vekol and Santa Cruz washes near Maricopa are interrupted, disturbed and lack natural characteristics due to agricultural operations and development, sections north and south of Maricopa do still contain xeroriparian habitat. These wash corridors still likely provide an important and frequent travel route for multiple species, and areas where xeroriparian habitat still exists provides foraging and nesting habitat for wildlife year-round.

Thornton Rd-ED5 Segment

The habitat composition of this segment is a patchwork of creosotebush-bursage flats and agricultural fields. Heavy cattle grazing has greatly reduced vegetative cover in the flats, although small mesquite-lined washes and an approximately 30-acre riparian scrubland patch provide refuge and structural diversity (Figure 3-3). This area would support a mix of desert-adapted species, such as desert iguana (*Dipsosaurus dorsalis*), black-tailed jackrabbit (*Lepus californicus*), mourning dove (*Zenaida macroura*), verdin (*Auriparus flaviceps*), and Gambel's quail (*Callipepla gambelii*); cropland species such as desert cottontail, pocket gopher, and killdeer (*Charadrius vociferous*); scavengers such as coyote and turkey vulture (*Cathartes aura*); and fossorial mammals such as ground squirrel.

3.5.2.2 Environmental Consequences

Impacts to wildlife would occur when habitats or individuals are disturbed or lost during the Proposed Action's construction or operation. The significance of the impact depends in part on the sensitivity of the population. A significant impact on wildlife would result if one or more of the following were to occur from construction or operation of the Proposed Action:

- Loss to a population of wildlife that would jeopardize the continued existence of that population
- Loss to a population that would result in the species being listed or proposed for listing as endangered or threatened
- Interference with the movement of native, resident, or migratory wildlife species for more than two reproductive seasons
- Local loss of wildlife habitat (as compared to total available resources within the area)
- Reduction in the range of occurrence of wildlife species

<u>Proposed Action</u>

The Proposed Action would impact wildlife species directly and indirectly. Direct mortality or injury to reptiles, small mammals, and fossorial animals could result from grading activities and pole drilling if these animals are present during construction. Most other animals possess the capability to avoid equipment, thus avoiding direct impact. A up to 15.62 acres of available

habitat would be permanently lost from the expansion and fencing of the substations. However, the habitat surrounding the existing substations has been previously altered and is of low quality. Removal of large vegetation could destroy bird nests, although the need to remove trees and shrubs throughout the majority of the corridor is low. However, the dense riparian scrubland patch located on the Thornton Rd-ED5 segment, between structures 23/2 and 24/2 (see Figure 3-3), may require clearing and/or trimming of mesquite, ironwood, and palo verde trees that may house migratory bird nests. Therefore, to comply with the Migratory Bird Treaty Act of 1918, the following mitigation measure would be implemented:

- Clearing, grubbing, blading, and access road improvements occurring within the identified sensitive area would be conducted outside of the breeding season for most desert-nesting migratory birds. Removal of riparian scrubland vegetation would be avoided where possible. Natural regeneration of native plants must be supported by cutting vegetation with hand tools, mowing, trimming, or using other removal methods that allow root systems to remain intact.

Other vegetation such as deadfall and tree snags are important to many species for shelter, nesting, and forage, and removal of these important habitat components may be detrimental to wildlife. Therefore, to avoid impacts to wildlife the following mitigation measure would be implemented:

- Removal of deadfall and tree snags would be avoided to the extent possible.

During previous site visits, raptor nests were observed on existing pole structures. New nests will likely be present once construction begins. Based on the breeding season of red-tailed hawks (March – August), the following mitigation measure would be implemented to avoid impacts to raptor nests:

- Western would not work on structures containing raptor nests between February 1 and August 31 unless a qualified biologist has determined that the nests are no longer active. If a qualified biologist has determined that a raptor nest is inactive, Western may remove the nest prior to conducting work on that structure.

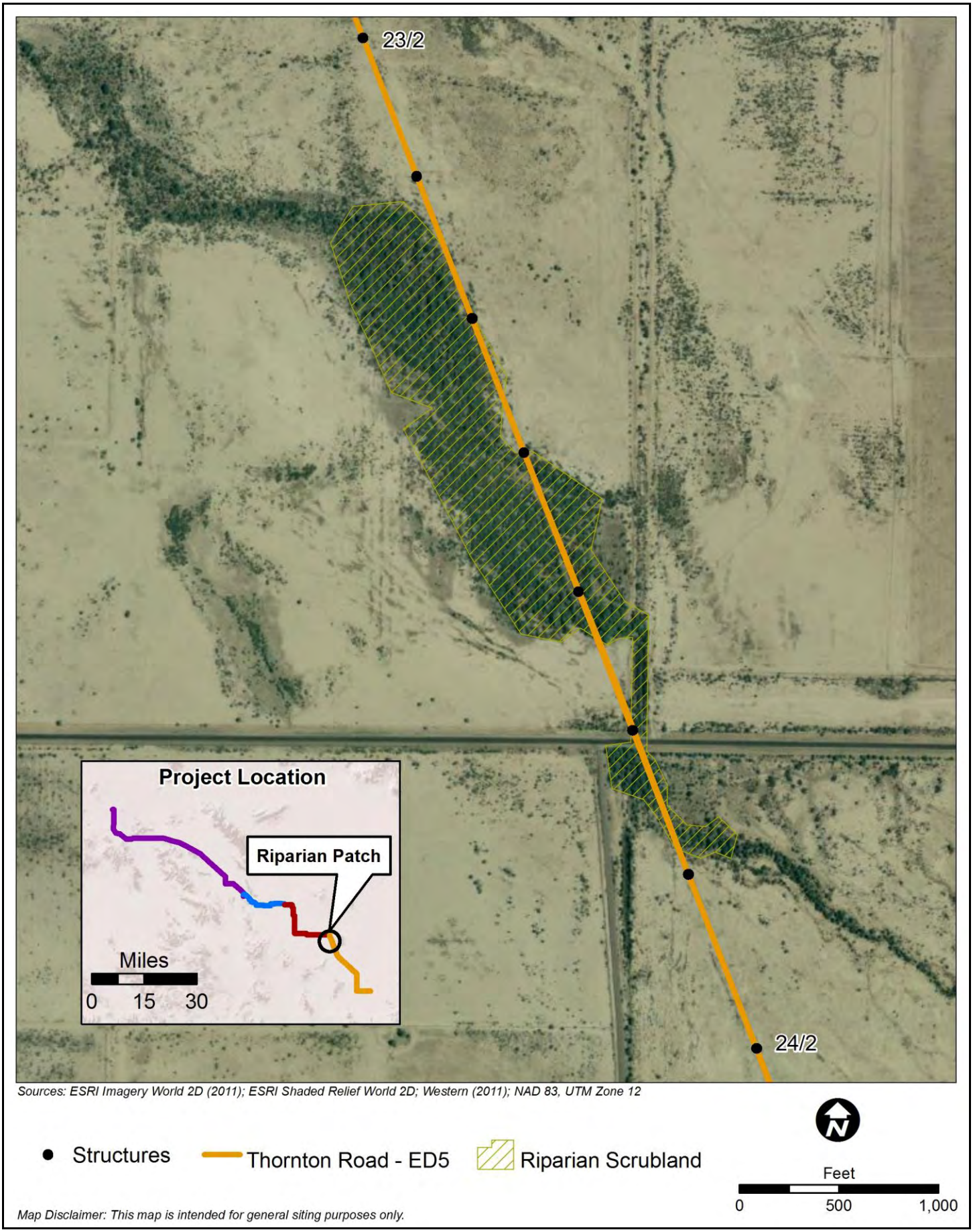


Figure 3-3 Riparian Scrubland Patch

Transmission lines create a permanent potential collision hazard for birds. The Avian Power Line Interaction Committee guidelines (2006) to reduce collision potential would be implemented. Power lines can be beneficial to species such as ravens, raptors, and owls by providing hunting perches and nest sites, although conversely, this may be detrimental to prey species such as reptiles and small mammals.

Noise and human presence during work periods may result in wildlife temporarily avoiding the project area, thereby limiting use of available foraging, resting, and/or nesting habitat. However, work periods at each location in general would be relatively short duration even though some construction elements may require repeat visits to these sites. Therefore, indirect effects to wildlife would be minor and brief.

The Proposed Action would not result in the loss of populations of wildlife or wildlife habitat that would jeopardize the continued existence of that population or result in the species being listed or proposed for listing as endangered or threatened. Construction of the transmission line would not interfere with the movement of native, resident, or migratory wildlife species for more than two reproductive seasons, would not result in the local loss of wildlife habitat, and would not reduce the range of occurrence of wildlife species.

No Action Alternative

Under the No Action Alternative, the transmission lines and associated facilities would not be built, or expanded. The existing transmission lines would require increased routine and emergency maintenance as the line continues to age. Maintenance work would be structure specific. Western would evaluate impacts to biological resources for individual maintenance activities. Emergency repairs may not be able to avoid periods where wildlife are sensitive to disturbance. Western's standard mitigation measures would be implemented during maintenance activities to minimize impacts to wildlife.

The No Action Alternative would not result in the loss of a population or habitat of wildlife that would jeopardize the continued existence of that population or result in the species being listed or proposed for listing as endangered or threatened. Occasional vegetation removal would be

minimal and would not result in the local loss of wildlife habitat. Construction activities during operation and maintenance of the line would not interfere with the movement of species for more than two reproductive seasons, or their nesting or breeding periods, and would not reduce the range of occurrence of wildlife species.

3.5.3 Threatened and Endangered Species

3.5.3.1 Affected Environment

See Appendix C (Table 9-2) for a list of threatened and endangered species that may occur within the project area. The occurrence of the species is based on the project biological reports, species lists, and additional sources.

PVH-PW; PW-TTT and TTT-Thornton Rd; and Thornton Rd-ED5 Segments

Lesser Long-Nosed Bat

Lesser long-nosed bats are associated with Sonoran Desertscrub to oak transition areas below 6,000 feet that support food plants, such as agave and larger columnar cacti, and have caves or abandoned mines for roosting (AGFD 2003). The majority of the project corridor is located within the range of this bat species. Old mines and prospects are scattered throughout the nearby foothills, although none have been documented as known lesser long-nosed bat roosts. The nearest known major roost is located approximately 17 miles southwest of the project corridor, which is a feasible travel distance for bats to visit the project area to forage. The nearest documented occurrence of lesser long-nosed bats in the vicinity is in the Picacho Mountains, located approximately 8 miles northeast of the ED5 substation. Food plants such as saguaros are present within the project limits, although at very low densities, and there are no agaves.

Southwestern Willow Flycatcher

The Southwestern willow flycatcher is a riparian obligate bird species, breeding in dense riparian vegetation near a permanent or semi-permanent source of water or saturated soil from sea level to 8,530 feet (Sogge 1997). There is no designated critical habitat for the Southwestern willow flycatcher within the project vicinity. Suitable habitat for willow flycatchers is present along the Gila River, where a riparian corridor of cottonwood, willow, mesquite, and tamarisk is present; however, only marginal habitat exists where the project area crosses the Gila River.

Xeroriparian wash crossings throughout the project area do not provide suitable habitat for willow flycatchers because they host riparian scrubland species, not riparian woodland species, which are preferred. Riparian scrubland and mesquite washes within the project corridor do not provide suitable nesting habitat; however, these areas could be used as travel corridors. Annual surveys have been conducted by the AGFD, US Geological Survey, and other agencies since 1993 (Sogge and Tibbets 1994; Smith and others 2002), though the project corridor does not contain an established survey site.

Yuma Clapper Rail

The Yuma clapper rail is a marsh bird that inhabits low elevation freshwater or brackish marshes with a wet substrate that supports moderate to high-density stands of cattail and bulrush adjacent to shorelines (AGFD 2001c). Suitable habitat for the clapper rail is present 0.25 mile north of the Gillespie Dam (Burger 2003), and annual survey efforts have detected clapper rails upstream and downstream of the project site. However, habitat at the Gila River crossing does not support a marshy cattail environment, and the shoreline is dominated by tamarisk. No suitable habitat exists elsewhere along the project corridor.

Sonoran Desert Tortoise

The Sonoran desert tortoise is primarily found on rocky hillsides and bajadas of Mohave and Sonoran desertscrub (USFWS 2005). Suitable habitat is present within the project corridor, although areas defined as high-quality habitat (containing boulders, rocky hillsides, caliche caves) are located outside of but adjacent to the project area on nearby foothills. Tortoises may enter the project corridor in search of forage or new habitat, but tortoises are not likely to be burrowing. The PVH-PW line is adjacent to BLM Category 1 and 2 desert tortoise habitat, which is defined as habitat that is or may be essential to the maintenance of large tortoise populations. The PW-TTT line is adjacent to Category 2 habitat in the Tabletop Mountains and Booth Hills, located less than a mile southwest of the project limits.

Tucson Shovel-Nosed Snake

The Tucson shovel-nosed snake is found in creosotebush-mesquite floodplains with soft, sandy soils and sparse gravel in Sonoran Desertscrub from between 785 feet and 1,662 feet elevation

(USFWS 2010). Creosotebush-bursage habitats exhibiting sandy to loamy soils occur throughout the project area. The project corridor is centrally located within the current range of the species, and there are known occurrences of Tucson shovel-nosed snakes in the project area.

3.5.3.2 Environmental Consequences

A significant impact on endangered or threatened species or their critical habitats would result if one or more of the following were to occur from construction or operation of the Proposed Action:

- Jeopardizing the continued existence of a Federally listed species
- Loss of individuals of a population of species that would result in lowering a species status (e.g. from threatened to endangered)
- Adversely modifying critical habitat to the degree it would no longer support the species for which it was designated

Proposed Action

Lesser Long-Nosed Bat

Food plants are present in the project area and a major known roost is within reasonable travel distance; therefore, it is possible that bats may enter the area at night to forage. The Proposed Action would not directly affect bats because construction activities would not be performed during nighttime hours when bats are likely to be present. The project corridor does not enter cave or mine sites, therefore possible roost sites would not be impacted. Removal of food plants such as columnar cacti would be avoided to the extent possible, however if removal should occur, the loss would be minimal compared to the overall foraging habitat available at higher densities in the project vicinity. Therefore, the Proposed Action would have no effect to the lesser long-nosed bat or its habitat.

Southwestern Willow Flycatcher

Marginal habitat for the Southwestern willow flycatcher exists along the Gila River on the PVH-PW line. However, there would be no upgrades or new construction along this segment. Large-scale tree removal within the riparian scrubland patch and mesquite washes is not anticipated, and removal of individual trees would not diminish the overall quality of these patches as travel

corridors. Therefore, the Proposed Action would have no effect to the Southwestern willow flycatcher or its habitat.

Yuma Clapper Rail

There is no suitable habitat for the Yuma clapper rail within the project corridor, and no clapper rails have been observed. Suitable habitat exists within 0.25 mile of the project area; however, no work would occur in this area. Therefore, the Proposed Action would have no effect to the Yuma clapper rail or its habitat.

Sonoran Desert Tortoise

High-quality and BLM-categorized tortoise habitat is outside of, but adjacent to, the project corridor. However, work would not occur in these areas; therefore, the BLM would not require mitigation and high-quality habitat would not be lost. Tortoises may still enter the project area in search of new habitat or forage. To minimize impacts to desert tortoises that may enter the project area, holes and trenches would be covered nightly and inspected prior to filling. Tortoises also may be injured or killed by construction vehicles or heavy equipment. In the event desert tortoises are encountered during construction, Western would follow the AGFD's *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects* (Appendix H). Therefore, the Proposed Action may impact individual Sonoran desert tortoises but would not result in a loss of population viability.

Tucson Shovel-Nosed Snake

Suitable habitat associations and soils for burrowing are present in the project area, and Tucson shovel-nosed snakes are known to occur in the vicinity. Snakes may be injured or killed by construction activities such as grading or digging, or by traveling construction vehicles. Given the small home range (5 acres) for individuals of the species, occurrences are likely localized and large numbers of snakes are unlikely to occur in one place. Subterranean disturbance would be limited to the footprint of the structure poles and the substation areas. Vehicle travel would occur between structure sites on existing roads, thereby increasing visibility of snakes that may be crossing and possibly allowing for vehicle avoidance. Therefore, the Proposed Action may

impact individual Tucson shovel-nosed snakes but would not result in a loss of population viability.

Overall

Western determined that the Proposed Action would have no effect to species listed as threatened or endangered. The Proposed Action may impact individual Sonoran desert tortoises and Tucson shovel-nosed snakes, but would not result in a loss of population viability for these species.

Resource protection measures would be implemented to minimize impacts to threatened or endangered species (see Appendix A). The Proposed Action would not jeopardize the continued existence of federally listed species, increase the protection status of species, or adversely modify critical habitat.

No Action Alternative

Under the No Action Alternative, the new segments would not be built and the substations would not be expanded. Construction activities that may impact Tucson-shovel nosed snakes and Sonoran desert tortoises in the area would not occur. The existing Thornton Rd-ED5 line would remain in place and Western would replace structures and hardware on an "as needed" basis. This need for spot improvements would increase frequency of work required in and adjacent to habitat for threatened and endangered species.

Ground-disturbing activities during maintenance work would be structure specific. Construction activities could occur over several days, a few weeks, and even months. Western would evaluate impacts to threatened or endangered species for routine maintenance projects. Western would use standard mitigation measures during maintenance activities to minimize impacts to threatened or endangered species. When maintenance work is required that may affect threatened or endangered species, Western would consult with the USFWS under Section 7 of the Endangered Species Act. The No Action Alternative would not jeopardize the continued existence of federally listed species, or adversely modify critical habitat.

3.5.4 Sensitive and Special Status Species

3.5.4.1 Affected Environment

See Appendix C (Table 9-3) for a list of special status species that may occur within the project area. The occurrence of the species is based on the project biological reports, species lists, and additional sources.

PVH-PW Segment; PW-TTT and TTT-Thornton Rd Segments; and Thornton Rd-ED5 Segment

Cactus Ferruginous Pygmy-Owl

The cactus ferruginous pygmy-owl is a cavity nester found in broadleaf, riparian gallery forests, dense Sonoran Desertscrub, or semidesert grassland communities containing wooded drainages and saguaros (AGFD and USFWS 2000). The project corridor does not support broadleaf forests, dense desertscrub, or semidesert grassland, although pygmy-owls are known to occur along dry washes containing large mesquite, palo verde, and ironwood (AGFD 2001b). Small patches of this low-quality habitat are concentrated along washes such as Vekol Wash, and in the riparian scrubland patch between structures 23/3 to 24/1 (see Figure 3-3). The project is located just north of the current range for the pygmy-owl, and the nearest recent confirmed sighting is near suburban Tucson.

Western Burrowing Owl

Western burrowing owls inhabit the underground burrows of fossorial mammals in open, well-drained grasslands, steppes, deserts, prairies, agricultural lands, and vacant lots, oftentimes near areas of human activity (AGFD 2001a). The project area provides ample farmland, cleared lots, open desert, and irrigation ditch banks that may be suitable for burrowing.

Arizona Protected Native Plants

Plant species listed on the Arizona Department of Agriculture Protected Plant List, such as palo verde, mesquite, saguaro, and other cacti occur throughout the project area.

3.5.4.2 Environmental Consequences

Impacts to sensitive and special status species would occur when habitats or individuals are disturbed or lost during the Proposed Action's construction or operation. The significance of the impact depends in part on the sensitivity of the population. A significant impact on sensitive and special status wildlife species would result if one or more of the following occurred from construction or operation of the Proposed Action:

- Loss to a population of sensitive or special status species that would jeopardize the continued existence of that population
- Loss to a population that would result in the species being listed or proposed for listing as endangered or threatened
- Interference with the movement of sensitive or special status species for more than two reproductive seasons

Proposed Action

Cactus Ferruginous Pygmy-Owl

Habitat within the project area is minimal, patchy, and of low-quality. Although there are no recent records of pygmy-owls in the project area, the species' range is within 1.5 miles of the project area, so pygmy-owls may be present. Construction crews would avoid removal of important pygmy-owl habitat features such as saguaros and large trees to the extent possible. If saguaros or large trees were removed by construction activities, the loss would be minimal compared to the more suitable habitat available in the project vicinity. If pygmy-owls are present, noise disturbances associated with construction may disrupt normal behaviors and deter pygmy-owls from the area. Therefore, the Proposed Action may impact individual cactus ferruginous pygmy-owls, but is not likely to result in a trend toward Federal listing or a loss of viability.

Western Burrowing Owl

Suitable habitat is present for the western burrowing owl along crop edges, dirt roads, within open desert, and along the banks of irrigation canals. Several burrowing owls may inhabit a small area, given the colonial nature of the bird. It is possible that burrows and nests could be destroyed by construction equipment, and individual owls could be entombed during grading

activities. The majority of ground disturbance would occur during erection of structures and the clearing for the substation expansion. If burrowing owls or active burrows are observed within the project area during construction, the following guidelines from the *Burrowing Owl Project Clearance Guidance for Landowners* (ABOWG 2009) would be implemented to comply with the Migratory Bird Treaty Act of 1918:

- Western would establish a 100-foot radius buffer, excluding all heavy machinery and foot traffic, around all active burrow entrances during construction and until the appropriate conservation action is determined. The Arizona Game and Fish Department would be contacted immediately following the observation.

Therefore, the Proposed Action may impact individual western burrowing owls, but is not likely to result in a trend toward Federal listing or a loss of viability.

Arizona Protected Native Plants

The Proposed Action has the potential for removal of Arizona Protected Native Plants. However, plant species listed on the Arizona Department of Agriculture Protected Plant List would be protected in accordance with the Arizona Native Plant Law. Per Arizona Revised Statutes, which provides exemptions for existing electrical transmission and distribution facilities, rights-of-way, and routine maintenance activities, Western would provide a Notice of Intent to Clear Land to the Arizona Department of Agriculture at least 60 days prior to the initiation of project activities within new work areas on State Trust and private lands.

Overall

Although the Proposed Action may impact Sensitive and Special Status species, impacts would be minor, and resource protection measures would be implemented to minimize those impacts (see Appendix A). The Proposed Action would not result in a loss to population of sensitive or special status species that would jeopardize the continued existence of that population or result in the species being listed or proposed for listing as endangered or threatened. The Proposed Action would not interfere with the movement of sensitive or special status species for more than two reproductive seasons

No Action Alternative

No construction would occur under the No Action Alternative; therefore, there would be no impacts to special status or sensitive species. However, maintenance along the existing segments would eventually be necessary and may occur within areas suitable for special status species. In the event of emergency repairs, Western may not have the necessary time to evaluate impacts to biological resources. Western would still evaluate impacts to sensitive or special status species for routine maintenance projects. Western's standard mitigation measures would be implemented during maintenance activities to minimize impacts to these species. The No Action Alternative would not jeopardize the continued existence of a special status species or lead to Federal listing, interfere with nesting, breeding, or a species' movement for more than two reproductive seasons, and would not result in the local loss of wildlife habitat.

3.6 CULTURAL RESOURCES

3.6.1 Affected Environment

The cultural environment includes those aspects of the physical environment that relate to human culture and society, along with the social institutions that form and maintain communities and link them to their surroundings. Field surveys and geomorphological studies have been performed to identify cultural resources, and data recovery has occurred at unavoidable sites along the ED5-PVH project. Table 3-2 summarizes the cultural resource studies for each of the project components.

Table 3-2 Summary of Cultural Resources Studies for the Proposed Action

Component	Cultural Resources Reports
PVH-PW	*Cultural Resources Survey for the SRP Palo Verde to Pinal West 500 kV Transmission Lines, Maricopa and Pinal Counties, Arizona* (Clark and Henderson 2006)
	Archaeology at the Gillespie Dam Site: Data Recovery Investigations for the Palo Verde to Pinal West 500 kV Transmission Line, Maricopa County, Arizona (Henderson 2009)
PW-TTT	*Cultural Resources Survey for the Pinal West to Dinosaur Extra-High Voltage Transmission Line, Pinal County, Arizona* (Henderson et al. 2009)
TTT-Thornton Rd	*Cultural Resources Survey for the Pinal West to Dinosaur Extra-High Voltage Transmission Line, Pinal County, Arizona* (Henderson et al. 2009)
	Addendum Cultural Resources Survey for the Western's Proposed Test Track-Thornton Road Transmission Line and Salt River Project's Proposed Duke Substation, Pinal County, Arizona (Macnider and Langan 2011)

Table 3-2 Summary of Cultural Resources Studies for the Proposed Action	
Component	**Cultural Resources Reports**
Thornton Rd-ED5	*A Cultural Resource Survey and Inventory for the Casa Grande to Saguaro Portion of Western's Test Track (Formerly Maricopa) Saguaro 115-kV Transmission Line, Pinal County, Arizona* (Tactikos et al. 2010)
	A Geomorphic Analysis of Archaeological Sites Along a Portion of the Casa Grande - Saguaro Transmission Line Corridor, Pinal County, Arizona (Nials 2010)
Test Track Substation	*A Cultural Resources Survey and Inventory of the Test Track Substation and Expansion Study Area, Pinal County, Arizona* (Rayle and Courtright 2010a)
Casa Grande Substation	*A Cultural Resources Survey and Inventory of the Casa Grande Substation and Expansion Study Area, Pinal County, Arizona* (Rayle and Courtright 2010b)
ED5 Substation	*A Cultural Resources Survey and Inventory of the ED-5 Substation and Expansion Study Area, Pinal County, Arizona* (Rayle and Courtright 2010c)

In addition to the field survey components of these investigations, existing site and project records were reviewed. The records reviewed included those maintained by AZSITE, Arizona's statewide database of cultural resource information; the Arizona State Historic Preservation Office (SHPO); BLM Phoenix Office; BLM Tucson Field Office; Arizona State Museum (ASM); Arizona State University; Museum of Northern Arizona; and the Arizona Department of Transportation (ADOT) Historic Preservation Team. Additionally, historic land survey maps prepared by the General Land Office were reviewed for indications of historic homesteads or other features that could be present in the project area.

As a result of these investigations, the ED5-PVH project area has been surveyed for cultural resources, although one gap in coverage exist. The gap is a 0.6-mile-long (9.8-acre) segment of the line near the Test Track Substation in Section 30 of Township 5 South, Range 4 East. Henderson et al. (2009) were unable to survey 0.8 miles (13 acres) of the alignment due to dense crop growth that prevented a clear view of the ground. A follow-up survey attempted to cover this area, but only succeeded in surveying 0.2 miles (3.2 acres) of the gap (Macnider and Langan 2011). This gap represents less than 0.01 percent of the total area. Lacking data from this small unsurveyed area is unlikely to affect the analysis of project effects. No significant cultural resources have been found in the vicinity of this gap. The gap lies on agricultural land that has been continually disturbed by plowing, and the presence of intact archaeological remains in that location is unlikely.

Sites identified during these investigations are summarized in Appendix D (Table 10-1) and discussed in detail below, including the National Register of Historic Places (NRHP) eligibility and potential impacts.

PVH-PW Segment

Twenty-four sites have been identified in the segment between the Palo Verde Hub and Pinal West substations. These sites consist of two prehistoric artifact scatters, one historic artifact scatter, five historic roads, two historic railroads, one prehistoric village with a historic canal segment, one multicomponent artifact scatter, one area with prehistoric petroglyphs, one prehistoric lithic reduction area, three sites with prehistoric features and artifacts, two historic homesteads, two historic canals, two sites with historic ranching features and artifacts, and one historic trash dump. Of these sites, 14 have been recommended eligible for inclusion in the NRHP, nine have been recommended not eligible, and one requires archaeological testing to determine its eligibility.

PW-TTT and TTT-Thornton Rd Segments

Ten sites have been identified in the segment between the Pinal West Substation and Thornton Road. These sites consist of two prehistoric artifact scatters, one historic transmission line, four historic roads, one historic artifact scatter with structure foundations, and two historic artifact scatters. Of these sites, three have been recommended eligible for inclusion in the NRHP, and the remaining seven have been recommended not eligible.

Thornton Rd-ED5 Segment

Forty-seven sites have been identified in the segment. These sites consist of one historic transmission line, one historic artifact scatter with structure foundations, 21 historic roads, two historic pipelines, two historic artifact scatters, one multicomponent artifact scatter, 14 prehistoric artifact scatters, one prehistoric lithic reduction area, one historic water control device, one historic canal, and two historic substations. Of these sites, six have been recommended eligible for inclusion in the NRHP, 35 have been recommended not eligible, 4 require archaeological testing to determine their eligibility, and two sites have not been evaluated for their NRHP eligibility.

3.6.2 Environmental Consequences

A significant impact on cultural resources would result if one or more of the following were to occur from construction or operation of the Proposed Action:

- Damage to, or loss of, a site of archaeological, Tribal, or historical value that is listed, or eligible for listing, in the NRHP
- Adverse impacts to NRHP-eligible properties that cannot be satisfactorily mitigated as determined through consultation with the SHPO and other consulting parties

Proposed Action

PVH-PW Segment

Under the Proposed Action, Western would acquire power transmission rights along SRP's existing line traversing this section of the project. No construction or other ground disturbing activities would take place, and the project would have no potential to affect cultural resources along this segment of the project area. As a result, the Proposed Action will have no significant impacts along this segment of the project area. SHPO concurred with a finding of no adverse effect for this project segment in a letter (Jacobs [SHPO] to Holt [Western], 5 May 2011).

PW-TTT and TTT-Thornton Rd Segments

In this segment, the Proposed Action involves construction of a new transmission line. Three National Register-eligible sites are positioned along this segment of the project. Site AZ AA:2:118(ASM), the historic State Route 84, would be spanned by the transmission line, and no alterations or other impacts would occur from transmission line construction. Site AZ AA:1:183(ASM) is a prehistoric artifact scatter along the edge of the project area. The site will be avoided by limiting construction traffic to the opposite side of the ROW. Within site AZ AA:1:104(ASM), a large historic site with structure foundations and an artifact scatter, conductor would be strung between existing poles. Work would be confined to previously disturbed areas, and an archaeological monitor would be present to ensure damage to the site is avoided. SHPO concurred with a finding of no adverse effect for this project segment in a letter (Jacobs [SHPO] to Holt [Western], 5 May 2011).

Thornton Rd-ED5 Segment

Within this segment of the project area, a new conductor would be added to the 230-kV transmission line. Ten sites that are either NHRP-eligible or require testing to determine eligibility are positioned along this segment of the project (AZ AA:1:99[ASM], AZ AA:1:104[ASM], AZ AA:1:237[ASM], AZ AA:1:239[ASM], AZ AA:2:124[ASM], AZ AA:2:125[ASM], AZ AA:2:321[ASM], AZ AA:2:125[ASM], AZ AA:6:54[ASM], and AZ AA:6:56[ASM]). The surface manifestations of the sites are composed of prehistoric artifacts. These sites would be avoided during the installation of the 230-kV conductors. An archaeological monitor would be present during construction at these sites to ensure damage to cultural resources is avoided. Pulling locations along this segment of the project may require work outside the ROW. If this is the case, these areas would be surveyed, and Western would consult with SHPO and other consulting parties regarding the findings of these surveys.

SHPO concurred with a finding of no adverse effect for the line segment between Thornton Road and the Empire Substation in a letter (Jacobs [SHPO] to Holt [Western], 16 March 2011). SHPO concurred with a finding of no effect for the line segment between the Empire and ED5 substations (Jacobs [SHPO] to Holt [Western], 15 March 2011).

Test Track Substation

The Test Track Substation will be expanded. No NRHP-eligible cultural resources are present within this portion of the project area. SHPO concurred with a finding of no adverse effect for this portion of the project area (Jacobs [SHPO] to Holt [Western], 5 May 2011).

Casa Grande Substation

The Casa Grande Substation will be expanded. No NRHP-eligible cultural resources are present within this portion of the project area. Consultation has been initiated for this expansion.

ED5 Substation

The ED5 Substation will be expanded. No NRHP-eligible cultural resources are present within this portion of the project area. Consultation has been initiated for this expansion.

No Action Alternative

The No Action Alternative would not result in changes to the cultural resources in the project area. Western could still need to make repairs and build or improve access roads on an as needed basis. As part of its environmental review process for routine maintenance projects, Western would identify impacts to cultural resources and would conduct Section 106 consultation with interested parties (i.e., Arizona SHPO) as necessary. Several measures to avoid impacts to cultural resources are included in Western's standard mitigation measures.

3.6.3 Native American Religious Concerns

Western contacted seven Indian tribal governments regarding the ED5-PVH project to determine if they had concerns or issues regarding cultural resources, traditional cultural properties, or religious practices. Western initiated consultation with these Indian tribes on the basis of proximity of ancestral lands to the project area or stated interest. Letters were sent and followed up with phone calls to the Gila River Indian Community, Ak-Chin Indian Community, Tohono O'odham Nation, Salt River Pima-Maricopa Indian Community, Colorado River Indian Tribes, Hopi Tribe, San Carlos Apache Nation, and White Mountain Apache Tribe. Responses were received from the Ak-Chin Indian Community, Hopi Tribe, Tohono O'odham Nation, and White Mountain Apache Tribe. Ak-Chin and White Mountain Apache requested further involvement only if human remains were encountered during construction (Appendix G). The Hopi Tribe requested continued involvement through project scope changes and future consultation (Appendix G). Tohono O'odham Nation requested a meeting with Western representatives. Western attempted to schedule a meeting during March 2011, but to date has not been able to establish a time.

3.6.3.1 Environmental Consequences

A significant impact to Native American Religious Concerns would result if one or more of the following were to occur from construction or operation of the Proposed Action:

- Loss or degradation of a traditional cultural property or sacred site, or if the property or site is made inaccessible for future use
- Disturbance to human remains, including those interred outside formal cemeteries

- Unmitigated adverse effect to a traditional cultural property determined to be NRHP-eligible or identified as important to tribes

Proposed Action

The Proposed Action would not lead to the loss, destruction or inaccessibility of a traditional cultural property or a sacred site. Human remains would likely not be disturbed. It would not have an unmitigated adverse effect to traditional cultural properties. Western addressed concerns by Indian tribes received during the on-going consultation process and will implement the protection measures presented in Appendix A to minimize construction impacts to archaeological sites.

No Action Alternative

The No Action Alternative would not lead to the loss, destruction or inaccessibility of a traditional cultural property or a sacred site. Human remains would not be disturbed. It would not have an unmitigated adverse effect to traditional cultural properties. Western would repair the transmission line and build or improve access roads as needed and consult with Indian tribes as needed on a project by project basis.

3.7 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE/TITLE IV

3.7.1 Affected Environment

The US Bureau of the Census (USCB) Decennial Census 2000 data was obtained for the project area and surrounding vicinity to determine the presence of potential protected populations (USCB 2000). USCB data confirmed that there are no protected populations within the project area (see Appendix E, Table 11-1 and Table 11-2). The transmission line segments are generally located within agricultural or desertscrub environs with a few houses located nearby. A few residents' homes within the town limits of Eloy are scattered along the Thornton Rd-ED5 line. Two substations being extended, Test Track and ED5, are in rural areas with no residences located within 0.5 mile of the project area. The Casa Grande Substation is located within the city limits of Casa Grande**;** however, no residences are located within the project vicinity.

3.7.2 Environmental Consequences

A significant impact on social and economic values would result if one or more of the following were to occur from construction or operation of the Proposed Action:

- Permanent displacement of existing residences or businesses.
- Long-term loss of economic viability of farms, ranches or other businesses.
- Disproportionate negative effect on minority or low-income populations in the area, as defined by Executive Order 12898.

Proposed Action

The Proposed Action would not contribute to an increase in the population of the project area or vicinity. A surplus of housing is available in nearby communities. No residents or business would be relocated or displaced by the project. The new transmission line segments are located primarily along access roads and do not cross agricultural operations. These lines would not impede the movement of vehicles, materials, supplies, or products to or from adjacent agricultural operations. There could be a short-term increase in the local economy during construction, as workers purchase food, supplies, etc. from area businesses. No direct impacts to employment sectors or the regional economy are anticipated. The new transmission line segments do not cross or pass through communities and would not impede the movement of people, goods, or services between communities. Furthermore, the project would not limit access to public facilities. No measureable socioeconomic effects or effect on minority or low-income populations are expected.

No Action Alternative

Operation and maintenance of the existing line would not result in impacts to area residents or businesses.

3.8 PUBLIC HEALTH AND SAFETY

3.8.1 Affected Environment

3.8.1.1 Emergency Infrastructure

PVH-PW Segment

Police and fire services for this segment are provided by a variety of volunteer and government agencies, including the Arlington Volunteer Fire Department, Palo Verde Volunteer Fire Department, Mobile Volunteer Fire Department, the Buckeye Fire and Police Departments, and the Maricopa and Pinal County Sheriff's offices. Federal law enforcement services are provided by BLM's Lower Sonoran field office. The nearest hospital is located in Goodyear.

PW-TTT, TTT-Thornton Rd, and Thornton Rd-ED5 Segments

The area encompassing these three line segments is provided fire and police protection from the Maricopa Volunteer Fire Department, the Eloy Fire District, Eloy Police Department, the Casa Grande Fire Department, the Casa Grande Police Department, the Ak-Chin Fir Department, Ak-Chin Police Department, and the Department of Public Safety. The Medical Regional Hospital in Casa Grande provides the nearest medical facility for the area.

3.8.1.2 Public and Worker Safety

PVH-PW Segment

Public health and safety concerns arise from the maintenance of the existing transmission line as well as highway and roadway safety associated with maintenance vehicles. The safety concerns associated with line maintenance and substation maintenance operations include electric shock, stray voltage, and induced voltage. Much of this existing transmission line segment is within undeveloped areas and rural agricultural areas with limited access minimizing public exposure to the transmission lines.

PW-TTT and TTT-Thornton Rd Segments

The proposed line segments are surrounded by agricultural fields, and the lines would be located in or near the edge of a field, typically along section line farm roads. The proposed line segments are in rural low-density settings. The safety of the general public and workers is a

concern because of the height of the structures and the high voltage. During the approximately 30 month construction schedule, large transport trucks would deliver structures, insulator hardware, and substation equipment. Conductor, groundwire, and overhead fiber optic communication ground wire would be transported on flatbed trucks. Potential concerns include aircraft striking or colliding with the structure or line during crop dusting.

Thornton Rd-ED5 Segment

The Thornton Rd-ED5 segment is generally in an area with limited access, which minimizes public exposure to the transmission line segment. The line does cross a scattered sparsely populated portion of Eloy at the north end of the line segment.

3.8.1.3 Electric and Magnetic Fields

Electric and magnetic fields (EMF) surround every electrical device, including electrical appliances and power lines. Current and voltage are required to transmit energy over electric transmission lines. Current, a flow of electrical charge, is the source of magnetic fields. Voltage, which represents the potential for an electrical charge to do work, is the source of electric fields. To provide a comparison for EMF exposure from high-voltage transmission lines the Table 3-3 below shows electro-magnetic fields measured near many common household appliances.

Table 3-3 Typical 60 Hertz Magnetic Field Values from Common Electrical Devices

Appliance	Magnetic Field 6 Inches Away from Device (mG)	Magnetic Field 2 Feet Away from Device (mG)
Washing machine	100	6
Vacuum cleaner	300	10
Electric oven	9	---
Dishwasher	20	4
Microwave oven	200	30
Hair dryer	300	10
Cell phone (very low frequency only) Contact: 20mG	5	2
Computer Laptop Contact: 20 mG	5	---
Computer desktop	14	2
Fluorescent light	40	2
Power drill	40	6
Copy machine	90	7
Garbage disposal	80	2

Source: EMF 2002

While studies have not confirmed EMF levels are unsafe, non-governmental organizations have published limits as a safety measure based on the knowledge that high field levels may induce current in cells or nerve stimulation. The International Commission on Non-Ionizing Radiation Protection (1998) has established a continuous magnetic field exposure limit of 0.833 gauss (833 milligauss [mG]) and a continuous electric field exposure limit of 4.2 kilovolts per meter (kV/m) for the general public. The American Conference of Governmental Industrial Hygienists identified a Threshold Limit Value (2001) for occupational exposure to 60 hertz magnetic fields as 10 gauss (10,000 mG) and 25 kV/m electric fields. Guidelines at the edge of ROW set by several states for newly constructed transmission lines are about 2 kV/m for electric fields and 200 mG for magnetic fields (NIEHS 1999).

PVH-PW Segment

Operational since 2008, this remote line 500-kV transmission line segment is not within 500 feet of residents or 2,000 feet of schools. The electric field associated with this type of transmission line for line is expected to be between 0.50 kV/m and 0.75 kV/m at the edge of the ROW. The magnetic field at the edge of the ROW for the 500-kV line is between 20 mG and 50 mG.

PW-TTT and TTT-Thornton Rd Segments

EMFs are limited to areas near the Test Track Substation. At the edge of the fence around the substation, emissions from electric fields and magnetic fields are under the 2 kV/m and 200 mG guidelines respectively.

Thornton Rd-ED5 Segment

The existing 115-kV transmission line and Casa Grande and ED5 substations have been operational for over 50 years. A typical magnetic reading at the edge of ROW for a 115-kV line is between 2 and 4 mG. The typical electric field emission at the edge of ROW is between 0.15kV/m and 0.25 kV/m. At the edge of the fence around the Casa Grande and ED5 substations, emissions from electric fields and magnetic fields are under the 2 kV/m and 200mG guidelines, respectively.

3.8.2 Environmental Consequences

Western's construction and operation of the Proposed Action could affect public health and safety. Health and safety concerns include shock, EMF, stray voltage, induced voltage, lightning hazards, and vehicle and aerial accidences. A significant impact would result if one or more of the following were to occur from construction or operation of the Proposed Action:

- Serious injuries to workers, visitors to the area, or area land users
- Interference with emergency response capabilities or resources
- Creation of worker health hazard(s) beyond limits set by health and safety regulatory agencies or that endangers human life and/or property
- Creation of electric and magnetic fields near an existing or proposed sensitive land use, such as schools or hospitals, that would pose a plausible risk to human health

Proposed Action

The construction of new and improvements of the existing transmission line segments would require the transport of heavy equipment and materials along the length of the project. Impacts from vehicle movement would be short-term and concentrated within specific areas at structure sites. The movement of heavy equipment would comply with applicable US Department of Transportation and ADOT regulations. Because line segments and substations for the Proposed Action generally are located in agricultural or rural areas with low traffic volume, impacts to highway traffic would be minimal.

Electric shock is not expected to present a health and safety issue as conductor heights would be sufficient to allow movement of construction and farm equipment and personnel below the proposed and upgraded transmission lines. If severe weather damages the transmission line, substation equipment would automatically de-energize the line.

Stray voltage and induced current occurs on metal objects and along linear features, such as fences that may be in the area. Neither stray voltage nor induced current are health risks to area residents. Nuisance shocks would be mitigated by proper grounding.

Potential adverse health effects associated with lightning strikes are minimized by the presence of the overhead fiber optic communication ground wire, which shields the conductors. The current from a lightning strike is diverted to the ground adjacent to the structure. When the current is discharged from the structure base to the surrounding ground, an electrocution hazard can momentarily exist. Therefore, people should avoid being near structures during a lightning storm.

Electric fields can create interference with various types of electrical equipment. This interference may be caused by numerous factors such as voltage interruption, corona effects around equipment, poor connections resulting in voltage losses, and damaged or broken conductor strands all contribute to radio frequency (RF) interruption. To reduce RF interruption, the Proposed Action will install a larger-diameter conductor. Corona would be minimized by avoiding damage to conductor during stringing and by ensuring that hardware is properly installed and connections are tight. Interference with RF within the project area is not expected to be a problem because houses and other inhabited buildings would be more than 500 feet from the proposed and upgraded transmission lines.

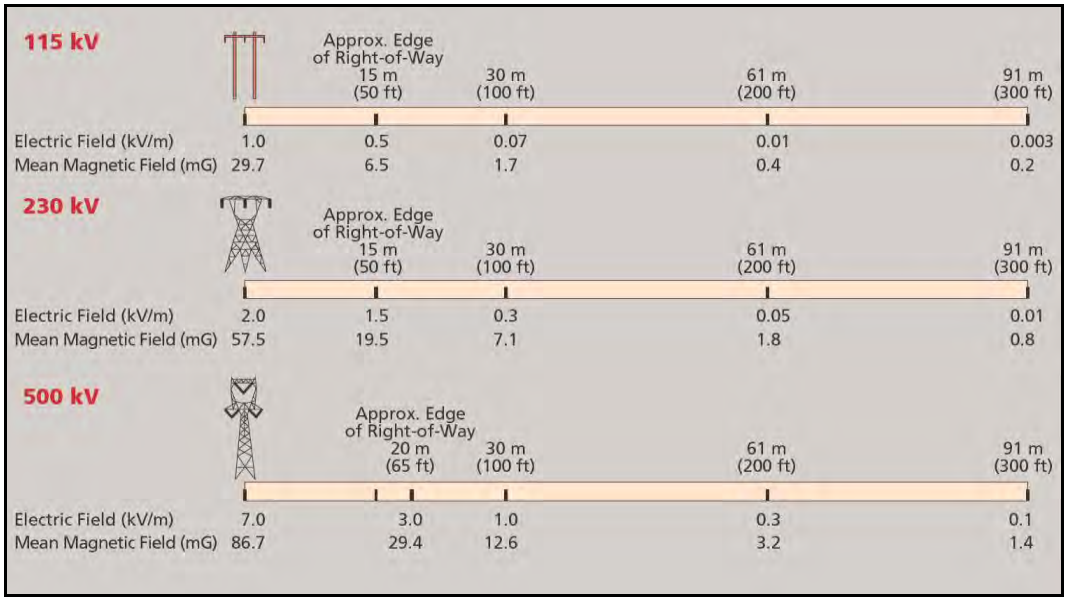
The owner and operators of the line segments will work with aerial crop dusters to reduce the likelihood of impacts to the transmission lines. With the implementation of these actions, the Proposed Action would not result in serious injuries to visitors to the area or interfere with emergency response capabilities or resources.

During construction, work would be performed according to standard health and safety practices, and OSHA policies and procedures. In addition, the installation of polymer insulators, which remain intact after being shot, reduces maintenance and electrical problems. Therefore, the Proposed Action is not expected to result in serious injuries to workers or create worker health hazards beyond limits set by health and safety regulatory agencies or that endangers human life and/or property.

Population density in the project area is low, the location of the proposed line segments to be constructed is along farm fields, and it is not likely that individuals would experience long-term

exposure to EMF. The electric field would remain the same under the Proposed Action for the PVH-PW segment.

The electric and magnetic fields would increase for the PW-TTT and TTT-Thornton Rd segments. Figure 3-4 shows typical electric and magnetic fields at 1.0 meter (3.3 ft) above ground for various distances from power lines. The figure is for general information, and Western's office has specific line information available to the public upon request.



Source: NIEHS 2002

Figure 3-4 Typical Electric and Magnetic Fields Potential

The electric field would be between 2.25 and 2.75 kV/m at the edge of the 130-foot ROW for the PW-TTT and TTT-Thornton Rd 500-kV segments. The magnetic field would be between 20 mG and 50 mG at the edge of the ROW. The Thornton Rd-ED5 230-kV double circuit line electric field would be between 0.25 and 0.40 kV/m and the projected magnetic field would be between 35 mG to 45 mG at the edge of the 100-foot ROW. The 500-kV and 230-kV line segment levels are below recommended levels of exposure listed by governmental or non-governmental organizations involved in EMF studies. Therefore, the Proposed Action would not create electric and magnetic fields that would pose a plausible risk to human health.

No Action Alternative

The existing transmission line segments associated with the No Action Alternative have no documented adverse effects from EMF over the lifetime of their operations. Therefore, the No Action Alternative would not pose a plausible risk to human health from the EMF.

Maintenance and repair work would be localized, minimizing the potential for serious injuries to workers or the public. Western's linemen are trained and experienced with transmission line operations and maintenance. Western's comprehensive safety program includes an annual update of its Power System Safety Manual that provides direction and guidance for prevention of accidents that may result in personal injury, illness, property damage, or work interruption.

3.9 INTENTIONAL DESTRUCTIVE ACTS

Power transmission lines and substations, like other elements of the US energy infrastructure, could be the target of vandals, terrorist attacks, or sabotage. The US Court of Appeals for the Ninth Circuit decided that NEPA documents issued by the DOE should explicitly address the potential environmental consequences of intentional destructive acts (i.e., acts of vandalism, sabotage, or terrorism) (DOE 2006). Acts of vandalism and theft are more likely to occur than acts of sabotage and terrorism. Theft frequently involves equipment and salvageable metal at substations and switchyards. Vandalism often includes shooting out insulators or shooting at electrical equipment in substation yards. Sabotage and terrorism would most likely include destruction of key transmission line components with the intent of interrupting the electrical grid.

Accidents, disasters, and intentional destructive acts perpetrated at the Palo Verde Nuclear Generating Station, other transmission lines, and substations outside those being analyzed are beyond the scope of this analysis. Since neither the possibility nor the probability of an attack is truly known, the risk of terrorism or sabotage and consequent environmental impact cannot be reliably estimated.

3.9.1 Affected Environment

PVH-PW; PW-TTT and TTT-Thornton Rd; and Thornton Rd-ED5 Segments

The constructed segments of the Proposed Action are subject to vandalism and theft; however, the remoteness and inaccessibility tends to distract these activities. The Palo Verde Hub and Test Track substations are less likely to experience intentional destructive acts due to full-time security at Palo Verde Nuclear Generating Station. The Thornton Rd-ED5 transmission line segment and the substations would more likely be susceptible to insulators being shot and theft of equipment or salvageable metal.

3.9.2 Environmental Consequences

The effects of intentional destructive acts would be wide ranging, depending on the nature, time of year, and location of the acts, and would be similar to outages caused by natural phenomena such as storms and intense heat of arid desert. If the transmission line becomes disconnected from the system or is not in service, then areas of the system that could not be back fed would be without power. In addition to the effects from loss of service, destructive acts could cause environmental effects as a result of damage to the facilities. Two such possible effects are fire ignition, should conductors be brought down, and oil spills from equipment (e.g., mineral oil in transformers) in the electrical substation, should some of the equipment be damaged or breached. Fires would be fought in the same manner as those caused by, for example, an electrical storm. The substation would be designed for spill containment, and oil spills probably would be confined to the soil surrounding the electrical equipment. Any spills would be treated by removing and properly disposing of contaminated soil and replacing it with clean soil consistent with Western's response and clean up plan.

A significant impact from Intentional Destructive Acts would result if the following were to occur from construction or operation of the Proposed Action:

- Results in action that makes the transmission facility susceptible to destructive actions by vandals, sabotage, or terrorist attacks
- Ability to protect and repair infrastructure are reduced
- Increased interdependency and potential failure of multiple facilities if an intentional destructive act be perpetrated

Proposed Action

Neither of the existing two constructed transmission line segments nor the planned segments and the substation upgrades of the Proposed Action include components that, individually or in combination, would likely cause serious environmental impacts. Possible intentional destructive acts could include:

- Ordinary vandalism such as people using firearms to shoot insulators or cutting the fence to gain entrance to a substation
- A pre-meditated attempt to destroy one or more transmission structures or breach of a substation to access the control room or equipment within a substation
- An intentionally set fire intended to damage the transmission line infrastructure or to disrupt service to electrical customers

The presence of high voltage transmission lines would tend to discourage theft and vandalism. Vandalism is most likely to occur in remote areas and, perhaps, more likely to involve acts of opportunity (e.g., shooting out transmission line insulators) than premeditated acts. Theft, on the other hand, is more likely to involve substation and switchyard equipment that contains salvageable metal (e.g., copper and aluminum) especially when metal prices are high. Environmental impacts from attacks to the transmission facilities are most likely to cause local effects. Impacts also would result from efforts to repair and reconstruct damaged infrastructure.

Vandalism and theft within substations would be minimized by fencing and potential surveillance devices. If a substation has a control room this would be secured as well. Western is improving substation security by adding or upgrading monitoring and surveillance equipment within the substation and control room at all substations, especially their more remote sites.

Few or no preventive measures are available to protect the transmission line from vandalism or sabotage. Intentional destructive acts committed on the transmission line segments or substations would potentially interrupt service to the power grid around the central and southern Arizona grid system. These interruptions could create impacts ranging from minor annoyances to area residents and business to fiscal impacts due to loss of productivity or spoilage. The redundant nature of the power grid would reduce or prevent service interruptions. Interrupted

electrical service by itself would not likely have adverse effects to the environment. There is no greater likelihood of intentionally destructive acts under the Proposed Action.

No Action Alternative

The line segment most susceptible to acts of destruction would be the Thornton Rd-ED5 segment. The potential for vandalism from fires is greater for this segment because of the higher vegetative fuel load.

3.10 CUMULATIVE IMPACTS

Cumulative impacts are defined by the CEQ (40 CFR §1508.7) as ―…the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions." To determine the cumulative effects in the analysis area, a review was completed of known past, present, and reasonably foreseeable proposed projects in the vicinity of the project area and an analysis made of their short- and long-term incremental effects on the local environment. Past projects were considered to be those completed within the last 10 years. Because planned projects are not always carried to completion, the window for reasonably foreseeable projects was projected only for those projects anticipated to have on-site impacts within 5 years. As the Federal power marketing agency of the west, Western has several plans to increase power capacity throughout multiple states, but these are outside the reasonable scope of this project.

3.10.1 Past and Present Projects

Projects completed in the recent past or current projects include:

- Western rebuilt the Empire Substation from tap to switchyard in 2009
- SRP constructed the Palo Verde Hub to Pinal West Transmission Line and energized it in 2008
- SRP conducted an Environmental Evaluation and received a Certificate of Environmental Compatibility in 2004 approving the ROW for a transmission line from Palo Verde Hub to the Browning Substation near Florence, Arizona
- Western constructed the Test Track Substation in 2007

3.10.2 Reasonably Foreseeable Actions

Ongoing projects anticipated continuing or projects currently anticipated to begin within the next 5 years include:

- Western and other private/public utilities plan to construct a new substation called Pinal Central
- Western plans to update the 115-kV Saguaro-ED5, Casa Grande-Empire-ED5, and ED4-ED5 wood-pole lines in 2011
- Arizona Public Service (APS) is partnering with Solana to build a 280 MW concentrated solar power project titled Abengoa on 2,000 acres near Gila Bend, Arizona
- APS is partnering with Solon to build an 18 MW solar photovoltaic generation plant near Gila Bend, Arizona on 146 acres
- APS is partnering with First Solar to build the 17 MW Paloma Solar Plant near Gila Bend on approximately 3,000 acres
- SRP construction of PW-SEV/BRG including substations
- TransCanada construction of a 575 MW natural gas power generation station in Coolidge
- ADOT plans to widen Interstate-10 from a four-lane facility to a six-lane facility from Casa Grande north to Chandler, Arizona

Foreseeable Federal actions include the construction of new energy substations and new transmission lines sourcing from the Proposed Action, and regular maintenance and emergency repairs of the entire transmission grid. According to Western's *Desert Southwest Region Ten-Year Plan* and SRP's *Ten-Year Plan 2009-2018*, several projects are planned for Maricopa and Pinal counties in the coming decade. Some of the planned projects include the construction of the Duke Substation, construction of the Pinal West to Pinal Central transmission line, and building of multiple transmission lines that would connect to the Palo Verde Hub and Pinal Central power grids.

Large tracts of land, in and adjacent to the project vicinity, are owned by private entities. Unforeseen future practices on private lands may have an impact on the environment. Despite the current slowing of development, it can be assumed that growth will return to the state,

especially within the Phoenix to Tucson corridor. It can be projected that Maricopa and Pinal counties will see a spike in urban, rural, and commercial development.

3.10.3 Cumulative Impacts Analysis

This section analyzes whether the Proposed Action, when combined with other past, present, or reasonably foreseeable future projects in the area, would result in either short-term or long-term environmental impacts. Short-term impacts are related primarily to project construction, while long-term impacts are related primarily to maintenance and operation of the completed project. This section analyzes the same resources that were evaluated in detail for the Proposed Action (Sections 3.2 through 3.9).

Floodplain

Incremental effects to floodplains and water resources due to the Proposed Action coupled with past, present, and reasonably foreseeable future actions are not anticipated given state and Federal requirements for protection of floodplains and water quality. Past, current, or future projects that would generate substantial impacts to the floodplain elevation would require a Letter of Map Revision to modify the existing FEMA map depicting the regulated 100-year floodplain. Most past, current, and reasonably foreseeable future projects in the area have not or would not affect the floodplain because they would not encroach on the regulated floodplain or would not negatively modify the floodplain elevation. Projects occurring in the vicinity of the floodplain, such as bridge upgrade or maintenance efforts, or small structures such as a transmission structure or substations do not typically require floodplain modification because the structure is not being expanded or area impacted has a small footprint.

Land Use and Ownership

Future projects are consistent with existing land management plans and would not require a change in land use or ownership. The past, present, and reasonably foreseeable future projects would not cause an incremental effect to changes in land use and ownership when combined with implementation of the Proposed Action. Therefore, it is not anticipated that incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future projects would result in a significant cumulative impact for land use.

Visual Resources

Previous projects have substantially impacted the visual character or quality of the area. Future projects may make some man-made features more prominent in the landscape such as new pavement and signage that is more visually evident in the landscape; however, these impacts would be minor and would not substantially impact the visual quality or character of the area. The identified, reasonably foreseeable future projects would not cause an incremental effect to changes in visual resources or contribute to a change in the landscape character when combined with implementation of the Proposed Action. Therefore, it is not anticipated that incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future projects would result in a significant cumulative impact for visual resources.

Biological Resources

Impacts from the present Proposed Action would include minor vegetation removal and ground disturbance, and possible impacts to individual Sonoran desert tortoises, Western burrowing owls, and Tucson shovel-nosed snakes.

The construction of new transmission lines and substations would likely require new access roads, which would provide a greater impact to wildlife than the structures themselves. The footprint of an erected structure is rather small and does not inhibit wildlife movement or fragment habitat. However, the system of roads that would be graded throughout the transmission corridor may impact wildlife movement, remove habitat, and increase the risk of injury or mortality to wildlife through predation or vehicles. Utility access roads are not heavily traveled and are not paved, so speeds are generally lower. They are also not as wide as a traditional road, so it is easier for wildlife to cross. The design of utility access roads would substantially lower the impact of the road on wildlife. However, the level of impact would depend on the placement of the alignments and the presence of suitable habitat for sensitive species.

Future Federal actions unrelated to the Proposed Action are not considered cumulative because they require separate consultation pursuant to Section 7 of the ESA (USFWS and National Marine Fisheries Service 1998). Future actions occurring on Federal lands would be Federal

actions subject to separate Section 7 consultation and are not considered cumulative to the Proposed Action.

While a portion of the landscape has been previously altered, large expanses of contiguous open, natural desert still exist. Future development may fragment habitat, permanently destroy land cover, and isolate wildlife populations. Species that are most likely to be affected by this increase in development are the Tucson shovel-nosed snake, Sonoran desert tortoise, and the Western burrowing owl. Future activities on private lands, such as development, may require Federal permits (such as a Clean Water Act permit), and thus would be subject to Section 7 consultation. When no Federal lands, funds, or permits are involved, the Section 10(a)(1)(B) permit process can be used to ensure ESA compliance.

Therefore, substantial cumulative biological impacts due to the Proposed Action coupled with past, present, and reasonably foreseeable future actions are not anticipated.

Cultural Resources

Past projects would have been conducted in accordance with Federal and state laws and would not have resulted in unmitigated impacts to cultural resources. Present and reasonably foreseeable future projects that could have an incremental effect to cultural resources are limited to the continued maintenance of the transmission line between ED5-PVH. As described in Section 3.5, activities associated with the implementation of the Proposed Action would not, by themselves, result in unmitigated adverse effects to cultural resources provided the mitigation measures are followed. Therefore, it is not anticipated that incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future projects would result in significant cumulative impact to cultural resources provided roads passing through archaeological sites remain unimproved and are used only under dry conditions.

Socioeconomics and Environmental Justice/Title IV

The project would create additional opportunity for nearby renewable energy projects to connect to the transmission system. These nearby projects would have an impact on the regional

employment and economy as they would create jobs during and following construction as well as require materials and supplies from other businesses in the region.

Public Health and Safety

Noticeable effects of the Proposed Action as well as past, present, or reasonably foreseeable future projects would not contribute to an incremental effect to public health and safety as the owner, operator, and crews must comply with OSHA and agency regulations. The design and electrical standards of transmission lines would minimize exposure to electrical and electromagnetic effects. Also, as described in Section 3.7, activities involved in implementing the Proposed Action would not, by themselves, result in serious injuries to visitors to the area or interfere with emergency response capabilities or resources.

Intentional Destructive Acts

As discussed in Section 3.8, the ED5-PVH Transmission Line and substations are not likely to be considered a lucrative target for specifically targeted Intentional Destructive Acts. The incidence of an intentional destructive act is speculative, and could occur at various locations along the 109-mile ROW or at substation facilities. While the Proposed Action adds to the incremental increase in utility infrastructure for acts to take place, it would not make the ROW infrastructure less secure, nor would it result in greater environmental impacts from possible intentional destructive acts. It is not anticipated that incremental effects from the Proposed Action combined with other past, present, or reasonably foreseeable future projects would result in significant cumulative impact for Intentional Destructive Acts.

4.0 AGENCIES AND TRIBES CONSULTED

The following is a list of agencies contacted for this Proposed Action:

FEDERAL

Bureau of Land Management, Lower Sonoran
Federal Highway Administration
US Army Corps of Engineers, Arizona Section Regulatory Branch
US Fish and Wildlife Service

TRIBAL

Ak-Chin Indian Community
Colorado River Indian Tribe
Gila River Indian Community
Hopi Tribe
San Carlos Apache Nation
Salt River Pima-Maricopa Indian Community
Tohono O'odham Nation
White Mountain Apache Tribe

CITIES

Casa Grande
Maricopa
Eloy

STATE

Arizona Department of Environmental Quality
Arizona Department of Public Safety, Casa Grande Headquarters
Arizona Department of Transportation, Tucson District
Arizona Game and Fish Department
Arizona State Land Department
Arizona State Parks, State Historic Preservation Office

COUNTY

Pinal, Arizona

ORGANIZATION

Central Arizona Association of Governments

See Appendices F and G for a sample project scoping letter, scoping mailing list, public notice of availability newspaper advertisements, public meeting handouts and posters, and various agency response letters.

5.0 PROJECT PREPARERS AND CONTRIBUTORS

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Mike Myers	Biological Resources, Quality Control
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Joel Henning	Hazardous Materials and Solid Waste
Amanda Gagnon	Water Resources, Geology and Soils
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David Shu	Air Quality, Noise Resources
Diana Dunn	Public Involvement/Technical Publications Specialist

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APPENDIX A – RESOURCE PROTECTION MEASURES

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Resource Protection Measures	Responsible Party	Time of Implementation
Construction Management		
• Ensure all crews entering construction site have been provided training to recognize and respond to occurrences of cultural and natural resources and optimally protect the environment.	SRP/Contractor/Western	Prior to construction and refresher training as needed at weekly tailgate meetings
• All construction activities will comply with Western's safety standards and requirements. The safety program will include, but not be limited to, standard health and safety practices in accordance with the Occupational Safety and Health Administration's policies and procedures for accident prevention, use of protective equipment, medical care of injured employees, safety education, fire protection, and general health and safety of employees and the public.	SRP/Contractor/Western	Prior to and during construction
• Existing access roads will be used when possible. If overland travel will be necessary, coordination with Western will be required.	SRP/Contractor/Western	During construction
• No pets or firearms will be allowed on the construction site.	SRP/Contractor/Western	During construction
Floodplain		
• The Pinal County Floodplain Manager will be provided an opportunity to review and comment on the design plans for the ED5 substation expansion.	Western	Prior to construction
Land Use		
• SRP will contact the agriculture lessee, Steve Kenley; SD Farms (#01-101713) 8643 N. 14th Ave., Phoenix, AZ 85021, 602-329-2444; 30 days prior to construction to determine possible damages to his agriculture crops and/or improvements SRP will compensate the agriculture lessee for damages.	SRP/Contractor/Western	Prior to construction
Biological Resources		
• Personnel awareness training should be conducted for the Sonoran desert tortoise and Tucson shovel-nosed snake. Training should include identification, behavioral, and other life history information.	SRP/Contractor/Western	Prior to construction

Resource Protection Measures	Responsible Party	Time of Implementation
Biological Resources (continued)		
• Clearing, grubbing, blading, and access road improvements occurring within identified sensitive areas would be conducted outside of the breeding season for most desert-nesting migratory birds. Removal of riparian scrubland vegetation would be avoided where possible. Natural regeneration of native plants would be supported by cutting vegetation with hand tools, mowing, trimming, or using other removal methods that allow root systems to remain intact.	SRP/Contractor/Western	During construction
• Western would not conduct work on structures containing raptor nests between February 1 and August 31 unless a qualified biologist has determined that the nests are no longer active. If a qualified biologist has determined that a raptor nest is inactive, Western may remove the nest prior to conducting work on that structure.	SRP/Contractor/Western	During construction
• Project activities, including blading, should be located in areas within the existing ROW which were disturbed during original line construction, or in ROW areas that have undergone more recent disturbance, in order to reduce impacts to soil conditions that are favorable to the Tucson shovel-nosed snake and to reduce the potential for direct mortality.	SRP/Contractor/Western	During construction
• An on-site monitor should be present during blading or other ground-disturbing activities within areas identified in Table 4 in order to prevent impacts to Tucson shovel-nosed snakes.	SRP/Contractor/Western	During construction
• Western would adhere to the protocol set forth in the attached Arizona Game and Fish Department Guidelines for Handling Desert Tortoises Encountered on Development Projects (2007).	SRP/Contractor/Western	During construction
• If burrowing owls or active burrows are observed within the project area during construction, Western would follow guidelines from the *Burrowing Owl Project Clearance Guidance for Landowners* and would establish a 100-foot radius buffer, excluding all heavy machinery and foot traffic, around all active burrow entrances during construction and until the appropriate conservation action is determined. The Arizona Game and Fish Department would be contacted immediately following the observation.	SRP/Contractor/Western	During construction
• Construction would minimize all vegetation removal to the extent possible.	SRP/Contractor/Western	During construction
• All equipment would be washed prior to entering the work site.	SRP/Contractor/Western	Prior to and during construction

Resource Protection Measures	Responsible Party	Time of Implementation
Biological Resources (continued)		
• All disturbed soil would be seeded with a native species seed mix.	SRP/Contractor/Western	After construction
• Western would provide a Notice of Intent to Clear Land to the Arizona Department of Agriculture at least 60 days prior to the initiation of project activities in new work areas on State Trust and private lands, if necessary.	SRP/Contractor/Western	During construction
• Saguaros would be avoided or protected in place during project activities wherever possible. Saguaros less than 6 feet tall that cannot be protected in place would be relocated out of harm's way wherever possible.	SRP/Contractor/Western	During construction
• Clearly mark the riparian boundary with visible flagging prior to construction to demarcate a "no work zone." No work will occur in the demarcated "no work zone."	SRP/Contractor/Western	Prior to construction between Structures 23/2 and 24/2
• Erosion, sediment, material stockpile, and dust control Best Management Practices will be used on site. Fill or runoff from work areas will be prevented from entering waterways.	SRP/Contractor/Western	During construction
Cultural Resources		
• Cultural resources survey will be conducted at pulling locations outside the ROW after their locations are determined by the contractor. Western will conduct Section 106 consultation on the findings of these surveys before ground-disturbing activities at those locations begins.	SRP/Contractor/Western	During Construction
• An archaeological monitor will be present during construction at NRHP-eligible sites to ensure resource protection measures are completed. The monitor will use temporary fencing to delineate site boundaries while working near NRHP-eligible sites.	SRP/Contractor/Western	During Construction
Water Resources		
• Provide environmental training to work crews regarding waters of the US, including riparian and their importance and the purpose for the "no work zone."	SRP/Contractor/Western	Prior to construction
Restoration		
• SRP and/or Western will prepare a SWPPP that will address restoration of disturbed areas.	SRP/Contractor/Western	Prior to construction

Resource Protection Measures	Responsible Party	Time of Implementation
Hazardous Materials and Waste		
• All equipment will be properly tuned and maintained to avoid leaks of fluids.	SRP/Contractor/Western	Prior to, during, and after construction
• All trash and waste items generated by construction or crew activities will be properly contained and removed from the project area on a daily basis.	SRP/Contractor/Western	During construction
• Service and refueling procedures will not be conducted within 500 feet of a seep, wash, or other water body.	SRP/Contractor/Western	During construction
• Prepare a spill containment plan to ensure that accidental spills happening during construction are appropriately contained and remediated, and that the appropriate agencies are notified. The plan will be submitted to the Contractors Office Representative for approval 14 days prior to start of work.	SRP/Contractor/Western	Prior to construction
• In the event of a spill, workers will immediately cease work, begin spill clean-up operations, and notify appropriate agencies.	SRP/Contractor/Western	Immediately after occurrence
• Comply with all Federal, state, and local regulations.	SRP/Contractor/Western	During and after construction
Air Quality		
• Comply with all Federal, state, and local air quality regulations.	SRP/Contractor/Western	During and after construction

APPENDIX B – WESTERN'S CONSTRUCTION STANDARDS 13 ENVIRONMENTAL QUALITY PROTECTION; AND STANDARD MITIGATION MEASURES FOR CONSTRUCTION, OPERATION, AND MAINTENANCE OF TRANSMISSION LINES

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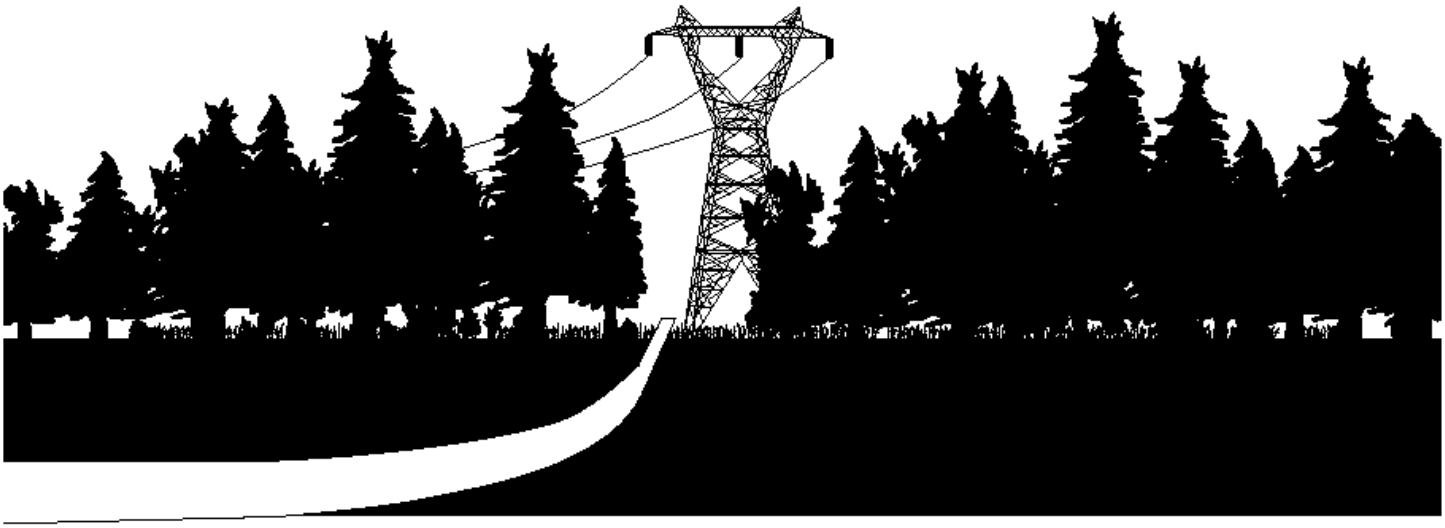
Western
AREA POWER
ADMINISTRATION

CONSTRUCTION STANDARDS

STANDARD 13

ENVIRONMENTAL QUALITY PROTECTION



June 2003

SAFETY
A HABIT TO LIVE BY

STANDARD 13 - ENVIRONMENTAL QUALITY PROTECTION

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STANDARD 13 - ENVIRONMENTAL QUALITY PROTECTION

SECTION 13.1--CONTRACTOR FURNISHED DATA

1. RECYCLED MATERIAL QUANTITY REPORT: Submit quantities for recycled material listed in Section 13.6, "Recycled Material Quantities", to the COR after completion and prior to submittal of final invoice.

2. PRODUCTS CONTAINING RECOVERED MATERIAL REPORT: Provide the COR the following information for purchases of items listed in Section 13.7, "Use of Products Containing Recovered Material":

   (1) Quantity and cost of listed items with recovered material content and quantity and cost of listed items without recovered material content after completion and prior to submittal of final invoice.

   (2) Written justification 7 days prior to purchase of listed items if recovered material content products are not available: 1) competitively within a reasonable time frame; 2) that meet performance criteria defined in the Standards or Project Specifications; or 3) at a reasonable price.

3. RECLAIMED REFRIGERANT RECEIPT: A receipt from the reclaimer stating that the refrigerant was reclaimed, the amount and type of refrigerant, and the date shall be submitted to the COR after completion and prior to submittal of final invoice in accordance with Section 13.8.5, “Refrigerants And Receipts”.

4. WASTE MATERIAL QUANTITY REPORT: Submit quantities of total project waste material disposal as listed below to the COR after completion and prior to submittal of final invoice in accordance with Section 13.8.8, “Waste Material Quantity Report”.

   (1) Sanitary Wastes: Volume in cubic yards or weight in pounds.

   (2) Hazardous or Universal Wastes: Weight in pounds.

   (3) PCB Wastes: Weight in pounds.

   (4) Other regulated wastes (e.g., lead-based paint or asbestos): Weight in pounds (specify type of waste in report).

5. SPILL PREVENTION NOTIFICATION AND CLEANUP PLAN (Plan): Submit the Plan as described in Section 13.10.2, "Spill Prevention Notification and Cleanup Plan”, to the COR for approval 14 days prior to start of work. Approval of the Plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

6. TANKER OIL SPILL PREVENTION AND RESPONSE PLAN: Submit the Plan as described in Section 13.10.3, "Tanker Oil Spill Prevention and Response Plan”, to the COR for approval 14 days prior to start of work. Approval of the Plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

7. PESTICIDE USE PLAN: Submit one copy of a pesticide use plan as described in Section 13.11.3, “Pesticide Use Plan”, to the COR for approval 14 days prior to use. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. Within seven days

after application, submit a written report in accordance with Standard 2 – Sitework, Section 2.1.1.5, "Soil-Applied Herbicide".

8. TREATED WOOD POLE AND MEMBERS RECYCLING CONSUMER INFORMATION RECEIPT: Submit treated wood pole and members consumer receipt forms to the COR after completion and prior to submittal of final invoice (see 13.12, "Treated Wood Poles and Members Recycling or Disposal").

9. PREVENTION OF AIR POLLUTION: Submit a copy of permits, if required, from Federal, State, or local agencies to the COR 14 days prior to the start of work.

10. ASBESTOS LICENSES OR CERTIFICATIONS: Submit a copy of licenses and/or certifications for asbestos work as described in 13.14, "Handling and Management of Asbestos Containing Material" paragraph a., to the COR prior to work. Submit copies of certificates of disposal and/or receipts for waste to the COR after completion and prior to submittal of final invoice.

11. LEAD PAINT NOTICES: Submit a copy of lead paint notices as described in 13.15, "Material with Lead-based Paint" paragraph b., to the COR upon completion and prior to submittal of final invoice. Submit copies of certificates of disposal and/or receipts for waste to the COR after completion and prior to submittal of final invoice.

12. WATER POLLUTION PERMITS: Submit copies of any water pollution permits as described in 13.16, "Prevention of Water Pollution" paragraph b., to the COR prior to work.

13. PCB TEST REPORT: Submit a PCB test report as described in 13.17, "Testing, Draining, Removal, and Disposal of Oil-filled Electrical Equipment" paragraph b., prior to draining, removal, or disposal of oil or oil-filled equipment that is designated for disposal.

14. OIL AND OIL-FILLED ELECTRICAL EQUIPMENT RECEIPT: Obtain and submit a receipt for oil and oil-filled equipment transported and disposed, recycled, or reprocessed as described in 13.17, "Testing, Draining, Removal, and Disposal of Oil-filled Electrical Equipment", to the COR upon completion and prior to submittal of final invoice.

15. OSHA PCB TRAINING RECORDS: Submit employee training documentation records to the COR 14 days prior to the start of work as described in 13.18.1.

16. CLEANUP WORK MANAGEMENT PLAN: Submit a Cleanup Work Management Plan as described in 13.18, "Removal of Oil-contaminated Material" paragraph b., to the COR for approval 14 days prior to the start of work. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

17. POST CLEANUP REPORT: Submit a Post-Cleanup Report as described in 13.18, "Removal of Oil-contaminated Material" paragraph g., to the COR upon completion and prior to submittal of final invoice.

SECTION 13.2--ENVIRONMENTAL REQUIREMENTS

Comply with Federal, State, and local environmental laws and regulations. The sections in this Standard further specify the requirements.

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SECTION 13.3--LANDSCAPE PRESERVATION

1. GENERAL: Preserve landscape features in accordance with the contract clause titled "Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements."

2. CONSTRUCTION ROADS: Location, alignment, and grade of construction roads shall be subject to the COR's approval. When no longer required, construction roads shall be restored to their original condition. Surfaces of construction roads shall be scarified to facilitate natural revegetation, provide for proper drainage, and prevent erosion. If revegetation is required, then use regionally native plants.

3. CONSTRUCTION FACILITIES: Shop, office, and yard areas shall be located and arranged in a manner to preserve trees and vegetation to the maximum practicable extent and prevent impact on sensitive riparian areas and flood plains. Storage and construction buildings, including concrete footings and slabs, shall be removed from the site prior to contract completion. The area shall be regraded as required so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion. If revegetation is required, then use regionally native plants.

SECTION 13.4--PRESERVATION OF CULTURAL AND PALEONTOLOGICAL RESOURCES

1. GENERAL: Do not remove or alter cultural artifacts or paleontological resources (fossils). Cultural artifacts are of potential scientific or cultural importance and include bones, tools, historic buildings, and features. Paleontological resources can be of scientific importance and include mineralized animals and plants or trace fossils such as footprints. Both cultural and paleontological resources are protected by Federal Regulations during Federal construction projects.

2. KNOWN CULTURAL OR PALEONTOLOGICAL SITES: Following issuance of notice to proceed, Western will provide two sets of plan and profile drawings showing sensitive areas located on or immediately adjacent to the transmission line right-of-way and/or facility. These areas shall be considered avoidance areas. Prior to any construction activity, the avoidance areas shall be marked on the ground in a manner approved by the COR. Instruct employees, subcontractors, and others that vehicular or equipment access to these areas is prohibited. If access is absolutely necessary, first obtain approval from the COR. Ground markings shall be maintained throughout the duration of the contract. Western will remove the markings during or following final cleanup. For some project work, Western will require an archaeological, paleontological or tribal monitor at or near cultural or paleontological site locations. The contractor will work with the monitor to identify avoidance areas.

3. UNKNOWN CULTURAL OR PALEONTOLOGICAL SITES: On rare occasions cultural or paleontological sites may be discovered during excavation or other earth-moving activities.

   (1) Reporting: If evidence of a cultural or paleontological site is discovered, immediately notify the COR and give the location and nature of the findings. Stop all activities within a 50-foot radius of the discovery and do not proceed with work within that radius until directed to do so by the COR.

   (2) Care of Evidence: Do not damage artifacts or fossils uncovered during construction.

4. CONTRACT ADJUSTMENTS: Where appropriate by reason of delays caused by a discovery, the Contracting Officer may make adjustments to contract requirements.

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SECTION 13.5--NOXIOUS WEED CONTROL

1. GENERAL: Comply with Federal, state, and local noxious weed control regulations. Provide a "clean vehicle policy" while entering and leaving construction areas to prevent transport of noxious weed plants and/or seed. Transport only construction vehicles that are free of mud and vegetation debris to staging areas and the project right-of-way.

SECTION 13.6--RECYCLED MATERIAL QUANTITIES

1. GENERAL: Record quantities of the following material by category that is salvaged, recycled, reused, or reprocessed:

   (1) Transformers, Breakers: Weight without oil.

   (2) Electrical Conductors: Length in feet and Type (for example, ACSR, Copper, and gauge).

   (3) Structural Steel: Weight in pounds or tons.

   (4) Aluminum Buswork: Weight in pounds or tons.

   (5) Other Metals: Weight in pounds or tons.

   (6) Oil: Gallons (separate by type - less than 2 ppm PCB, 2 to 50 ppm PCB, and 50 or greater ppm PCB).

   (7) Gravel, Asphalt, Or Concrete: Weight in pounds or tons.

   (8) Batteries: Weight in pounds.

   (9) Wood Poles and Crossarms: Weight in pounds.

2. RECYCLED MATERIAL QUANTITY REPORT: Submit quantities for recycled material listed above to the COR after completion and prior to submittal of final invoice.

SECTION 13.7--USE OF PRODUCTS CONTAINING RECOVERED MATERIAL

1. GENERAL: If the products listed below are obtained as part of this project, purchase the items with the highest recovered material content possible unless recovered material content products are not available: 1) competitively within a reasonable time frame; 2) that meet performance criteria defined in the Standards or Project Specifications; or 3) at a reasonable price.

   (1) Construction Products:

   - Building Insulation Products
   - Carpet
   - Carpet cushion
   - Cement and concrete containing coal fly ash or ground granulated blast furnace slag
   - Consolidated and reprocessed latex paint
   - Floor Tiles
   - Flowable fill
   - Laminated Paperboard
   - Patio Blocks
   - Railroad grade crossing surfaces
   - Shower and restroom dividers/partitions

- Structural Fiberboard

(2) Landscaping Products:

- Compost made from yard trimmings or food waste
- Garden and soaker hoses
- Hydraulic Mulch
- Lawn and garden edging
- Plastic lumber landscaping timbers and posts

(3) Non-paper Office Products:

- Binders, clipboards, file folders, clip portfolios, and presentation folders
- Office recycling containers
- Office waste receptacles
- Plastic desktop accessories
- Plastic envelopes
- Plastic trash bags
- Printer ribbons
- Toner cartridges

(4) Paper and Paper Products:

- Commercial/industrial sanitary tissue products
- Miscellaneous papers
- Newsprint
- Paperboard and packaging products
- Printing and writing papers

(5) Park and Recreation Products:

- Park benches and picnic tables
- Plastic fencing
- Playground equipment
- Playground surfaces
- Running tracks

(6) Transportation Products:

- Channelizers
- Delineators
- Flexible delineators
- Parking stops
- Traffic barricades
- Traffic cones

(7) Vehicular Products:

- Engine coolants
- Re-refined lubricating oils
- Retread tires

(8) Miscellaneous Products:

- Awards and plaques
- Industrial drums
- Manual-grade strapping
- Mats
- Pallets
- Signage
- Sorbents

(9) For a complete listing of products and recommendations for recovered content, see http://www.epa.gov/cpg/products.htm

2. PRODUCTS CONTAINING RECOVERED MATERIAL REPORT: Provide the COR the following information for purchases of those items listed above:

(1) Quantity and cost of listed items with recovered material content and quantity and cost of listed items without recovered material content after completion and prior to submittal of final invoice.

(2) Written justification 7 days prior to purchase of listed items if recovered material content products are not available: 1) competitively within a reasonable time frame; 2) that meet performance criteria defined in the Standards or Project Specifications; or 3) at a reasonable price.

SECTION 13.8--DISPOSAL OF WASTE MATERIAL

1. GENERAL: Dispose or recycle waste material in accordance with applicable Federal, State and Local regulations and ordinances. In addition to the requirements of the Contract Clause “Cleaning Up”, remove all waste material from the construction site. No waste shall be left on Western property, right-of-way, or easement. Burning or burying of waste material is not permitted.

2. HAZARDOUS, UNIVERSAL, AND NON-HAZARDOUS WASTES: Manage hazardous, universal, and non-hazardous wastes in accordance with State and Federal regulations.

3. USED OIL: Used oil generated from the Contractor activities shall be managed in accordance with used oil regulations.

4. RECYCLABLE MATERIAL: Reduce wastes, including excess Western material, by recycling, reusing, or reprocessing. Examples of recycling, reusing, or reprocessing include reprocessing of solvents; recycling cardboard; and salvaging scrap metals.

5. REFRIGERANTS AND RECEIPTS: Refrigerants from air conditioners, water coolers, refrigerators, ice machines and vehicles shall be reclaimed with certified equipment operated by certified technicians if the item is to be disposed. Refrigerants shall be reclaimed and not vented to the atmosphere. A receipt from the reclaimer stating that the refrigerant was reclaimed, the amount and type of refrigerant, and the date shall be submitted to the COR after completion and prior to submittal of final invoice.

6. HALONS: Equipment containing halons that must be tested, maintained, serviced, repaired, or disposed must be handled according to EPA requirements and by technicians trained according to those requirements.

7. SULFUR HEXAFLOURIDE (SF6): SF6 shall be reclaimed and not vented to the atmosphere.

8. WASTE MATERIAL QUANTITY REPORT: Submit quantities of total project waste material disposal as listed below to the COR after completion and prior to submittal of final invoice.

   (1) Sanitary Wastes: Volume in cubic yards or weight in pounds.

   (2) Hazardous or Universal Wastes: Weight in pounds.

   (3) PCB Wastes: Weight in pounds.

   (4) Other regulated wastes (e.g., lead-based paint or asbestos): Weight in pounds (specify type of waste in report).

SECTION 13.9--CONTRACTOR'S LIABILITY FOR REGULATED MATERIAL INCIDENTS

1. GENERAL: The Contractor is solely liable for all expenses related to spills, mishandling, or incidents of regulated material attributable to his actions or the actions of his subcontractors. This includes all response, investigation, cleanup, disposal, permitting, reporting, and requirements from applicable environmental regulation agencies.

2. SUPERVISION: The actions of the Contractor employees, agents, and subcontractors shall be properly managed at all times on Western property or while transporting Western's (or previously owned by Western) regulated material and equipment.

SECTION 13.10--POLLUTANT SPILL PREVENTION, NOTIFICATION, AND CLEANUP

1. GENERAL: Provide measures to prevent spills of pollutants and respond appropriately if a spill occurs. A pollutant includes any hazardous or non-hazardous substance that when spilled, will contaminate soil, surface water, or ground water. This includes any solvent, fuel, oil, paint, pesticide, engine coolants, and similar substances.

2. SPILL PREVENTION NOTIFICATION AND CLEANUP PLAN (Plan): Provide the Plan to the COR for approval 14 days prior to start of work. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. Include the following in the Plan:

   (1) Spill Prevention measures. Describe the work practices or precautions that will be used at the job site to prevent spills. These may include engineered or manufactured techniques such as installation of berms around fuel and oil tanks; Storage of fuels, paints, and other substances in spill proof containers; and management techniques such as requiring workers to handle material in certain ways.

   (2) Notification. Most States and the Environmental Protection Agency require by regulation, that anyone who spills certain types of pollutants in certain quantities notify them of the spill within a specific time period. Some of these agencies require written follow up reports and cleanup reports. Include in the Plan, the types of spills for which notification would be made, the agencies notified, the information the agency requires during the notification, and the telephone numbers for notification.

   (3) Employee Awareness Training. Describe employee awareness training procedures that will be implemented to ensure personnel are knowledgeable about the contents of the Plan and the need for notification.

   (4) Commitment of Manpower, Equipment and Material. Identify the arrangements made to respond to spills, including the commitment of manpower, equipment and material.

(5) If applicable, address all requirements of 40CFR112 pertaining to Spill Prevention, Control and Countermeasures Plans.

3. TANKER OIL SPILL PREVENTION AND RESPONSE PLAN: Provide a Tanker Oil Spill Prevention and Response Plan as required by the Department of Transportation if oil tankers with volume of 3,500 gallons or more are used as part of the project. Submit the Tanker Oil Spill Prevention and Response Plan to the COR for approval 14 days prior to start of work. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

SECTION 13.11--PESTICIDES

1. GENERAL: The term "pesticide" includes herbicides, insecticides, rodenticides and fungicides. Pesticides shall only be used in accordance with their labeling.

2. ENVIRONMENTAL PROTECTION AGENCY REGISTRATION: Use EPA registered pesticides.

3. PESTICIDE USE PLAN: The plan shall contain: 1) a description of the pesticide to be used, 2) where it is to be applied, 3) the application rate, 4) a copy of the label, and 5) a copy of required applicator certifications. Submit two copies of the pesticide use plan to the COR for approval 30 days prior to the date of intended application. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. Within seven days after application, submit a written report in accordance with Standard 2 – Sitework, Section 2.1.1.5, "Soil-Applied Herbicide".

SECTION 13.12--TREATED WOOD POLES AND MEMBERS RECYCLING OR DISPOSAL

Whenever practicable, treated wood poles and members removed during the project shall be recycled or transferred to the public for some uses. Treated wood poles and members transferred to a recycler, landfill, or the public shall be accompanied by a written consumer information sheet on treated wood as provided by Western. Obtain a receipt form, part of the consumer information sheet, from the recipient indicating that they have received, read, and understand the consumer information sheet. Treated wood products transferred to right-of-way landowners shall be moved off the right-of-way. Treated wood product scrap or poles and members that cannot be donated or reused shall be properly disposed in a landfill that accepts treated wood and has signed Western's consumer information sheet receipt. Submit treated wood pole and members consumer receipt forms to the COR after completion and prior to submittal of final invoice.

SECTION 13.13--PREVENTION OF AIR POLLUTION

1. GENERAL: Ensure that construction activities and the operation of equipment are undertaken to reduce the emission of air pollutants. Submit a copy of permits, if required, from Federal, State, or local agencies to the COR 14 days prior to the start of work.

2. MACHINERY AIR EMISSIONS: The Contractor and subcontractor machinery shall have, and shall use the air emissions control devices required by Federal, State or Local Regulation or ordinance.

3. DUST ABATEMENT: Dust shall be controlled. Oil shall not be used as a dust suppressant. Dust suppressants shall be approved by the COR prior to use.

STANDARD 13 - ENVIRONMENTAL QUALITY PROTECTION

SECTION 13.14--HANDLING AND MANAGEMENT OF ASBESTOS CONTAINING MATERIAL

1. GENERAL: Obtain the appropriate Federal, State or local licenses or certifications prior to disturbing any regulated asbestos-containing material. Submit a copy of licenses and/or certifications for asbestos work to the COR prior to work. Ensure: 1) worker and public safety requirements are fully implemented and 2) proper handling, transportation, and disposal of asbestos containing material.

2. TRANSPORTATION OF ASBESTOS WASTE: Comply with Department of Transportation, Environmental Protection Agency, and State and Local requirements when transporting asbestos wastes.

3. CERTIFICATES OF DISPOSAL AND RECEIPTS: Obtain certificate of disposals for waste if the waste is a hazardous waste or receipts if the waste is a non-hazardous waste. Submit copies to the COR after completion and prior to submittal of final invoice.

SECTION 13.15--MATERIAL WITH LEAD-BASED PAINT

1. GENERAL: Comply with all applicable Federal, State and local regulations concerning work with lead-based paint, disposal of material painted with lead-based paint, and management of these material. OSHA and General Industry Standards apply to worker safety and right-to-know issues. Federal EPA and State agencies regulate waste disposal and air quality issues.

2. TRANSFER OF PROPERTY: If lead-based paint containing equipment or material is to be given away or sold for reuse, scrap, or reclaiming, a written notice shall be provided to the recipient of the material stating that the material contains lead-based paint and the Hazardous Waste regulations may apply to the waste or the paint in some circumstances. The new owner must also be notified that they may be responsible for compliance with OSHA requirements if the material is to be cut, sanded, abraded, or stripped of paint. Submit a copy of lead paint notices to the COR upon completion and prior to submittal of final invoice.

3. CERTIFICATES OF DISPOSAL AND RECEIPTS: Obtain certificate of disposals for waste if the waste is a hazardous waste or receipts if the waste is a non-hazardous waste. Submit copies to the COR after completion and prior to submittal of final invoice.

SECTION 13.16--PREVENTION OF WATER POLLUTION

1. GENERAL: Ensure that surface and ground water is protected from pollution caused by construction activities and comply with applicable regulations and requirements.

2. PERMITS: Ensure that:

   (1) Streams, and other waterways or courses are not obstructed or impaired, unless the appropriate Federal, State or local permits have been obtained;

   (2) A National Pollutant Discharge Elimination System (NPDES) Permit for the Prevention of Stormwater Pollution from Construction Projects is obtained if required by State or Federal regulation; and

   (3) A dewatering permit is obtained from the appropriate agency if required for construction dewatering activities.

   (4) Submit copies of any water pollution permits to the COR prior to work.

3. EXCAVATED MATERIAL AND OTHER CONTAMINANT SOURCES: Control runoff from excavated areas and piles of excavated material, construction material or wastes (to include truck washing and concrete wastes), and chemical products such as oil, grease, solvents, fuels, pesticides, and pole treatment compounds. Excavated material or other construction material shall not be stockpiled or deposited near or on streambanks, lake shorelines, ditches, irrigation canals, or other areas where run-off could impact the environment.

4. MANAGEMENT OF WASTE CEMENT OR WASHING OF CEMENT TRUCKS: Do not permit the washing of cement trucks or disposal of excess cement in any ditch, canal, stream, or other surface water. Cement wastes shall be disposed in accordance with all Federal, State, and local regulations. Cement wastes shall not be disposed on any Western property, right-of-way, or easement; nor on any streets, roads, or property without the owner's consent.

5. STREAM CROSSINGS: Crossing of any stream or other waterway shall be done in compliance with Federal, State, and local regulations. Crossing of some waterways may be prohibited by landowners, State or Federal agencies or require permits.

SECTION 13.17--TESTING, DRAINING, REMOVAL, AND DISPOSAL OF OIL-FILLED ELECTRICAL EQUIPMENT

1. SAMPLING AND TESTING OF INSULATING OIL FOR PCB CONTENT: Sample and analyze the oil of electrical equipment for PCB's. Use analytical methods approved by EPA and applicable State regulations. Decontaminate sampling equipment according to documented good laboratory practices (these can be contractor developed or EPA standards). Use only laboratories approved by Western. The COR will furnish a list of approved laboratories.

2. PCB TEST REPORT: Provide PCB test reports that contain the information below for disposing of oil-filled electrical equipment. Submit the PCB test report prior to draining, removal, or disposal of oil or oil-filled equipment that is designated for disposal.

   - Name and address of the laboratory
   - Description of the electrical equipment (e.g. transformer, breaker)
   - Serial number for the electrical equipment.
   - Date sampled
   - Date tested
   - PCB contents in parts per million (ppm)
   - Unique identification number of container into which the oil was drained (i.e., number of drum, tank, tanker, etc.)

3. OIL CONTAINING PCB: Comply with the Federal regulations pertaining to PCBs found at Title 40, Part 761 of the U.S. Code of Federal Regulations (40 CFR 761).

4. REMOVAL AND DISPOSAL OF INSULATING OIL AND OIL-FILLED ELECTRICAL EQUIPMENT: Once the PCB content of the oil has been identified from laboratory results, the oil shall be transported and disposed, recycled, or reprocessed according to 40 CFR 761 (if applicable), Resource Conservation and Recovery Act (RCRA) "used oil", and other applicable regulations. Used oil may be transported only by EPA-registered used oil transporters. The oil must be stored in containers that are labeled "Used Oil." Use only U.S. transporters and disposal sites approved by Western.

5. OIL AND OIL-FILLED ELECTRICAL EQUIPMENT RECEIPT: Obtain and submit a receipt for oil and oil-filled equipment transported and disposed, recycled, or reprocessed to the COR upon completion and prior to submittal of final invoice.

STANDARD 13 - ENVIRONMENTAL QUALITY PROTECTION

SECTION 13.18--REMOVAL OF OIL-CONTAMINATED MATERIAL

1. GENERAL: Removing oil-contaminated material includes excavating, stockpiling, testing, transporting, cleaning, and disposing of these material. Personnel working with PCBs shall be trained in accordance with OSHA requirements. Submit employee training documentation records to the COR 14 days prior to the start of work.

2. CLEANUP WORK MANAGEMENT PLAN: Provide a Cleanup Work Management Plan that has been approved by applicable Federal, State, or Local environmental regulation agencies. Submit the plan to the COR for approval 14 days prior to the start of work. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. The plan shall address on-site excavation of contaminated soil and debris and include the following:

   - Identification of contaminants and areas to be excavated
   - Method of excavation
   - Level of personnel/subcontractor training
   - Safety and health provisions
   - Sampling requirements including quality control, laboratory to be used
   - Management of excavated soils and debris
   - Disposal methods, including transportation to disposal

3. EXCAVATION AND CLEANUP: Comply with the requirements of Title 40, Part 761 of the U.S. Code of Federal Regulations (40 CFR 761).

4. TEMPORARY STOCKPILING: Excavated material, temporarily stockpiled on site, shall be stored on heavy plastic and covered to prevent wind and rain erosion at a location designated by the COR.

5. SAMPLING AND TESTING: Sample contaminated debris and areas of excavation to ensure that contamination is removed. Use personnel with experience in sampling and, in particular, with experience in PCB cleanup if PCBs are involved. Use analytical methods approved by EPA and applicable State regulations.

6. TRANSPORTION AND DISPOSAL OF CONTAMINATED MATERIAL: The Contractor shall be responsible and liable for the proper loading, transportation, and disposal of contaminated material according to Federal, State, and local requirements. Use only U.S. transporters and disposal sites approved by Western.

7. POST CLEANUP REPORT: Provide a Post-Cleanup Report that describes the cleanup of contaminated soils and debris. Submit the report to the COR upon completion and prior to submittal of final invoice. The report shall contain the following information:

   - Site map showing the areas cleaned
   - Description of the operations involved in excavating, storing, sampling, and testing, and disposal
   - Sampling and analysis results including 1) Name and address of the laboratory, 2) sample locations, 3) sample dates, 4) analysis dates, 5) contents of contaminant (e.g. PCB or total petroleum hydrocarbons) in parts per million (ppm)
   - Certification by the Contractor that the cleanup requirements were met
   - Copies of any manifests, bills of lading, and disposal certificates
   - Copies of correspondence with regulatory agencies that support completion of the cleanup

STANDARD 13 - ENVIRONMENTAL QUALITY PROTECTION

SECTION 13.19—CONSERVATION OF NATURAL RESOURCES

1. GENERAL: Federal law prohibits the taking of endangered, threatened, proposed or candidate wildlife and plants, and destruction or adverse modification of designated Critical Habitat. Federal law also prohibits the taking of birds protected by the Migratory Bird Treaty Act. "Take" means to pursue, hunt, shoot, wound, kill, trap, capture or collect a protected animal or any part thereof, or attempt to do any of those things.

2. KNOWN OCCURRENCE OF PROTECTED SPECIES OR HABITAT: Following issuance of the notice to proceed, and prior to the start of construction, Western will provide training to all contractor and subcontractor personnel involved in the construction activity. Untrained personnel shall not be allowed in the construction area. Western shall provide two sets of plan and profile drawings showing sensitive areas located on or immediately adjacent to the transmission line right-of-way and/or facility. These areas shall be considered avoidance areas. Prior to any construction activity, the avoidance areas shall be marked on the ground in a manner approved by the COR. If access is absolutely necessary, first obtain permission from the COR, noting that a Western and/or other government or tribal agency biologist may be required to accompany personnel and equipment. Ground markings shall be maintained through the duration of the contract. Western will remove the markings during or following final inspection of the project.

3. UNKNOWN OCCURRENCE OF PROTECTED SPECIES OR HABITAT: If evidence of a protected species is found in the project area, the contractor shall immediately notify the COR and provide the location and nature of the findings. The contractor shall stop all activity in the vicinity of the protected species or habitat and not proceed until directed to do so by the COR.

4. CONTRACT ADJUSTMENTS: Where appropriate by reason of delays caused by a discovery, the Contracting Officer may make adjustments to contract requirements.

Western's Standard Mitigation Measures for Construction, Operation, and Maintenance of Transmission Lines

Mitigation

Measure

1. The contractor shall limit the movement of its crews and equipment to the right-of-way (ROW), including access routes. The contractor shall limit movement on the ROW so as to minimize damage to grazing land, crops, or property, and shall avoid marring the land.

2. When weather and ground conditions permit, the contractor shall obliterate all contractor-caused deep ruts that are hazardous to farming operations and to movement of equipment. Such ruts shall be leveled, filled, and graded, or otherwise eliminated in an approved manner. In hay meadows, alfalfa fields, pastures, and cultivated productive lands, ruts, scars, and compacted soils shall have the soil loosened and leveled by scarifying, harrowing, discing, or other approved methods. Damage to ditches, tile drains, terraces, roads, and other features of the land shall be corrected. Before final acceptance of the work in these agricultural areas, all ruts shall be obliterated, and all trails and areas that are hard-packed as a result of contractor operations shall be loosened, leveled, and reseeded. The land and facilities shall be restored as nearly as practicable to their original conditions.

3. Water bars or small terraces shall be constructed across all ROW and access roads on hillsides to prevent water erosion and to facilitate natural revegetation.

4. The contractor shall comply with all Federal, State, and local environmental laws, orders, and regulations. Prior to construction, all supervisory construction personnel and heavy equipment operators will be instructed on the protection of cultural and ecological resources.

5. The contractor shall exercise care to preserve the natural landscape and shall conduct its construction operations so as to prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the work. Except where clearing is required for permanent works, approved construction roads, or excavation operations, all trees, native shrubbery, and vegetation shall be preserved and shall be protected from damage by the contractor's construction operations and equipment. The edges of clearings and cuts through tree, shrubbery, or other vegetation shall be irregularly shaped to soften the undesirable visual impact of straight lines. Where such clearing occurs in the Lake Mead National Recreation Area, the contractor shall consult with the on-site Park Representative.

6. On completion of the work, all work areas except access roads shall be scarified or left in a condition which will facilitate natural revegetation, provide for proper drainage, and prevent erosion. All destruction, scarring, damage, or defacing of the landscape resulting from the contractor's operations shall be repaired by the contractor.

7. Construction staging areas shall be located and arranged in a manner to preserve trees and vegetation to the maximum practicable extent. On abandonment, all storage and construction

buildings, including concrete footings and slabs, and all construction materials and debris shall be removed from the site. The area shall be regraded as required so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion.

8. Borrow pits shall be excavated so that water will not collect and stand therein. Before being abandoned, the sides of borrow pits shall be brought to stable slopes, with slope intersections shaped to carry the natural contour of adjacent undisturbed terrain into the pit or borrow area giving a natural appearance. Waste piles shall be shaped to provide a natural appearance.

9. Construction activities shall be performed by methods that will prevent entrance, or accidental spillage, of solid matter contaminants, debris, any other objectionable pollutants and wastes into streams, flowing or dry watercourses, lakes, and underground water sources. Such pollutants and waste include, but are not restricted to refuse, garbage, cement, concrete, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailing, mineral salts, and thermal pollution.

10. Dewatering work for structure foundations or earthwork operations adjacent to, or encroaching on, streams or watercourses, shall be conducted in a manner to prevent muddy water and eroded materials from entering the streams or watercourses by construction of intercepting ditches, bypass channels, barriers, settling ponds, or by other approved means.

11. Excavated material or other construction materials shall not be stockpiled or deposited near or on stream banks, lake shorelines, or other watercourse perimeters where they can be wasted away by high water or storm runoff or can in any way encroach upon the actual watercourse itself.

12. Waste waters from concrete batching, or other construction operations shall not enter streams, watercourses, or other surface waters without the use of such turbidity control methods as settling ponds, gravel-filter entrapment dikes, approved flocculating processes that are not harmful to fish, recirculation systems for washing of aggregates, or other approved methods. Any such waste waters discharged into surface waters shall be essentially free of settleable material. For the purpose of these specifications, settleable material as defined as that material which will settle from the water by gravity during a 1-hour quiescent detention period.

13. The contractor shall utilize such practicable methods and devices as are reasonably available to control, present, and otherwise minimize atmospheric emissions or discharges of air contaminants.

14. The emission of dust into the atmosphere will not be permitted during the manufacture, handling, and storage of concrete aggregate, and the contractor shall use such methods and equipment as necessary for the collection and disposal, or prevention, of dust during these operations. The contractor's methods of storing and handling cement and pozzolans shall also include means of eliminating atmospheric discharges of dust.

15. Equipment and vehicles that show excessive emissions of exhaust gases due to poor engine adjustments, or other inefficient operating conditions, shall not be operated until repairs or adjustments are made.

16. The contractor shall prevent any nuisance to persons or damage to crops, cultivated fields, and dwellings from dust originating from his operations. Oil and other petroleum derivatives shall not be used for dust control. Speed limits shall be enforced, based on road conditions, to reduce dust problems.

17. To avoid nuisance conditions due to construction noise, all internal combustion engines used in connection with construction activity shall be fitted with an approved muffler and spark arrester.

18. Burning or burying waste materials on the ROW or at the construction site will be permitted if allowed by local regulations. The contractor shall remove all other waste materials from the construction area. All materials resulting from the contractor's clearing operations shall be removed from the ROW.

19. The contractor shall make all necessary provisions in conformance with safety requirements for maintaining the flow of public traffic and shall conduct its construction operations to offer the least possible obstruction and inconvenience to public traffic.

20. Western will apply necessary mitigation to eliminate problems of induced currents and voltages onto conductive objects sharing a ROW, to the mutual satisfaction to the parties involved.

21. Structures will be carefully located to avoid sensitive vegetative conditions, including wetlands, where practical.

22. ROW will be located to avoid sensitive vegetation conditions including wetlands where practical, or, if they are linear to cross them at the least sensitive feasible point.

23. Removal of vegetation will be minimized to avoid creating a swath along the ROW.

24. Topsoil will be removed, stockpiled, and respread at all heavily disturbed areas not needed for maintenance access.

25. All disturbed areas not needed for maintenance access will be reseeded using mixes approved by the landowner or land management agency.

26. Erosion control measures will be implemented on disturbed areas, including areas that must be used for maintenance operations (access ways and areas around structures).

27. The minimum area will be used for access ways (12 feet to 15 feet wide, except where roadless construction is used).

28. Structures will be located and designed to conform with the terrain. Leveling and benching of the structure sites will be the minimum necessary to allow structure assembly and erection.

29. ROW will be located to utilize the least steep terrain and, therefore, to disturb the smallest area feasible.

30. Careful structure location will ensure spanning of narrow flood prone areas.

31. Structures will not be sited on any potentially active faults.

32. Structure sites and other disturbed areas will be located at least 300 feet, where practical, from rivers, streams (including ephemeral streams), ponds, lakes, and reservoirs.

33. New access ways will be located at least 300 feet, where practical, from rivers, ponds, lakes, and reservoirs.

34. At crossings of perennial streams by new access ways, culverts of adequate size to accommodate the estimated peak flow of the stream will be installed. Construction areas will minimize disturbance of the stream banks and beds during construction. The mitigation measures listed for soil/vegetation resources will be performed on areas disturbed during culvert construction.

35. If the banks of ephemeral stream crossings are sufficiently high and steep that breaking them down for a crossing would cause excessive disturbance, culverts will be installed using the same measures as for culverts on perennial streams.

36. Blasting will not be allowed.

37. Power line structures will be located, where practical, to span small occurrences of sensitive land uses, such as cultivated areas. Where practicable, construction access ways will be located to avoid sensitive conditions.

38. ROW will be purchased at fair market value and payment will be made of full value for crop damages or other property damage during construction or maintenance.

39. The Power line will be designed to minimize noise and other effects from energized conductors.

40. The precise location of all structure sites, ROW, and other disturbed areas will be determined in cooperation with landowners or land management agencies.

41. Crossing of operating railroads by construction vehicles or equipment in a manner that would cause delays to railroad operations will be avoided. Construction will be coordinated with railroad operators. Conductors and overhead wire string operations would use guard structures to eliminate delays.

42. Before construction, Western will perform a Class III (100 percent of surface) cultural survey on all areas to be disturbed, including structure sites and new access ways. These surveys will be coordinated with the appropriate land owner or land management agency. A product of the survey will be a Cultural Resources Report recording findings and suggesting mitigation measures. These findings will be reviewed with the State Historic Preservation Offices and other appropriate agencies, and specific mitigation measures necessary for each site or resource will be determined. Mitigation may include careful relocation of access ways, structure sites, and other disturbed areas to avoid cultural sites that should not be disturbed, or data recovery.

43. The contractor will be informed of the need to cease work in the location if cultural resource items are discovered.

44. Construction activities will be monitored or sites flagged to prevent inadvertent destruction of any cultural resource for which the agreed mitigation was avoidance.

45. Construction crews will be monitored to the extent possible to prevent vandalism or unauthorized removal or disturbance of cultural artifacts or materials from sites where the agreed mitigation was avoidance.

46. Should any cultural resources that were not discovered during the Class III Survey be encountered during construction, ground disturbance activities at that location will be suspended until the provisions of the National Historic Preservation Act and enabling legislation have been carried out.

47. Construction activities will be monitored or significant locations flagged to prevent inadvertent destruction of any paleontological resource for which the agreed mitigation was avoidance.

48. Clearing for the access road will be limited to only those trees necessary to permit the passage of equipment.

49. The access road will follow the lay of the land rather than a straight line along the ROW where steep features would result in a higher disturbance.

APPENDIX C – BIOLOGICAL TABLES

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Table 9-1 Vegetation Removal		
Structure	**Temporary Impact (acres)**	**Permanent Impact (acres)**
PVH-PW	---	---
PW-TTT	---	---
TTT-Thornton Road	---	0.30
Thornton Road – ED5	---	---
Test Track Substation	---	1.10
Casa Grande Substation	---	8.32
ED5 Substation	---	3.90 to 5.90
Pulling Sites	35.00	---
Total	**35.00**	**13.62 to 15.62**

Table 9-2 List of Threatened and Endangered Species that May Occur in the Project Area		
Common Name	**Scientific Name**	**Status[1]**
Lesser long-nosed bat	*Leptonycteris curasoae yerbabuenae*	ESA LE
Southwestern willow flycatcher	*Empidonax traillii extimus*	ESA LE
Yuma clapper rail	*Rallus longirostris yumanensis*	ESA LE
Sonoran desert tortoise	*Gopherus agassizii*	ESA C
Tucson shovel-nosed snake	*Chionactis occipitalis klauberi*	ESA C

[1] Status Definitions: ESA=Endangered Species Act, LE=Listed Endangered, PT=Proposed Threatened, C=Candidate. *Source*: US Fish and Wildlife Service list of threatened, endangered, proposed, candidate, and conservation agreement species for Maricopa and Pinal Counties, AZ. List Date: December 13, 2010 (http://www.fws.gov/southwest/es/arizona/).

Table 9-3 List of Sensitive and Special Status Species that May Occur in the Project Area		
Species Name	**Scientific Name**	**Status[1]**
Cactus ferruginous pygmy-owl	*Claucidium brasilianum cactorum*	AGFD WSC, Delisted*
Burrowing owl	*Athene cunicularia hypugaea*	BLM S, MBTA

[1] Status Definitions: AGFD=Arizona Game and Fish Department, WSC=Wildlife of Special Concern, BLM=Bureau of Land Management, S=Sensitive, MBTA=Migratory Bird Treaty Act. *Source*: Western reports. *Cactus ferruginous pygmy-owl was evaluated due to its potential for relisting.

Table 9-4 Priority Areas and Associated Structure Locations		
Habitat Type	**Structure Numbers**	**Management Concerns**
Creosotebush-bursage Series	19/2 to 20/5	• Habitat for TSNS; patchy yet relatively undisturbed
Dense Riparian Scrubland	23/3 to 24/1	• Potential habitat for resident CFPOs • Travel corridor for LLNB and WIFL

TSNS=Tucson shovel-nosed snake, CFPO=Cactus ferruginous pygmy-owl, LLNB=Lesser long-nosed bat, WIFL=Southwestern willow flycatcher

APPENDIX D – CULTURAL RESOURCES PROPERTIES

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Table 10-1 Cultural Resources Properties in the Project Area				
Site No. or Property Name	**Description**	**NRHP Eligibility**	**Project Impacts**	**Land Status**
PALO VERDE HUB – PINAL WEST				
AZ T:9:5(ASM)	Prehistoric artifact scatter	Eligible, criterion d	None	ASLD
AZ T:9:60(ASM)	Historic artifact scatter	Not eligible	None	Private
AZ T:9:63(ASM)	Historic road	Not eligible	None	County/City
AZ T:10:84(ASM) Southern Pacific Railroad: Wellton-Phoenix-Eloy Spur	Historic railroad	Eligible, criterion a	None	Private
AZ T:13:18(ASM) Gillespie Dam	Prehistoric village, historic canal	Eligible, criterion d	None	Private
AZ T:13:21(ASM)	Prehistoric and historic artifact scatter	Eligible, criterion d	None	Private
AZ T:13:121(ASM)	Prehistoric petroglyphs	Eligible, criterion d	None	Private
AZ T:13:125(ASM)	Prehistoric artifact scatter and rock features	Eligible, criterion d	None	BLM
AZ T:14:137(ASM)	Historic road	Not eligible	None	BLM
AZ T:15:7(ASM)	Prehistoric artifact scatter	Requires testing	None	Private
AZ T:15:9(ASM)	Historic artifact scatter and corral	Eligible, criterion d	None	BLM
AZ T:15:35(ASM)	Prehistoric cobble clusters	Not eligible	None	BLM
AZ T:15:36(ASM)	Historic homestead	Eligible, d	None	BLM
AZ T:15:37(ASM)	Prehistoric lithic reduction area	Not eligible	None	BLM
AZ T:16:149(ASM)	Prehistoric rock scatter	Not eligible	None	BLM
AZ T:16:159(ASM)	Historic homestead	Not eligible	None	Private
AZ Z:2:66(ASM) Gila Bend Canal	Historic canal	Eligible, criteria a and b	None	Private
AZ CC:2:43(BLM) Enterprise Canal	Historic canal	Eligible; criteria a, c, and d	None	Private
AZ FF:9:17(ASM) Old US 80 Highway	Historic road	Eligible, criteria a and d	None	Maricopa County
AZ T:15:32(ASM) Butterfield Stage Route	Historic road	Eligible, criterion a	None	County/City
AZ T:15:45(ASM)	Historic trash dump	Not eligible	None	Private
AZ T:15:46(ASM)	Historic artifact scatter and ranching features	Eligible, criterion d	None	Private
AZ T:15:47(ASM) State Route 238	Historic road	Not eligible	None	ADOT
AZ Z:2:40(ASM) Southern Pacific Railroad Mainline	Historic railroad	Eligible, criterion a	None	Private
PINAL WEST – TEST TRACK AND TEST TRACK – THORNTON ROAD				
AZ Z:4:41(ASM)	Prehistoric artifact scatter	Not eligible (destroyed)	None	Private

Table 10-1 Cultural Resources Properties in the Project Area				
Site No. or Property Name	**Description**	**NRHP Eligibility**	**Project Impacts**	**Land Status**
AZ AA:1:95(ASM) Maricopa–Saguaro 115-kV Transmission Line	Historic transmission line	Not eligible	Existing four structures are within site boundary	ASLD, Western
AZ AA:2:118(ASM) Historic State Route 84	Historic road	Eligible, criterion d	Highway is spanned	ADOT
AZ AA:1:183(ASM)	Prehistoric artifact scatter	Eligible, criterion d	Avoid	ADOT
AZ AA:1:104(ASM)	Historic artifact scatter and structure foundations	Eligible, criterion d	Avoid	County/City
AZ AA:1:134(ASM) Montgomery Road	Historic road	Not eligible	Road is spanned	County/City
AZ AA:1:233(ASM)	Historic artifact scatter	Not eligible	None	Private
AZ AA:1:234(ASM)	Historic artifact scatter	Not eligible	None	Private
AZ AA:1:129(ASM) Midway Road	Historic road	Not eligible	Road is spanned	County/City
AZ AA:1:132(ASM) Bianco Road	Historic road	Not eligible	Road is spanned	County/City
THORNTON ROAD – ELECTRIAL DISTRICT NUMBER 5				
AZ AA:1:95(ASM) Maricopa–Saguaro 115-kV Transmission Line	Historic transmission line	Not eligible	Existing four structures are within site boundary	ASLD, Western, adjacent to Tohono O'odham Nation
AZ AA:1:104(ASM)	Historic artifact scatter and structure foundations	Eligible, criterion d	Improvements to utilize existing structures, ground disturbance would be avoided	Private
AZ AA:2:218(ASM) Hanna Road	Historic road	Not eligible	Road is spanned	County/City
AZ AA:1:235(ASM) EPNG Pipeline No. 20109	Historic pipeline	Unevaluated	Pipeline is spanned; there will be no subsurface work that could impact the pipeline	ASLD, private
AZ AA:1:236(ASM)	Historic artifact scatter	Not eligible	None	ASLD
AZ AA:1:237(ASM)	Prehistoric and historic artifact scatter	Eligible, criterion d (prehistoric component only)	One structure is replaced within the site boundary	ASLD, private
AZ AA:1:99(ASM)	Prehistoric artifact scatter	Requires testing	Site is spanned. Site can be completely avoided by limiting construction-related travel to the eastern part of the ROW	Private
AZ AA:1:238(ASM) Chuichu Road	Historic road	Not eligible	Road is spanned	County/City

Table 10-1 Cultural Resources Properties in the Project Area				
Site No. or Property Name	**Description**	**NRHP Eligibility**	**Project Impacts**	**Land Status**
AZ AA:1:239(ASM)	Prehistoric artifact scatter	Requires testing	Site is spanned. Site can be completely avoided by limiting construction-related travel to the western part of the ROW	Private
AZ AA:1:131(ASM) Shedd Road	Historic road	Not eligible	Road is spanned	County/City
AZ AA:2:320(ASM) Houser Road	Historic road	Not eligible	Road is spanned	County/City
AZ AA:2:124(ASM)	Prehistoric artifact scatter	Requires testing	Four structures are replaced within the site boundary	ASLD
AZ CC:16:24(ASM) EPNG Pipeline No. 1100	Historic pipeline	Unevaluated	Pipeline is spanned; there will be no subsurface work that could impact the pipeline	ASLD, private
AZ AA:2:321(ASM)	Prehistoric lithic reduction area	Eligible, criterion d	Site is spanned. Site can be completely avoided by limiting construction-related travel to the northern part of the ROW	ASLD
AZ AA:2:322(ASM)	Historic water control device	Not eligible	None	ASLD
AZ AA:2:323(ASM) Battaglia Road	Historic road	Not eligible	Road is spanned	County/City
AZ AA:2:125(ASM)	Prehistoric artifact scatter	Eligible, criterion d	Two structures are within the site boundary	ASLD
AZ AA:2:324(ASM)	Historic canal	Not eligible	None	ASLD
AZ AA:6:52(ASM)	Prehistoric artifact scatter	Not eligible (destroyed)	None	ASLD
AZ AA:6:82(ASM) Alsdorf Road	Historic road	Not eligible	Road is spanned	ASLD
AZ AA:2:189(ASM)	Historic road	Not eligible	Road is spanned	ASLD, private
AZ AA:6:53(ASM)	Prehistoric artifact scatter	Not eligible	One structure is near the site	ASLD
AZ AA:6:23(ASM)	Prehistoric artifact scatter	Not eligible	Site lies between two structures	ASLD
AZ AA:6:243(ASM) Lamb Road	Historic road	Not eligible	Road is spanned	County/City
AZ AA:6:54(ASM)	Prehistoric artifact scatter	Eligible, criterion d	One structure iswithin the site boundary	Private
AZ AA:6:55(ASM)	Prehistoric artifact scatter	Requires testing	Access to two structures would occur across the site	Private

Table 10-1 Cultural Resources Properties in the Project Area				
Site No. or Property Name	**Description**	**NRHP Eligibility**	**Project Impacts**	**Land Status**
AZ AA:6:56(ASM)	Prehistoric artifact scatter	Eligible, criterion d	Seven structures are within the site boundary	ASLD, private
AZ AA:6:241(ASM) Sunland Gin Road	Historic road	Not eligible	Road is spanned	ASLD, County/City
AZ AA:6:173(ASM)	Historic road	Not eligible	Road is spanned	ASLD
AZ AA:6:174(ASM)	Historic artifact scatter	Not eligible	None	ASLD
AZ AA:6:57(ASM)	Prehistoric artifact scatter	Not eligible	Site lies between two structures that would be replaced	ASLD
AZ AA:6:175(ASM) Overfield Road	Historic road	Not eligible	Road is spanned	ASLD
AZ AA:6:239(ASM) Harmon Road	Historic road	Not eligible	Road is spanned	ASLD
AZ AA:6:58(ASM)	Prehistoric artifact scatter	Not eligible (destroyed)	None	ASLD
AZ AA:6:248(ASM) Toltec Buttes Road	Historic road	Not eligible	Road is spanned	ASLD, County/City
AZ AA:6:176(ASM) Empire Substation	Historic substation	Not eligible	None	APS
AZ AA:6:59(ASM)	Prehistoric artifact scatter	Not eligible	None	ASLD
AZ AA:6:60(ASM)	Prehistoric artifact scatter	Not eligible	None	ASLD, private
AZ AA:6:177(ASM) Hotts Road	Historic road	Not eligible	Road is spanned	ASLD, County/City
AZ AA:6:178(ASM) Pretzer Road	Historic road	Not eligible	Road is spanned	County/City
AZ AA:6:250(ASM) Greene Reservoir Road	Historic road	Not eligible	Road is spanned	County/City
AZ AA:6:179(ASM)	Historic road	Not eligible	Road is spanned	Private
AZ AA:6:246(ASM) Toltec Highway	Historic road	Not eligible	Road is spanned	County/City
AZ AA:6:249(ASM) Curtis Road	Historic road	Not eligible	Road is spanned	ASLD, County/City
AZ AA:6:180(ASM) Curry Road	Historic road	Not eligible	Road is spanned	County/City
AZ AA:6:181(ASM) Tweedy Road	Historic road	Not eligible	Road is spanned	County/City
AZ AA:6:182(ASM) ED-5 Substation	Historic substation	Not eligible	None	Western

APPENDIX E – SOCIOECONOMICS TABLES

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Table 11-1 2000 Population and Racial Demographics

Area	Total Population	White Alone		Black or African American Alone		American Indian and Alaska Native Alone		Asian Alone		Native Hawaiian and Other Pacific Islander Alone		Some Other Race Alone		Two or More Races		Hispanic or Latino	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Block Group 1, Census Tract 506.02, Maricopa County, Arizona	2,112	1,615	76.5	15	0.7	49	2.3	10	0.5	0	0.0	336	15.9	87	4.1	712	33.7
Block Group 3, Census Tract 506.03, Maricopa County, Arizona	183	170	92.9	0	0.0	0	0.0	0	0.0	0	0.0	13	7.1	0	0.0	84	45.9
Block Group 1, Census Tract 7233.02, Maricopa County, Arizona	2,519	1,941	77.1	40	1.6	23	0.9	11	0.4	0	0.0	396	15.7	108	4.3	653	25.9
Block Group 2, Census Tract 7233.02, Maricopa County, Arizona	2,562	1,211	47.3	21	0.8	510	19.9	13	0.5	0	0.0	694	27.1	113	4.4	1,157	45.2
Block Group 3, Census Tract 15, Pinal County, Arizona	786	359	45.7	77	9.8	12	1.5	17	2.2	0	0.0	295	37.5	26	3.3	448	57.0
Block Group 3, Census Tract 16, Pinal County, Arizona	1,538	998	64.9	11	0.7	18	1.2	0	0.0	0	0.0	480	31.2	31	2.0	777	50.5
Block Group 2, Census Tract 17, Pinal County, Arizona	2,593	1,416	54.6	17	0.7	87	3.4	24	0.9	0	0.0	897	34.6	152	5.9	1,620	62.5
Block Group 3, Census Tract 17, Pinal County, Arizona	5,139	3,519	68.5	77	1.5	168	3.3	0	0.0	0	0.0	1,034	20.1	341	6.6	2,090	40.7
All Block Groups	17,432	11,229	64.4	258	1.5	867	5.0	75	0.4	0	0.0	4,145	23.8	858	4.9	7,541	43.3
Maricopa County	3,072,149	2,376,359	77.4	114,551	3.7	56,706	1.8	66,445	2.2	4,406	0.1	364,213	11.9	89,469	2.9	763,341	24.8
Pinal County	179,727	126,670	70.5	4,889	2.7	13,261	7.4	993	0.6	241	0.1	27,535	15.3	6,138	3.4	53,782	29.9
Casa Grande	25,321	16,316	64.4	1,006	4.0	1,019	4.0	196	0.8	108	0.4	5,663	22.4	1,013	4.0	10,094	39.9
Gila Bend	1,944	929	47.8	21	1.1	198	10.2	13	0.7	0	0.0	672	34.6	111	5.7	1,059	54.5
Maricopa	1,080	641	59.4	23	2.1	49	4.5	0	0.0	0	0.0	308	28.5	59	5.5	848	78.5

Source: USCB 2000

Table 11-2 Age 60 Years and Over, Below Poverty Level, Disabled, and Female Head of Household Populations

Area	Total Population	Age 60 Years and Over		Below Poverty Level		Disabled		Female head of Household	
		#	%	#	%	#	%	#	%
Block Group 1, Census Tract 506.02, Maricopa County, Arizona	2,112	299	14.2	442	21.0	408	20.9	172	24.4
Block Group 3, Census Tract 506.03, Maricopa County, Arizona	183	16	8.7	48	26.2	13	7.6	4	5.4
Block Group 1, Census Tract 7233.02, Maricopa County, Arizona	2,519	251	10.0	258	10.2	398	17.1	97	12.5
Block Group 2, Census Tract 7233.02, Maricopa County, Arizona	2,562	337	13.2	684	26.8	430	18.4	217	25.9
Block Group 3, Census Tract 15, Pinal County, Arizona	786	119	15.1	140	18.0	188	25.3	70	29.9
Block Group 3, Census Tract 16, Pinal County, Arizona	1,538	293	19.1	263	17.3	372	26.6	82	16.3
Block Group 2, Census Tract 17, Pinal County, Arizona	2,593	266	10.3	673	26.0	566	24.3	147	18.5
Block Group 3, Census Tract 17, Pinal County, Arizona	5,139	672	13.1	725	14.3	1156	24.5	316	19.0
All Block Groups	17,432	2,253	12.9	3,233	18.7	3,531	22.1	1,105	19.8
Maricopa County	3,072,149	465,849	15.2	355,668	11.7	478,892	17.1	303,905	26.8
Pinal County	179,727	38,665	21.5	27,816	16.9	35,207	22.9	15,136	24.6
Casa Grande	25,321	4,227	16.7	4,024	16.0	4,789	20.9	2,679	30.3
Gila Bend	1,944	240	12.3	481	24.8	295	16.8	170	26.3
Maricopa	1,080	97	9.0	245	23.4	217	22.8	91	32.4

Source: USCB 2000

APPENDIX F – SCOPING EFFORTS

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Department of Energy
Western Area Power Administration
Desert Southwest Customer Service Region
P.O. Box 6457
Phoenix, AZ 85005-6457

February 10, 2011

Ms. Karla Petty
Division Administrator
Federal Highway Administration
4000 N. Central Ave., Ste. 1500
Phoenix, AZ 85012-1906

RE: Hassayampa Tap - ED5 Construction and Rebuild for a Transmission Line
DOE/EA-1864

Dear Ms. Petty:

Western Area Power Administration (Western), a Power Marketing Agency within the U.S. Department of Energy, plans to enhance its southern Arizona transmission system by 1) upgrading an existing transmission line; 2) building a new transmission line; and 3) obtaining capacity on an existing transmission line. The proposed project consists of segments of four transmission lines (see Figure 1). One segment, the Palo Verde (Hassayampa Tap) – Pinal West Substation (PV-PW), is owned by Salt River Project (SRP) and was energized in 2008. Western intends to acquire rights to transmit power over the SRP's PV-PW line. No new construction is required for this segment. The scope of work for the remaining three segments of the Hassayampa Tap – Electric District 5 (ED5) project consists of the following details.

Pinal West – Test Track

- Erecting new steel monopole or H-frame structures and turning structures
- Installing 500-kV conductors
- Stringing an overhead fiber optic or static ground wire or some combination
- Expanding Test Track Substation and connect with SRP's Duke Substation
- This segment would be owned by SRP and Western would acquire rights to transmit power over the SRP lines

Test Track – Thornton Road

- Erecting new steel monopole or H-frame structures and turning structures
- Installing double circuit 230/500-kV conductors
- Stringing an overhead fiber optic or static ground wire or some combination
- This segment would be owned by SRP and Western would acquire rights to transmit power over the SRP lines

Thornton Road –ED5

- Removing existing wooden H-frame structures and single circuit conductors
- Erecting new steel monopole or H-frame structures and turning structures
- Installing double circuit 115/230-kV transmission line
- Stringing an overhead fiber optic or static ground wire or some combination
- Expanding the Casa Grande and ED5 Substations
- Re-routing approximately a half of mile of the transmission line for connection to the ED5 Substation
- This section is owned and operated by Western

The project is located on private and Arizona State Trust lands within Maricopa and Pinal counties, Arizona. The project areas of potential effect include the existing and proposed transmission line rights-of-way (ROW), staging areas, pulling locations, access points, and upgrades to other electrical facilities. The ROWs for the segments vary between 100 to 600 feet.

As part of the project tasks, Western will address the following issues:

- **Cultural Resource Inventory:** Western will consult with the Arizona State Historic Preservation Offices regarding these projects.
- **Biological Resources:** Western will evaluate the habitat, threatened and endangered species, and sensitive species that may be impacted by the project.
- **National Environmental Policy Act (NEPA):** Western will prepare an environmental assessment (EA) to evaluate project-related impacts to resources in the area. The EA will use previous environmental documents including: Bureau of Land Management's EA completed for the PV-PW in 2004; Categorical Exclusions completed for the Thornton Road – ED5, Casa Grande Substation – Empire Substation, and Casa Grande Substation – Saguaro Substation; and the Certificate of Environmental Compatibility for the Pinal West to Southeast Valley – Browning project. Finally, the EA will evaluate the Preferred Alternative and the "No Build" Alternative for the planned transmission line.

Based on the completion of the NEPA EA, the new and upgraded of the transmission lines and improvements to the substations are anticipated to be complete by the summer of 2012.

This letter serves as our agency's invitation to review the project based upon the scope of work outlined above. If you have any specific concerns or suggestions pertaining to this project, please let us know. Address your comments or concerns to Mr. Greg Wold via mail at AZTEC, 4561 E. McDowell Road, Phoenix, AZ 85008; via e-mail at gwold@aztec.us; via phone at 602.458.7481, or via fax at 602.454.0403. Please submit your comments by **March 17, 2011**.

Thank you for your time, and Western appreciates your continued assistance. If you have any questions, please contact Ms. Linette King at 602.605.2434, or Mr. Greg Wold at 602.458.7481.

Sincerely,

John R. Holt
Environmental Manager

Attachment: Figure 1 – Project Vicinity Map

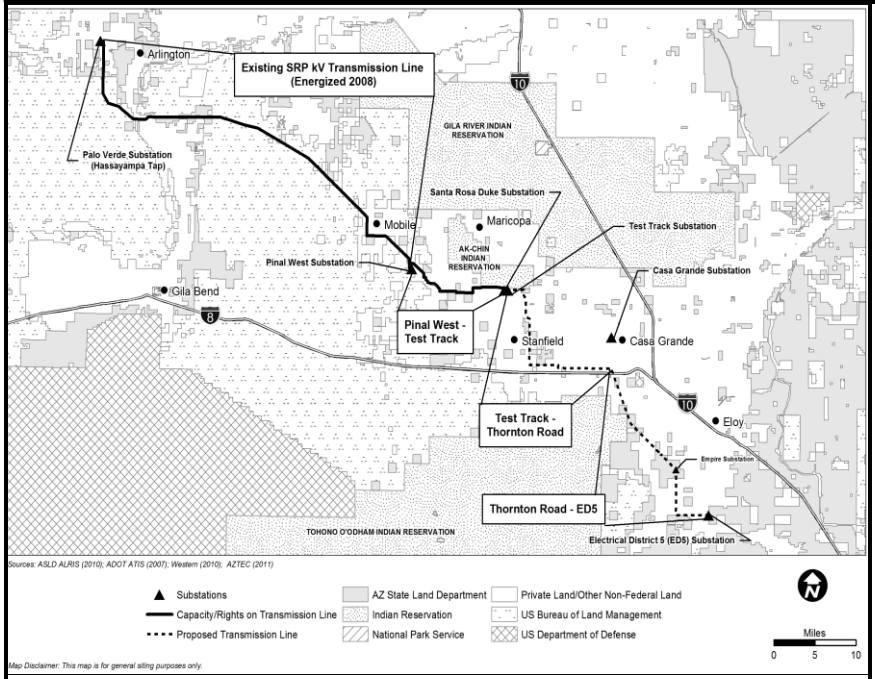
c: Mr. Todd Rhoades, Western
Ms. Linette King, Western
Ms. Pam Shield, Western

Notification Agency Scoping List

Title	First_Name	Last_Name	Position	Company	Address	City	State	Postal_Code	Phone No.	E-mail
Ms.	Laura	Canaca	Project Evaluation Program Supervisor	Arizona Game & Fish Dept.	5000 W. Carefree Hwy.	Phoenix	AZ	85086-5000		LCanaca@azgfd.gov
Ms.	Sherry	Barrett	Assistant Field Supervisor for Southern Arizona	U.S. Fish & Wildlife Service	201 N. Bonita Ave., Ste. 141	Tucson	AZ	85745		
Mr.	Steve	Spangle	Field Supervisor	U.S. Fish & Wildlife Service	2321 W. Royal Palm Rd., Ste. 103	Phoenix	AZ	85021		Steve_Spangle@fws.gov
Ms.	Maria	Baier	State Land Commissioner	Arizona State Land Department	1616 W. Adams St.	Phoenix	AZ	85007-2614	602-542-4621	
Mr.	Ruben	Ojeda	Right of Way Manager	Arizona State Land Department	1616 W. Adams St.	Phoenix	AZ	85007-2614	602-542-4098	rojeda@land.az.gov
Ms.	Emily	Garber	Field Manager	BLM Lower Sonoran Field Office	21605 N. 7th Ave.	Phoenix	AZ	85027-2929	623-580-5566	egarber@blm.gov
Ms.	Sallie	McGuire	Section Chief	Arizona Section, Regulatory Branch, US Army Corps of Engineers	3636 N. Central Avenue, Ste. # 900	Phoenix	AZ	85012-1939	602.640.5385 x 222	sallie.mcguire@usace.army.mil
Mr.	Henry	Darwin	Acting Director	Administrative Council Arizona Department of Environmental Quality	1110 W Washington St.	Phoenix	AZ	85007-2955	602-771-2328	hrd@azdeq.gov
Mr.	Donald	Butler	Director	Arizona Department of Agriculture	1688 W. Adams St.	Phoenix	AZ	85007	602-542-0997	dbutler@azda.gov
Ms.	Karla	Petty	Division Administrator	Federal Highway Administration	4000 N. Central Ave., Ste. 1500	Phoenix	AZ	85012-1906	602-379-3725	
Mr.	Todd	Emery	Tucson District Engineer	Arizona Department of Transportation	1221 S. 2nd Ave., MD T100	Tucson	AZ	85713-1602	520.388.4216 x3616	
Lt. Co	Jack	Hegarty	Asst. Director, Highway Patrol Division	Arizona Department of Public Safety	P.O. Box 6638	Phoenix	AZ	85706-5817		
Capt.	Mike	Corbin	Casa Grande Headquarters	Arizona Department of Public Safety	410 W. Centennial Blvd.	Casa Grande	AZ	85122-8108	520-836-1057	
Mr.	Pete	Rios	District 1 Supervisor	Pinal County	P.O. Box 827	Florence	AZ	85232-0827	520-866-7830	pete.rios@pinalcountyaz.gov
Mr.	David	Snider	District 3 Supervisor	Pinal County	P.O. Box 827	Florence	AZ	85232-0827	520-866-7401	David.Snider@co.pinal.az.us
Mr.	Manny	Gonzalez	County Administrator	Pinal County	P.O. Box 2730	Florence	AZ	85232-2730	520-866-5381	Manny.Gonzalez@co.pinal.az.us
Mr.	Greg	Stanley	Public Works Director	Pinal County	P.O. Box 727	Florence	AZ	85232-0727	520-866-6411	PCPublicWorks@co.pinal.az.us
Mr.	Jerry	Stabley	Planning & Development Director	Pinal County	P.O. Box 2973	Florence	AZ	85232-2973	520-866-6442	Planning@co.pinal.az.us
Mr.	Paul	Babeu	Sheriff	Pinal County Sheriff's Office	P.O. Box 867	Florence	AZ	85232-0867	520-866-6800	Paul.Babeu@pinalcountyaz.gov
Mr.	Kevin	Evans	City Manager	City of Maricopa	45145 W. Madison Ave.	Maricopa	AZ	85139-6600	520-316-6811	kevin.evans@maricopa-az.gov
Ms.	Vanessa	Bueras	City Clerk	City of Maricopa	45145 W. Madison Ave.	Maricopa	AZ	85139-6600	520-316-6971	vanessa.bueras@maricopa-az.gov
Mr.	John	Nixon	Community Services Director	City of Maricopa	45145 W. Madison Ave.	Maricopa	AZ	85139-6600	520-316-6966	john.nixon@maricopa-az.gov
Mr.	Wade	Brannon	Fire Chief	Maricopa Fire Department	P.O. Box 610	Maricopa	AZ	85139-0268	520-568-3333	MFDPIO@maricopa-az.gov
Mr.	Kirk	Fitch	Chief of Police	City of Maricopa	45147 W. Madison Ave.	Maricopa	AZ	85139	520-316-6800	kirk.fitch@maricopa-az.gov
Mr.	Jim	Thompson	City Manager	City of Casa Grande	510 E. Florence Blvd.	Casa Grande	AZ	85222-4100	520-421-8600	jimt@casagrandeaz.gov
Ms.	Gloria	Leija	City Clerk	City of Casa Grande	510 E. Florence Blvd.	Casa Grande	AZ	85222-4100	520-421-8600	gleija@casagrandeaz.gov
Mr.	Kevin	Louis	Public Works Director	City of Casa Grande	3181 N. Lear Ave.	Casa Grande	AZ	85222-7925	520-421-8625	klouis@casagrandeaz.gov
Mr.	Kevin	Madden	Battalion Chief	Casa Grande Fire Department	119 E. Florence Blvd.	Casa Grande	AZ	85222-4047	520-421-8777	
Mr.	Robert	Huddleston	Chief of Police	Casa Grande Police Department	520 N. Marshall St.	Casa Grande	AZ	85222-5247	520-421-8700	
Ms.	Ruth	Osuna	City Manager	City of Eloy	628 N. Main St.	Eloy	AZ	85231-2517	520-466-9201	rosuna@ci.eloy.az.us
Ms.	Mary	Myers	City Clerk	City of Eloy	628 N. Main St.	Eloy	AZ	85231-2517	520-466-9201	mmyers@ci.eloy.az.us
Mr.	John	Mitchell	Public Works Director	City of Eloy	1137 W. Houser Rd.	Eloy	AZ	85131-9607	520-466-3082	jmitchell@ci.eloy.az.us
Mr.	Coy L.	Amerson	Deputy Chief	Eloy Fire Department	4010 N. Toltec Rd.	Eloy	AZ	85231-1400	520-466-3544	
Mr.	William K.	Pitman	Chief of Police	Eloy Police Department	630 N. Main St.	Eloy	AZ	85231-2517	520-466-7324	bpitman@eloypd.com
Organizations										
Ms.	Maxine	Brown	Director	Central Arizona Association of Governments	1075 S. Idaho Rd., Ste. #300	Apache Junction	AZ	85219-6406	480-474-9300	mleather@caagcentral.org
Mr.	Bill	Leister	Director of Transportation	Central Arizona Association of Governments	1075 S. Idaho Rd., Ste. #300	Apache Junction	AZ	85219-6406	480-474-9300	bleister@caagcentral.org

PUBLIC OPEN HOUSE

Hassayampa Tap – ED5 Construction and Improvements for a Transmission Line and Three Substations



The public is encouraged to attend the upcoming public open house to learn more about this project and to provide input about the transmission line. Public comments will be accepted through April 11, 2011.

For additional information or if you would like a copy of the EA, please contact Linette King at 602.605.2434, via e-mail at LKing@wapa.gov;
or visit Western's websites:
http://www.wapa.gov/dsw/pwrmkt/Ed5/Main.htm **or**
http://www.wapa.gov/dsw/Ten_Year_Capital_Program/Ten_Year_CP.htm

Western Area Power Administration, an agency within the U.S. Department of Energy, plans to add capacity and transmission rights across existing/planned transmission lines, provide federal funding for construction of new and existing lines, upgrade three existing substations, and rebuild/upgrade an existing segment of a 115-kV transmission line. The proposed project consists of four transmission line segments extending approximately 109 miles from the Hassayampa Tap near the Palo Verde Generating Station to Western's Electric District 5 (ED5) Substation.

Public Open House
Wednesday, March 9, 2011
City of Casa Grande Parks and Recreation Department Classrooms
404 E. Florence Blvd., Casa Grande
From 5 to 7 p.m.

You are invited to the open house to learn about the project and help us:

- Identify issues related to the proposed project.
- Identify social, environmental, and economic review and consultation requirements.
- Define the environmental analysis process and technical studies necessary to adequately address the impacts of the proposed project.
- Identify the interested and affected parties.

As part of the environmental process Western will prepare an Environmental Assessment (EA) report analyzing impacts to resources within the project area. The proposed project would cross ephemeral washes in the project area; therefore, floodplains and riparian areas will be analyzed and the findings documented in the EA.

For reasonable accommodation, contact Ms. Diana Dunn at 602.458.7478, fax 602.454.0403, or e-mail ddunn@aztec.us, as early as possible to coordinate needed arrangements.

Eloy Fire honors its own

Weekly Police Reports

access to 24/7 care for common, urgent medical issues

CASA GRANDE - Casa Grande Regional Medical Center (CGRMC) has contracted with Stat Health Services to offer the hospital that serves as a base station to more than 12 Pinal County emergency service providers, is making the comprehensive eHealth service available to aid its employees in maintaining health. CGRMC becomes the second health system in the state to offer the STAT DOCTORS benefit to its employees and is covering the cost of the service for its employees.

"STAT DOCTORS brings our dent and Chief Executive Officer of Casa Grande Regional Medical Center. "It's a powerful tool for engaging in earlier health intervention and getting our valuable employees back on their feet sooner so they can continue to provide the highest quality care for our community."

STAT DOCTORS is an innovative eHealth service that brings patients and their families a modern day virtual house call from eVisit and can conduct the consultation using a webcam or just using the phone number designated when they schedule the eVisit.

Curphy added, "We want our employees to take advantage of the STAT DOCTORS benefit so we are making it available to them free of charge. This truly is an innovative approach that brings together top notch medical care and technology to

"We are pleased to partner with CGRMC and make STAT DOCTORS available to their employees and dependents," stated Alan C. Roga, M.D., Chairman and CEO of Stat Health Services. "This is powerful validation from the hospital community that STAT DOCTORS is an

treats acute medical conditions such as asthma; bronchitis; allergies; colds and flu; "pink eye" or conjunctivitis; sports injuries; arthritic pain; insect bites; urinary tract infections; rashes; and vomiting and diarrhea.

Eloy Area Obituaries

Edward Anguamea

Edward Anguamea, 46, of Eloy died on Feb. 6, 2011, at Mountain Vista Medical Center in Mesa.

Visitation began at 3 p.m. Monday at 509 W. Second Place, with a rosary service from 6 to 8. The funeral was at 8 p.m., with Pastor Eliu Ibarra officiating. Burial was at 8 a.m. Tuesday in Eloy Memorial Park.

Mr. Anguamea was born on Nov. 13, 1964, in Sacaton. He was a forklift operator in manufacturing. He enjoyed spending time with family and friends, was a diehard Cowboys fan and loved going to casinos and family get-togethers. He loved playing horseshoes and listening to AC/DC music and was easygoing.

Survivors include a daughter, Jamie Anguamea of Eloy; a son, Brian Garcia of Casa Grande; his companion, Nancy Garcia; and five brothers, Leo, Anthony and Rogelio Anguamea, all of Eloy, Jose R. Anguamea of Casa Grande and Marcelo Anguamea of Tucson. He was preceded in death by his parents, Jose A. and Malinda Anguamea; a sister, Angie Anguamea; and grandparents, Francisco and Eloisa Anguamea, Vincent and Delphina Morales.

J. Warren Funeral Services, Valley Chapel was in charge of arrangements.

Albert Rodriguez

Albert Rodriguez, 50, of Eloy died on Feb. 7, 2011, at home.

Visitation began at 9 a.m. Monday at St. Helen of the Cross Catholic Church, with rosary recited at 10. Funeral Mass was celebrated at 10:30. The Rev. Virgilio Tabo and the Rev. Juan Carlos Aguirre officiated. Burial was in Eloy Memorial Park.

Mr. Rodriguez was born on March 21, 1960, in Casa Grande. He loved spending time with his family, enjoying the company of his brothers and sisters, nieces and nephews. Among his favorite joys was cooking at family gatherings. He was a collector of memorabilia and an avid builder of model planes. He enjoyed listening to Bob Dylan and Pink Floyd. He was proud of his honorable service in the Army from 1978 until 1984.

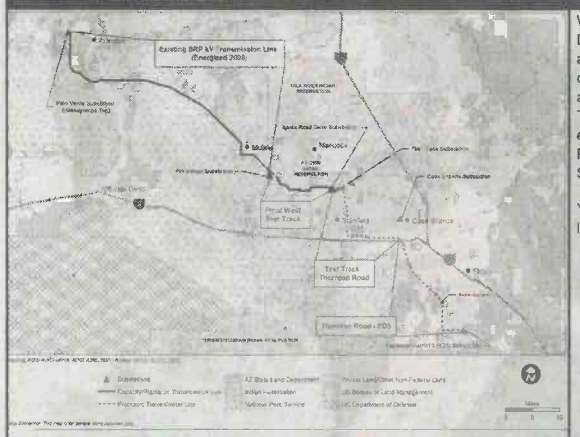
Survivors include his father, Manuel Rodriguez Sr.; five sisters, Flora Cons, Maggie Juarez, Carolyn Barreras, Mary Martinez and Alice DeLeon; and four brothers, Manuel Rodriguez Jr., Jose, Jesse and Luis Rodriguez. He was preceded in death by his mother, Maria Rodriguez; a brother, Samuel Rodriguez; and a niece.

Angels in Waiting After Life Care Center was in charge of arrangements.

PUBLIC OPEN HOUSE

Western AREA POWER ADMINISTRATION

Hassayampa Tap – ED5 Construction and Improvements for a Transmission Line and Three Substations



The public is encouraged to attend the upcoming public open house to learn more about this project and to provide input about the transmission line. Public comments will be accepted through April 11, 2011.

For additional information or if you would like a copy of the EA, please contact Linette King at 602.605.2434, via e-mail at LKing@wapa.gov; **or** visit Western's websites:
http://www.wapa.gov/dsw/pwrmkt/Ed5/Main.htm **or**
http://www.wapa.gov/dsw/Ten_Year_Capital_Program/Ten_Year_CP.htm

Western Area Power Administration, an agency within the U.S. Department of Energy, plans to add capacity and transmission rights across existing/planned transmission lines, provide federal funding for construction of new and existing lines, upgrade three existing substations, and rebuild/upgrade an existing segment of a 115-kV transmission line. The proposed project consists of four transmission line segments extending approximately 109 miles from the Hassayampa Tap near the Palo Verde Generating Station to Western's Electric District 5 (ED5) Substation.

You are invited to the open house to learn about the project and help us:

- Identify issues related to the proposed project.
- Identify social, environmental, and economic review and consultation requirements.
- Define the environmental analysis process and technical studies necessary to adequately address the impacts of the proposed project.
- Identify the interested and affected parties.

Public Open House
Wednesday, March 9, 2011
City of Casa Grande Parks and Recreation Department Classrooms
404 E. Florence Blvd., Casa Grande
From 5 to 7 p.m.

As part of the environmental process Western will prepare an Environmental Assessment (EA) report analyzing impacts to resources within the project area. The proposed project would cross ephemeral washes in the project area; therefore, floodplains and riparian areas will be analyzed and the findings documented in the EA.

For reasonable accommodation, contact Ms. Diana Dunn at 602.458.7478, fax 602.454.0403, or e-mail ddunn@aztec.us, as early as possible to coordinate needed arrangements.

obituaries

Debra Duran

Ben Carlton Enos Lopez

Canadian Prime Minister Stephen Harper signed a Feb. 4 agreement to share more information on travelers and better coordinate cross-border investigations. The Department of Homeland Security has tripled the number of agents on the northern border in recent years and is building a $30 million intelligence-gathering center at a Michigan Air National Guard base.

Some critics say the Canadian threat is overblown, saying the volume of most drugs seized along its border is still a tiny fraction of 1 percent compared to seizures at U.S.-Mexico crossings. Residents complain that increased patrols are scaring away Canadian visitors.

"There are more drugs on Wall Street than here," said Jonathan Maracle, 35, who owns a gift shop on the 12,000-member Akwesasne Mohawk reservation, straddling New York and Canada on both sides of the St. Lawrence River. "All they're trying to do is make us look bad up here because they can't control up here. The United States government is nothing but bullies."

Few places show the challenges border agents face like the reservation, a frigid archipelago just downriver from where Pickering rode his snowmobile on a recent afternoon, offering The Associated Press a tour of his territory.

About 20 percent of all the high-potency marijuana produced in Canada — "multiple tons" each week — is smuggled through a patch of border less than 10 miles wide on the reservation, the U.S. Department of Justice reported in May. Since 2008, U.S. prosecutors say they have broken up four major

"It's not safe for one agent to go down there by himself."

Smugglers run contraband in both directions, Laughman said: marijuana, Ecstasy and methamphetamine come south while money, tax-free cigarettes, weapons and cocaine smuggled from Mexico goes north.

There have been no confirmed cases of terrorists coming through the reservation, but U.S. officials say they're worried it could happen.

"The folks we're dealing with, both in drug trafficking and terrorist activities, are not stupid," said James Burns, who directs Drug Enforcement Administration operations along the New York-Canada border. "We don't want to have anybody exploit a weak point."

including a possible medical center and college campus.

City Manager Rick Buss shared his excitement about the move.

"Knowing where you're going to be in the future creates a lot of opportunity. We now have the opportunity to work with developers in the area. We can begin the design and build process. We can start to gather public input. Is this just going to be home to city hall? Should we put the library, courts et cetera there? It will be a fun process."

[Story by Betsy Rice]

"From the Archives" is a twice-weekly **Monitor** *editorial feature. The information above is excerpted from archived editions of the* **Maricopa Monitor** *newspaper, and is presented at the discretion of the editor.*

Valley Life | Editor Bill Coates | events@trivalleycentral.com |

Casa Grande Dispatch

Homeless family faces hard choice for sake of their children

Dear Abby
Abigail Van Buren
Universal Press Syndicate

DEAR ABBY: I need advice from someone who doesn't know me personally. My husband and I have been married four years and have three lovely kids. Recently we have hit hard times.

A few months ago my husband lost his job, and from there we hit rock bottom. Right now we are sleeping in our car. My problem is I don't like having my kids live like this. It makes me mad and I feel like a bad parent. I could go to a women's shelter, but I don't want to break up my family. I'm scared, and I'm not sure what to do.

My husband is working now, but we don't have enough money to get an apartment, so I was considering staying in a hotel — but it will take some time before we can do that. Do you think we should stay at the shelter until we have a place, or until we can get a hotel room? I need some serious advice. — SCARED IN LUBBOCK, TEXAS

DEAR SCARED: I'm glad you asked. You should check out the shelter and see what kind of accommodations they can make for you and your small children. It's a better, safer environment for them than five people sleeping in a car. I know this is a painful decision, but it isn't "breaking up the family." It is only temporary until you and your husband have saved enough for accommodations together again.

DEAR ABBY: For the last five years I have had no time for myself. I'm 30 and have a wonderful wife and two daughters, 7 and 4. I work a 40-hour week and go to school full-time.

I don't want to sound selfish, because I know that my priorities are my wife and daughters, and I enjoy spending "quality time" with them. But I also feel that every other week or so, I should be able to get away for a few hours by myself to enjoy 18 holes of golf or go fishing.

If I tell my wife I'm going to do something, she makes me feel guilty. If I ask, she gives me the third degree. I know she doesn't need or want time to herself because I have asked her repeatedly if she does, hoping she'd return the favor — but she doesn't give me "permission."

Am I asking the impossible? How do I find time for myself and tell my wife without upsetting her? — "SELFISH" IN SPRINGFIELD

DEAR "SELFISH": (Almost) everyone needs "alone time" to pursue personal interests and unwind. You have a full schedule and you deserve quality time for yourself. Out of consideration for your wife, ask her if playing golf or fishing on a specific day conflicts with any couple or family event she had planned. And be sure to tell her that having some time to yourself will make you a better husband and father — because it's the truth. Then go and enjoy yourself, and don't feel guilty.

DEAR ABBY: My boyfriend is new to Facebook and insists on posting something daily. The problem is he can't spell, and it's quite embarrassing. I've told him he should reread his posts before he sends them, but he doesn't. How should I handle this? — CAN YOU SAY SPELL CHECK?

DEAR SPELL CHECK: Your boyfriend's problem isn't that he can't spell. It's that he's too lazy to use spell check. Much as you might like to "handle this" for him, you can't. Some people must learn their lessons the hard way, and until he embarrasses himself badly enough to proofread his postings, he'll continue not checking his spelling.

Warning: Do not step in and become his editor or it could become a full-time job.

Dear Abby is written by Abigail Van Buren, also known as Jeanne Phillips, and was founded by her mother, Pauline Phillips. Write Dear Abby at www.DearAbby.com or P.O. Box 69440, Los Angeles, CA 90069.

meetings events

Guitars

Continued from page 1

Staff photo by Robby Gal

An anonymous man donated an acoustic and an electric guitar to the Curiel School a few weeks ago. His only requests were that he remain anonymous and that students write letters explaining why they wanted a guitar, and then he would choose the two winners. Emerald Boring (left) and Agustine Pacheca were the lucky winners during the Curiel Assembly Friday, Feb. 25.

telling them his name, but he refused and didn't want any press.

"It was his desire to remain anonymous," Wood explained. "He just wanted to judge the letters that the students crafted."

Wood and the teachers from Curiel took letters from students explaining why they wanted a guitar and then chose two winners.

The winners were announced on Friday, Feb. 25 at the students of the month assembly in the Curiel School gymnasium.

Third graders Emerald Boring, 9, and Agustine Pacheco, 9, were the lucky winners and teach all of my friends how to play."

Pacheco on the other hand was waiting to win the guitar because this wasn't his first time playing.

"I do know how to play," Pacheco said. "But this is such a nice guitar. I can't wait to

Winning letters

Agustine Pacheco

First of all, I want to tell you how much I love music. I enjoy listening to music almost all the time. I listen to different kinds of music like rap, oldies, country, rock and roll, Spanish, hip hop, jazz and many more. When they told me that there was a guitar that was free but we had to write an essay on the guitar, it really got me thinking about this instrument and I realized how the guitar is used to play all kinds of music so it doesn't matter what kind of music you like, everyone gets to enjoy the wonderful sounds of a guitar.

A guitar has six strings and there are many kinds of guitars. The one that they showed us in school was a classic guitar. I read that the guitar came from another country called Spain. They know the guitar as guitarra. A guitar is made of wood. There are also guitars that have 10 strings, eight strings, seven strings and the six-string is the one that we got.

Emerald Boring

I like the guitar. It has a beautiful tune. I could learn how to play the guitar. It makes me happy just saying the word "guitar." I like the guitar because it is a gift from someone. It has the most beautiful colors. I also think it is the most beautiful instrument I've ever seen. I thought it was funny when Mrs. Wood played it. Maybe I will be a guitar player on television or on the radio.

I could use the guitar to help people who are sad or sick. Maybe I could raise some money to buy things for the homeless animals and people. Maybe I could teach my whole family to play the guitar. I could teach a lot of people to play all kinds of

Head Start (99 N. E Street, Eloy) provides free services in the following areas: education, nutrition, health, social services, special needs and mental health. Transportation is not provided. Requirements are that students must be income eligible and/or be a child with special need. To complete an application, please

authentic 1860s civil war camps. Event hours are 10 a.m.-4 p.m. Gates up at 9:30 a.m. and stop admitting cars at 3 p.m. Entrance fees are $10 per vehicle (up to four persons, with $3 per person over the allotted four), and $3 per walk-in/bike entrant. No dogs are allowed. For more information, visit www.azstateparks.

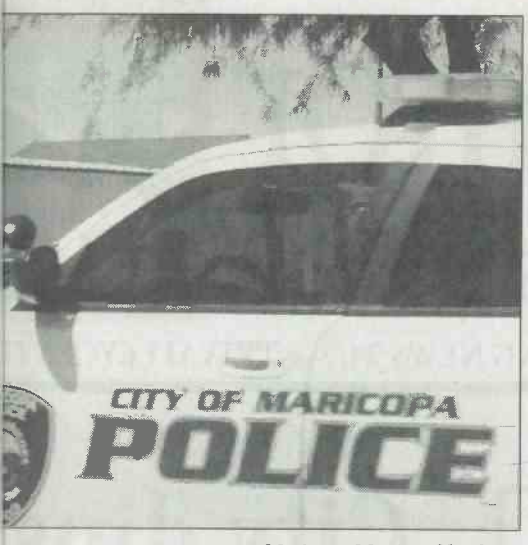
Curiel Primary's 'Stars of the Week'

First grade
Tirah Ramos, Mrs. Bell's class
Mario Nunez, Mrs. Sauceda's class
Megan Morales, Mrs. Thompson's class
Justice Neal, Mrs. Ponce's class
Adrian Cons, Mr. Holt's class
Arissa Fimbres, Mrs. Vasquez's class

Second grade
Angel Albert, Ms. Vidal's class
Bryzchette Castillo, Mrs. Mena's class
Kaiya Coleman, Mrs. Holt's class
A'Shaunti Gant, Mrs. Davis' class

Third grade
Chrisna Reagan, Mrs. Crawford's class
AJ Pacheco, Mrs. Matthias' class
Sofia Gutierrez, Ms. Fischer's class
Elisa Esteban, Mr. Sanchez's class
Josh Chavez, Mrs. Anderson's class

csafety



Maricopa Monitor file photo

) investigating
ed robbery in
cho El Dorado

ays 4 men approached as
lled into own driveway

Police Depart-
iting an evening
hat occurred in
do on Wednes-

nformation offi-
ods wrote in an
nt started when
a silver vehicle
ctim's driveway

just after he arrived at his house.

Woods wrote that the four men approached the victim with handguns and demanded money from him. The man proceeded to give the robbers cash, miscellaneous forms of identification and keys to his house and car.

The department is investigating the robbery, and anyone with information about it should call (520) 866-5111 or the silent witness hotline at (520) 316-6900.

earchives

arch 27, 2009

ments of wildland fires as possible when
event.
up the drill each year a little bit, " she said
address what went wrong at past fires…
upredictable."
as seen that firsthand, having recently
near Cave Creek and in Idaho.
terrains have different types of fires," he
epare for them by doing drills like this."
drops from helicopters were performed,
equipment drills and room-style instruc-
said many wildland fires had some sort of
ent in their causation – something Bandin
n be prevented.
to get residents to clean up the brush from
homes," he said, noting that vacant lots of
eeds were just as great a concern to the
s the wild vegetation in the rural of town.

[Story by Adam Gaub]

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veteransparade

submitted photo

Maricopa VFW, Legion members participate in parade

Staff reports

Maricopa veterans were well represented, and one of them was even featured, at the Ira Hayes parade in February.

Held in Sacaton on the Gila River Indian Community, the event commemorated Gila River's own Ira Hayes, who was one of the flag raisers during the battle of Iwo Jima during World War II, according to a press release.

Members of Maricopa's Veterans of Foreign War Post 12043 and American Legion Post 133 participated in the parade, including World War II veteran Louis Brod, who was one of the featured retired servicemen in the parade.

Brod earned both a Purple Heart and a Bronze Star for his service in World War II.

Besides the Maricopa veterans, the release said many Native Americans representatives from different parts of the country attended the event, which included the parade and ceremonial activities to commemorate Hayes and other Native Americans for their military contributions.

Maricopa's American Legion Post meets the third Thursday of each month, while the VFW meets on the second Thursday of each month. Both groups meet at the Maricopa Veterans Center and at 7 p.m. on their respective dates.

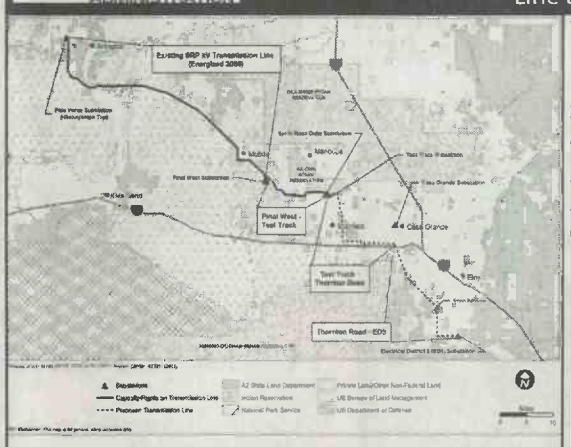
People interested in learning about the posts or the woman's auxiliary should visit the Maricopa Veterans Center website at www.maricopaveteransctr.org.

petsoftheweek

PUBLIC OPEN HOUSE

Western AREA POWER ADMINISTRATION

Hassayampa Tap – ED5 Construction and Improvements for a Transmission Line and Three Substations



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Office of Rep. Gabrielle Giffords

This Jan. 8 photo shows Arizona Rep. Gabrielle Giffords listening intently as she talks with Jim and Doris Tucker, two of her constituents, one of whom also was injured, in Tucson. Shortly after the photo was taken, a man walked up to the group and shot Giffords and 18 other people.

Autopsies released for victims in Giffords attack

CAVIT to offer new programs

Staff Reports

COOLIDGE — Superintendent Mike Glover told the Central Arizona Valley Institute of Technology Governing Board Wednesday that 311 juniors and seniors toured CAVIT's central campus between Jan. 20 and Feb. 8. Asked in a survey how they felt about the tour, 230 (74 percent) said it was "awesome"; 81 (26 percent) said it was "pretty good."

Asked if they planned to apply for a CAVIT program, 276 (88 percent) said yes; 35 (12 percent) were not sure or were undecided.

Asked if they would be interested in a dental assistant program, 72 (23 percent) said yes.

Glover said CAVIT plans to offer a dental assistant program in 2012-13 based on this number and the fact that dental assistants rank in the top 10 careers nationwide for high demand and job growth.

CAVIT has 381 students registered for next year's on-campus classes, he said, 132 returning second-year students and 249 new students. Several of next year's 12:30-to-2:30 p.m. program sessions will have to

qualifying online medical assistant competition for the Health Occupations Students of America State Conference April 13-15 in Tucson. CAVIT will take 21 students to compete at the state event.

Nursing assistant teacher Andrea Easterday said CAVIT's nursing assistant program provides high school students with 150 hours of classroom instruction and 55 hours of clinical experience at Archstone Care Center in Chandler. Students who successfully complete the program standards and clinical hours are eligible to sit for the Arizona State Board Nursing Assistant Exam.

Easterday said CAVIT has applied to become a flexible testing site through the State Board of Nursing. This will allow its students to test for the state licensing exam at the CAVIT campus. Research from the Board of Nursing shows high schools offering the state exam on their campuses, administered by state testing staff, had 17 percent to 20 percent higher passing rates. CAVIT will limit enrollment in next year's nursing program to 30 to 35 students because only

and developing curriculum and lesson plans aligned to the new state standards. Hiring a teacher in July would not be enough time for CAVIT to fulfill State Board of Nursing requirements before the start of the next school year. If a replacement cannot be secured by the end of the school year, students will be informed of the program's closure and allowed to take another CAVIT program, if space exists.

■ The board recognized Student of the Month Erica Gonzalez, a first-year medical assistant student from Casa Verde High School.

■ It approved a request for qualifications for a construction manager at risk to build an addition to relocate the massage therapy program and house programs for emergency medical technicians and dental assistants.

Glover said the EMT program has enough enrollment numbers to begin next year and will be offered in the interactive TV classroom until the new facility is ready in the fall of 2012. Dental assisting will be offered in the fall of 2012.

CELEBRATING ARIZONA'S CENTENNIAL

EDITOR'S NOTE: Arizona is 99 years old, and to celebrate the run-up to the centennial on Valentine's Day 2012, the Dispatch will be publishing facts from the state's history. Look for them under the above logo. More information is available at www.storyoftheamericanwest.com.

Traditional Apaches believe that Ussen has given a life spirit to all things, both animate and inanimate.

Hassayampa Tap – ED5 Project: Construction of and Improvements to a Transmission Line and Three Substations

PROJECT SUMMARY

The fast-paced growth in Maricopa and Pinal counties has resulted in an increasing need for electricity. Western Area Power Administration (Western), an agency within the U.S. Department of Energy, plans to add capacity and transmission rights across existing/planned transmission lines, provide federal funding for construction of new and existing of lines, upgrade three existing substations, and upgrade an existing segment of a 115-kV transmission line. The proposed project consists of four transmission line segments extending approximately 109 miles from the Hassayampa Tap near the Palo Verde Generating Station to Western's Electric District 5 (ED5) Substation. This project will be constructed using American Recovery and Reinvestment Act funds as part of the Transmission Infrastructure Program.

SEGMENTS AND SCOPE OF WORK

Palo Verde (Hassayampa Tap) – Pinal West Substation (PV-PW) (500-kV)

- This segment is owned by Salt River Project (SRP) and was energized in 2008
- Western would acquire rights to transmit power over the SRP's PV-PW line

Pinal West – Test Track (500-kV)

- Erection of new steel monopole or H-frame structures and turning structures; and string overhead fiber optic or static ground wire or some combination
- Expand Test Track Substation and connect with SRP's Duke Substation
- This segment would be owned by SRP and Western would acquire rights to transmit power over the SRP lines

Test Track – Thornton Road (230/500-kV)

- Erection of new steel monopole or H-frame structures and turning structures; and string overhead fiber optic or static ground wire or some combination
- This segment would be owned by SRP and Western would acquire rights to transmit power over the SRP lines

Thornton Road – ED5 (115/230-kV)

- Removal of existing wooden H-frame structures and single circuit conductors
- Erection of new steel monopole or H-frame structures and turning structures; and string overhead fiber optic or static ground wire or some combination
- Expand the Casa Grande and ED5 Substations

Thornton Road – ED5 (continued)

- Re-route approximately a half of mile of the transmission line for connection to the ED5 Substation
- This section is owned and operated by Western

ENVIRONMENTAL STUDY CONSIDERATIONS

- Water and air quality
- Cultural/historic resources
- Biological resources
- Hazardous materials
- Visual quality
- Land use/socioeconomics
- Floodplains

WHY IS AN ENVIRONMENTAL STUDY NEEDED?

- Ensure compliance with environmental laws and regulations
- Identify, minimize, and mitigate environmental impacts
- Document the study process
- Inform and involve the public
- Provide information to decision makers

SCHEDULE

Data gathering → Underway

Anticipated completion of environmental and engineering studies → 5 to 7 months

Construction → Fall 2011

HOW TO PROVIDE INPUT

- Talk with study team members tonight
- Write comments on the question and comment form

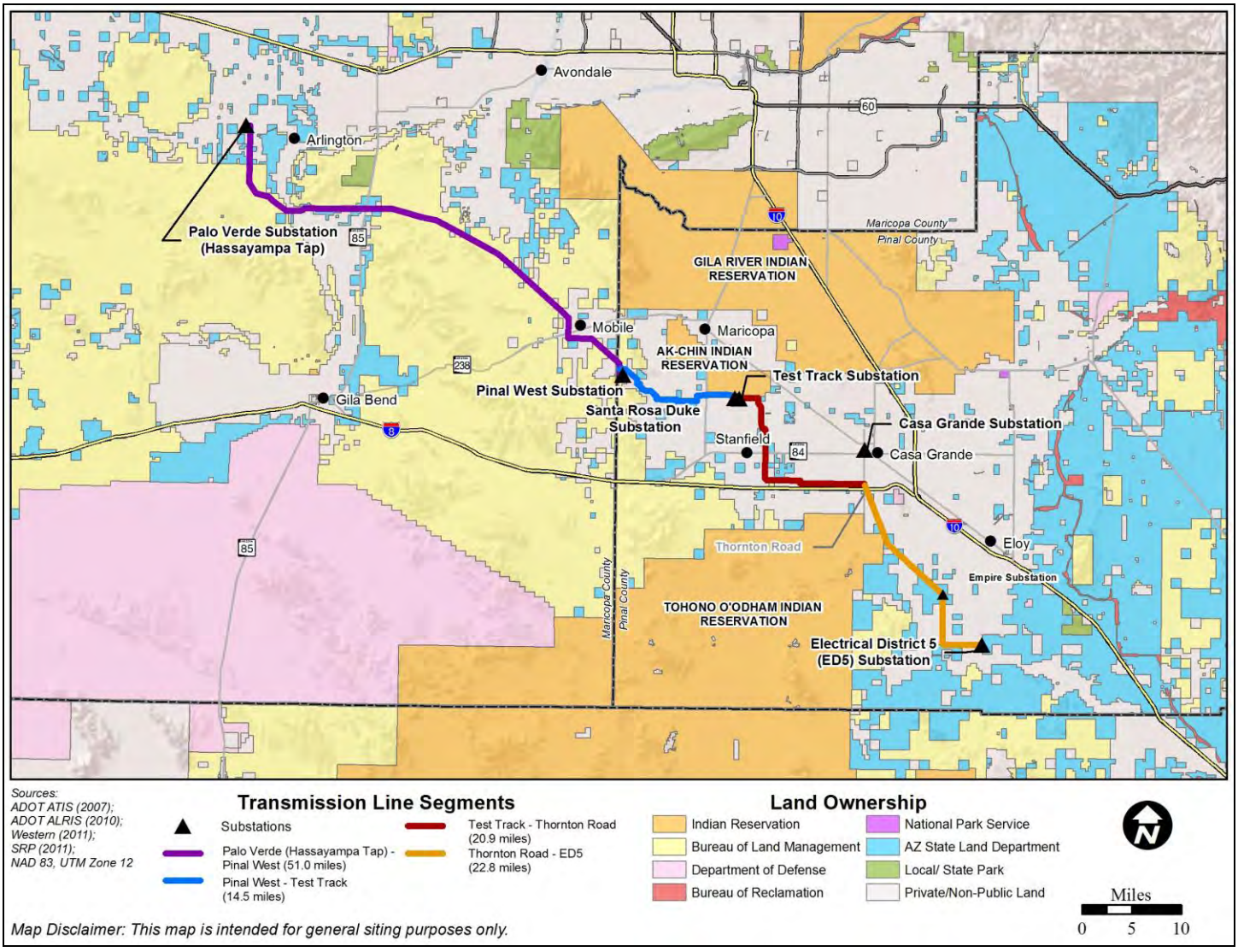
Send written comments to:

Western Area Power Administration c/o
Ms. Diana Dunn
Mail: 4561 E. McDowell Rd.
Phoenix, AZ 85008
Fax: 602.454.0403
E-mail: ddunn@aztec.us
by **April 11, 2011**

FOR MORE INFORMATION

- Visit the project website at http://www.wapa.gov/dsw/pwrmkt/Ed5/Main.htm

- Call Western's environmental project manager, Ms. Linette King, at 602.605.2434, or e-mail her at LKing@wapa.gov



QUESTION and COMMENT FORM

Hassayampa Tap – ED5 Construction and Improvement for a Transmission Line and Three Substations

Project Number: DOE/EA-1864

Please provide use your written questions or comments regarding this project. A team member will review the questions and provide answers either at the open house or via letter. Please print clearly so we can record your information accurately for the public record. *Thank you for your input*.

Name	Organization
Address	City
Zip	Email

Hassayampa Tap – ED5 Construction and Improvement for a Transmission Line and Three Substations

Project Number: DOE/EA-1864

PUBLIC OPEN HOUSE

March 9, 2011

Please sign in to indicate that you are attending today's meeting. Please note information provided is voluntary and will be made available to the public if requested.

Please print	
Name Dennis Delaney	Organization
Address 2531 East Birchwood Pl	City Chandler, AZ
Zip 85249	Email dld2531@cox.net
Name	Organization
Address	City
Zip	Email
Name	Organization
Address	City
Zip	Email
Name	Organization
Address	City
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HASSAYAMPA TAP – ED5 PROJECT:

Construction of and Improvements to a Transmission Line and Three Substations

Western AREA POWER ADMINISTRATION

Palo Verde Substation (Hassayampa Tap)

Arlington

Mobile

Maricopa

Bend

Pinal West Substation

Stanfield

Casa Grande

Eloy

Maricopa County

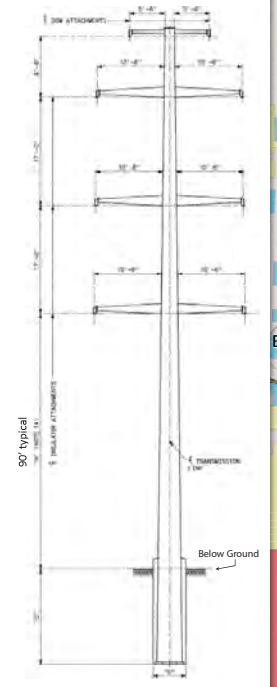
Pinal County

GILA RIVER INDIAN RESERVATION

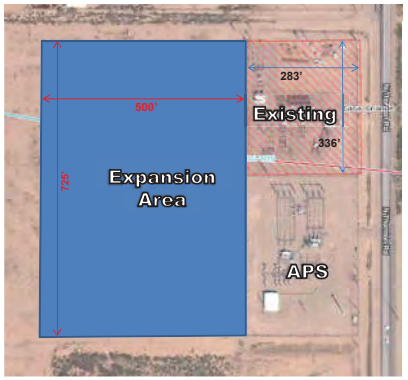
AK-CHIN INDIAN RESERVATION

Thornton Road

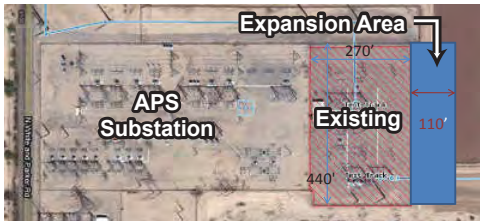
Typical Structure



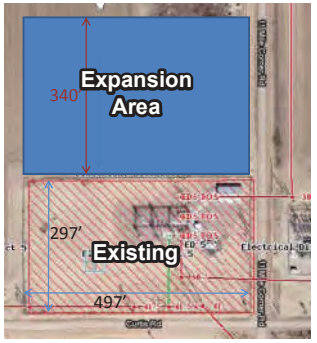
Casa Grande Substation



Test Track Substation



Electrical District 5 (ED5) Substation



Transmission Line Segments

- Substations
- Palo Verde (Hassayampa Tap) - Pinal West (51.0 miles)
- Pinal West - Test Track (14.5 miles)
- Test Track - Thornton Road (20.9 miles)
- Thornton Road - ED5 (22.8 miles)

Land Ownership

- Indian Reservation
- Bureau of Land Management
- Department of Defense
- Bureau of Reclamation
- National Park Service
- AZ State Land Department
- Local/ State Park
- Private/Non-Public Land

Miles: 0 5 10

Sources: ADOT ATIS (2007); ADOT ALRIS (2010); Western (2011); SRP (2011); NAD 83, UTM Zone 12

Map Disclaimer: This map is intended for general siting purposes only.

HASSAYAMPA TAP – ED5 PROJECT:

Construction of and Improvements to a Transmission Line and Three Substations

Western AREA POWER ADMINISTRATION

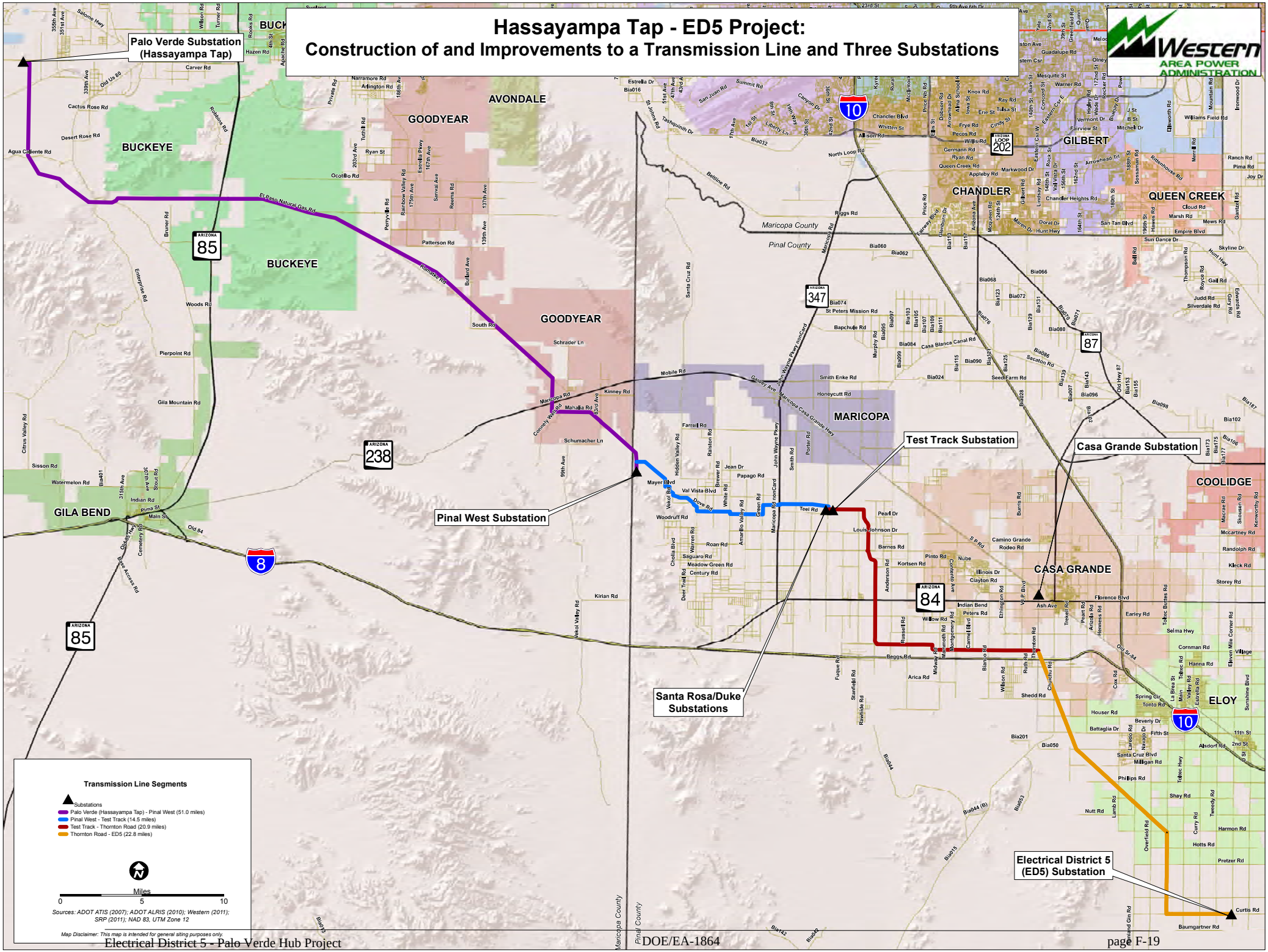
An Environmental Assessment (EA) is prepared by a federal agency to determine whether or not a federal undertaking would signficantly affect the environment.

National Environmental Policy Act Environmental Assessment Process

- Identifies the purpose and need of a proposed action
- Evaluates the level of potential environmental impacts of a proposed action
- Compares the impacts and benefits of a proposed action to the no-action (no-build) alternative
- Seeks public and agency input and comment focusing on environmental effect, alternatives, or ways to lessen potential environmental effects
- Identifies measures to mitigate environmental impacts

Environmental Factors To Be Evaluated

- Social and Economic Resources
- Biological Resources
- Cultural Resources
- Hazardous Materials
- Land Use
- Public Health and Safety
- Prime and Unique Farmlands
- Visual Resources
- Title VI/Environmental Justice
- Visual Resources
- Water Resources
- Air Quality
- Noise
- Floodplains


Hassayampa Tap - ED5 Project:
Construction of and Improvements to a Transmission Line and Three Substations
Western
AREA POWER
ADMINISTRATION
Palo Verde Substation
(Hassayampa Tap)
Pinal West Substation
Test Track Substation
Casa Grande Substation
Santa Rosa/Duke
Substations
Electrical District 5
(ED5) Substation
BUCKEYE
GOODYEAR
AVONDALE
GILA BEND
MARICOPA
CASA GRANDE
COOLIDGE
ELOY
GILBERT
CHANDLER
QUEEN CREEK
Maricopa County
Pinal County
Transmission Line Segments
Substations
Palo Verde (Hassayampa Tap) - Pinal West (51.0 miles)
Pinal West - Test Track (14.5 miles)
Test Track - Thornton Road (20.9 miles)
Thornton Road - ED5 (22.8 miles)
Miles
0
5
10
Sources: ADOT ATIS (2007); ADOT ALRIS (2010); Western (2011); SRP (2011); NAD 83, UTM Zone 12
Map Disclaimer: This map is intended for general siting purposes only.

APPENDIX G – AGENCY RESPONSES

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Subject: FW: Hassayampa TAP ED5 - Pinal County

From: Greg Wold
Sent: Wednesday, February 16, 2011 9:18 AM
To: Andrew Smith; Eric Weisbender
Cc: AJ Blaha; Gregory Stanley; Pam Shields; Todd Rhoades; Linette King; Diana Dunn; AZG1006 - 899_HassyampaTapED5; Michael Myers
Subject: RE: Hassayampa TAP ED5 - Pinal County

Andy,
Because this information is proprietary under Western's ownership, if you could contact a Mr. Eric Weisbender, Western's GIS Program Lead, he should be able to assist you with the information you need. His contact information is listed below.

Eric Weisbender
GIS Program Lead
Western Area Power Administration
Corporate Service Office
office: (720) 962-7280
fax: (720) 962-7269
email: weisbend@wapa.gov

For all the transmission lines that criss-cross Pinal County you would probably need to contact multiple utility companies such as SRP, APS, Tucson Electric, Arizona Electric Cooperative (AEPCO) and well as some of the smaller electrical districts ED4, ED3, ED5 in the Casa Grande area.

Hope this helps.

GW
Environmental Services Group
AZTEC Engineering | 4561 E. McDowell Road | Phoenix, AZ 85008
O: 602.454.0402 | D: 602.458.7481 | F: 602.454.0403 | C: 480.231.4547 | gwold@aztec.us -----Original Message-----
From: Andrew Smith [mailto:Andrew.Smith@pinalcountyaz.gov]
Sent: Tuesday, February 15, 2011 2:55 PM
To: Greg Wold
Cc: AJ Blaha; Gregory Stanley
Subject: Hassayampa TAP ED5 - Pinal County

Good afternoon, Mr. Wold.

We are in receipt of a letter dated February 11th, from Mr. John Holt, Environmental Manager, for Western Area Power Administration (WAPA). The letter states that this is our invitation to submit comments or concerns.

Is it possible for you to provide Pinal County with a GIS layer that we could overlay on our transportation plan? This would enable us to identify the interaction between transportation facilities (ROW, parkway, & principle arterial) and transmission lines.

Thank you,
Andy

Andy Smith
Sr. Transportation Planner
Pinal County
(520) 866-6934 Ph
(520) 866-6511 Fx
andrew.smith@pinalcountyaz.gov

Subject: FW: Hassayampa Tap - ED5 Construction and Rebuild for Transmission Line DOE/EA-1864

From: AJ Blaha [mailto:AJ.Blaha@pinalcountyaz.gov]
Sent: Tuesday, March 08, 2011 8:03 AM
To: Greg Wold
Cc: Andrew Smith; Gregory Stanley
Subject: Hassayampa Tap - ED5 Construction and Rebuild for Transmission Line DOE/EA-1864

Mr. Wold,

We have reviewed Mr. Holt's February 11, 2011 letter and we are in the process of executing a GIS Data Sharing Agreement with WAPA so that we can incorporate their shape files into Pinal County's GIS. Until we can look at the proposed new line rights-of-way, we cannot tell if there are potential conflicts with our future road network rights-of-way. Once the GIS data is incorporated we will be able to give a more accurate response.

A. J. Blaha, P.E., C.F.M.
Deputy Director
Engineering Branch Manager
Pinal County Department of Public Works
140 N. Florence St., Bldg. F
P.O. Box 727
Florence, Arizona 85132
Ph: 520-866-6558
Fax: 520-866-6325
aj.blaha@pinalcountyaz.gov

ARIZONA DEPARTMENT
OF
ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janice K. Brewer
Governor

Henry R. Darwin
Acting Director

February 24, 2011

Mr. Greg Wold
AZTEC
4561 E. McDowell Road
Phoenix, AZ 85008

SENT VIA E-MAIL: gwold@aztec.us

Re: Scoping Letter for Hassayampa Tap - ED5 Construction and Rebuild for a Transmission Line Project (DOE/EA-1864)

Dear Mr. Wold:

We received the February 11, 2011 letter requesting comments on environmental issues associated with the Hassayampa Tap - ED5 Construction and Rebuild for a Transmission Line Project, located in Pinal and Maricopa Counties. The Arizona Department of Environmental Quality, Water Quality Division (ADEQ) is responsible for ensuring the delivery of safe drinking water to customers of regulated public water systems under the Safe Drinking Water Act, permits for proposed discharges to surface waters of the United States under the federal Clean Water Act (CWA), permits under the State aquifer protection program, and water quality certifications of certain federal licenses and permits. With the information provided, ADEQ would like to make you aware of some water quality issues that may need to be addressed.

Construction General Permit: Stormwater discharges associated with construction activities, such as clearing, grading, or excavating, that disturb one acre or more must obtain permit coverage under the Arizona Pollutant Discharge Elimination System's (AZPDES) Construction General Permit. Permit coverage is also required if the project is part of a larger common plan of development and the entire project will ultimately disturb one or more acres. As part of permit coverage, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared and implemented before ground disturbance begins. The SWPPP must comply with ADEQ's Construction General Permit's SWPPP requirements, and must identify such elements as the project scope, anticipated acreage of land disturbance, and the best management practices that would be implemented to reduce soil erosion, and contain or minimize the pollutants that might be released to waters of the U.S. In addition to preparing the SWPPP, the project proponent must file for permit coverage. If one or more acres of land disturbance will occur, then the project will require coverage under the Construction General Permit. The Construction General Permit, SWPPP checklist, and associated forms are available on ADEQ's website at: http://www.azdeq.gov/environ/water/permits/stormwater.html#const. For questions, please

contact Chris Henninger in our Stormwater and General Permits Unit at (602) 771-4508 or by e-mail at cph@azdeq.gov.

We appreciate the opportunity to review and provide comments. If you need further information, please contact Wendy LeStarge of my staff at (602) 771-4836 or via e-mail at wl1@azdeq.gov, or myself at (602) 771-4416 or via e-mail at lc1@azdeq.gov.

Sincerely,

Linda Taunt, Deputy Director
Water Quality Division

ARIZONA DEPARTMENT
OF
ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janice K. Brewer
Governor

Henry R. Darwin
Acting Director

February 18, 2011

Mr. Greg Wold
AZTEC
4561 E. McDowell Road
Phoenix, AZ 85008

Re: Maricopa and Pinal Counties: Hassayampa TAP-ED5 Construction and Rebuild for a Transmission Line DQE/EA-1864

Dear Mr. Wold:

The ADEQ Air Quality Division has reviewed your letter, dated February 11, 2011, regarding the Hassayampa TAP-ED5 Construction and Rebuild for a Transmission Line DQE/EA-1864 project, which is located in nonattainment areas for 8-hour ozone, 10-micron particulate matter (PM_{10}), and 2.5-micron particulate matter ($PM_{2.5}$). The project, as described, may have a de minimis impact on air quality. Nevertheless, considering prevailing winds and being located in nonattainment areas for air pollutants, to comply with other applicable air pollution control requirements and minimize adverse impacts on public health and welfare, the following information is provided for your consideration:

REDUCE DISTURBANCE of PARTICULATE MATTER during CONSTRUCTION

This action, plan or activity may temporarily increase ambient particulate matter (dust) levels. Particulate matter 10 microns in size and smaller can penetrate the lungs of human beings and animals and is subject to a National Ambient Air Quality Standard (NAAQS) to protect public health and welfare. Particulate matter 2.5 microns in size and smaller is difficult for lungs to expel and has been linked to increases in death rates; heart attacks by disturbing heart rhythms and increasing plaque and clotting; respiratory infections; asthma attacks and cardiopulmonary obstructive disease (COPD) aggravation. It is also subject to a NAAQS.

The following measures are recommended to reduce disturbance of particulate matter, including emissions caused by strong winds as well as machinery and trucks tracking soil off the construction site:

I. Site Preparation and Construction
   A. Minimize land disturbance;
   B. Suppress dust on traveled paths which are not paved through wetting, use of watering trucks, chemical dust suppressants, or other reasonable precautions to prevent dust entering ambient air

C. Cover trucks when hauling soil;
D. Minimize soil track-out by washing or cleaning truck wheels before leaving construction site;
E. Stabilize the surface of soil piles; and
F. Create windbreaks

II. Site Restoration
A. Revegetate any disturbed land not used;
B. Remove unused material; and
C. Remove soil piles via covered trucks.

The following rules applicable to reducing dust during construction, demolition and earth moving activities are enclosed:

□ Arizona Administrative Code R18-2-604 through -607
□ Arizona Administrative Code R18-2-804
□ Maricopa County Code Rules 310 and 310.01
□ Pinal County Code Chapter 4

Should you have any further questions, please contact Lhamo LeMoine at (602) 771-2373 or David Biddle, of the Planning Section staff, at (602) 771-2376.

Very truly yours,

Diane L. Arnst, Manager
Air Quality Planning Section

Enclosures (2)

cc: Bret Parke, EV Administrative Counsel
David Biddle, EV Program Specialist
Lhamo LeMoine, Administrative Secretary
File No. 254084

c. If the burning would occur at a solid waste facility in violation of 40 CFR 258.24 and the Director has not issued a variance under A.R.S. § 49-763.01.

E. Open outdoor fires of dangerous material. A fire set for the disposal of a dangerous material is allowed by the provisions of this Section, when the material is too dangerous to store and transport, and the Director has issued a permit for the fire. A permit issued under this subsection shall contain all provisions in subsection (D)(3) except for subsections (D)(3)(e) and (D)(3)(f). The Director shall permit fires for the disposal of dangerous materials only when no safe alternative method of disposal exists, and burning the materials does not result in the emission of hazardous or toxic substances either directly or as a product of combustion in amounts that will endanger health or safety.

F. Open outdoor fires of household waste. An open outdoor fire for the disposal of household waste is allowed by provisions of this Section when permitted in writing by the Director or a delegated authority. A permit issued under this subsection shall contain all provisions in subsection (D)(3) except for subsections (D)(3)(e) and (D)(3)(f). The permittee shall conduct open outdoor fires of household waste in an approved waste burner and shall either:

1. Burn household waste generated on-site on farms or ranches of 40 acres or more where no household waste collection or disposal service is available; or
2. Burn household waste generated on-site where no household waste collection and disposal service is available and where the nearest other dwelling unit is at least 500 feet away.

G. Permits issued by a delegated authority. The Director may delegate authority for the issuance of open burning permits to a county, city, town, air pollution control district, or fire district. A delegated authority may not issue a permit for its own open burning activity. The Director shall not delegate authority to issue permits to burn dangerous material under subsection (E). A county, city, town, air pollution control district, or fire district with delegated authority from the Director may assign that authority to one or more private fire protection service providers that perform fire protection services within the county, city, town, air pollution control district, or fire district. A private fire protection provider shall not directly or indirectly condition the issuance of open burning permits on the applicant being a customer. Permits issued under this subsection shall comply with the requirements in subsection (D)(3) and be in a format prescribed by the Director. Each delegated authority shall:

1. Maintain a copy of each permit issued for the previous five years available for inspection by the Director;
2. For each permit currently issued, have a means of contacting the person authorized by the permit to set an open fire if an order to extinguish open burning is issued; and
3. Annually submit to the Director by May 15 a record of daily burn activity, excluding household waste burn permits, on a form provided by the Director for the previous calendar year containing the information required in subsections (D)(3)(e) and (D)(3)(f).

H. The Director shall hold an annual public meeting for interested parties to review operations of the open outdoor fire program and discuss emission reduction techniques.

I. Nothing in this Section is intended to permit any practice that is a violation of any statute, ordinance, rule, or regulation.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Correction, subsection (C) repealed effective October 2, 1979, not shown (Supp. 80-1). Former Section R9-3-602 renumbered without change as Section R18-2-602 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-602 renumbered to R18-2-802, new Section R18-2-602 renumbered from R18-2-401 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 10 A.A.R. 388, effective March 16, 2004 (Supp. 04-1).

R18-2-603. Repealed

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-603 renumbered without change as Section R18-2-603 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-603 renumbered to R18-2-803, new Section R18-2-603 renumbered from R18-2-403 effective November 15, 1993 (Supp. 93-4). Repealed effective October 8, 1996 (Supp. 96-4).

R18-2-604. Open Areas, Dry Washes, or Riverbeds

A. No person shall cause, suffer, allow, or permit a building or its appurtenances, or a building or subdivision site, or a driveway, or a parking area, or a vacant lot or sales lot, or an urban or suburban open area to be constructed, used, altered, repaired, demolished, cleared, or leveled, or the earth to be moved or excavated, without taking reasonable precautions to limit excessive amounts of particulate matter from becoming airborne. Dust and other types of air contaminants shall be kept to a minimum by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means.

B. No person shall cause, suffer, allow, or permit a vacant lot, or an urban or suburban open area, to be driven over or used by motor vehicles, trucks, cars, cycles, bikes, or buggies, or by animals such as horses, without taking reasonable precautions to limit excessive amounts of particulates from becoming airborne. Dust shall be kept to a minimum by using an approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means.

C. No person shall operate a motor vehicle for recreational purposes in a dry wash, riverbed or open area in such a way as to cause or contribute to visible dust emissions which then cross property lines into a residential, recreational, institutional, educational, retail sales, hotel or business premises. For purposes of this subsection "motor vehicles" shall include, but not be limited to trucks, cars, cycles, bikes, buggies and 3-wheelers. Any person who violates the provisions of this subsection shall be subject to prosecution under A.R.S. § 49-463.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-604 renumbered without change as Section R18-2-604 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-604 renumbered to R18-2-804, new Section R18-2-604 renumbered from R18-2-404 and amended effective November 15, 1993 (Supp. 93-4).

R18-2-605. Roadways and Streets

A. No person shall cause, suffer, allow or permit the use, repair, construction or reconstruction of a roadway or alley without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. Dust and other particulates shall be kept to a minimum by employing temporary paving, dust suppressants, wetting down, detouring or by other reasonable means.

B. No person shall cause, suffer, allow or permit transportation of materials likely to give rise to airborne dust without taking reasonable precautions, such as wetting, applying dust suppressants, or covering the load, to prevent particulate matter from becoming airborne. Earth or other material that is deposited by trucking or earth moving equipment shall be removed from paved streets by the person responsible for such deposits.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-605 renumbered without change as Section R18-2-605 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-605 renumbered to R18-2-805, new Section R18-2-605 renumbered from R18-2-405 effective November 15, 1993 (Supp. 93-4).

R18-2-606. Material Handling

No person shall cause, suffer, allow or permit crushing, screening, handling, transporting or conveying of materials or other operations likely to result in significant amounts of airborne dust without taking reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods to prevent excessive amounts of particulate matter from becoming airborne.

Historical Note

Section R18-2-606 renumbered from R18-2-406 effective November 15, 1993 (Supp. 93-4).

R18-2-607. Storage Piles

A. No person shall cause, suffer, allow, or permit organic or inorganic dust producing material to be stacked, piled, or otherwise stored without taking reasonable precautions such as chemical stabilization, wetting, or covering to prevent excessive amounts of particulate matter from becoming airborne.

B. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne.

Historical Note

Section R18-2-607 renumbered from R18-2-407 effective November 15, 1993 (Supp. 93-4).

R18-2-608. Mineral Tailings

No person shall cause, suffer, allow, or permit construction of mineral tailing piles without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. Reasonable precautions shall mean wetting, chemical stabilization, revegetation or such other measures as are approved by the Director.

Historical Note

Section R18-2-608 renumbered from R18-2-408, new Section R18-2-408 adopted effective November 15, 1993 (Supp. 93-4).

R18-2-609. Agricultural Practices

A person shall not cause, suffer, allow, or permit the performance of agricultural practices outside the Phoenix and Yuma planning areas, as defined in 40 CFR 81.303, which is incorporated by reference in R18-2-210, including tilling of land and application of fertilizers without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne.

Historical Note

Section R18-2-609 renumbered from R18-2-409 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 6 A.A.R. 2009, effective May 12, 2000 (Supp. 00-2). Amended by final rulemaking at 11 A.A.R. 2210, effective July 18, 2005 (Supp. 05-2).

R18-2-610. Definitions for R18-2-611

The definitions in Article 1 of this Chapter and the following definitions apply to R18-2-611:

1. "Access restriction" means restricting or eliminating public access to noncropland with signs or physical obstruction.
2. "Aggregate cover" means gravel, concrete, recycled road base, caliche, or other similar material applied to noncropland.
3. "Artificial wind barrier" means a physical barrier to the wind.
4. "Best management practice" means a technique verified by scientific research, that on a case-by-case basis is practical, economically feasible, and effective in reducing PM_{10} emissions from a regulated agricultural activity.
5. "Chemical irrigation" means applying a fertilizer, pesticide, or other agricultural chemical to cropland through an irrigation system.
6. "Combining tractor operations" means performing two or more tillage, cultivation, planting, or harvesting operations with a single tractor or harvester pass.
7. "Commercial farm" means 10 or more contiguous acres of land used for agricultural purposes within the boundary of the Maricopa PM_{10} nonattainment area.
8. "Commercial farmer" means an individual, entity, or joint operation in general control of a commercial farm.
9. "Committee" means the Governor's Agricultural Best Management Practices Committee.
10. "Cover crop" means plants or a green manure crop grown for seasonal soil protection or soil improvement.
11. "Critical area planting" means using trees, shrubs, vines, grasses, or other vegetative cover on noncropland.
12. "Cropland" means land on a commercial farm that:
    a. Is within the time-frame of final harvest to plant emergence;
    b. Has been tilled in a prior year and is suitable for crop production, but is currently fallow; or
    c. Is a field row.

ARTICLE 8. EMISSIONS FROM MOBILE SOURCES (NEW AND EXISTING)

R18-2-801. Classification of Mobile Sources

A. This Article is applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or agricultural equipment used in normal farm operations.

B. Unless otherwise specified, no mobile source shall emit smoke or dust the opacity of which exceeds 40%.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Amended effective February 3, 1993 (Supp. 93-1). Former Section R18-2-801 renumbered to Section R18-2-901, new Section R18-2-801 renumbered from R18-2-601 effective November 15, 1993 (Supp. 93-4).

R18-2-802. Off-road Machinery

A. No person shall cause, allow or permit to be emitted into the atmosphere from any off-road machinery, smoke for any period greater than 10 consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

B. Off-road machinery shall include trucks, graders, scrapers, rollers, locomotives and other construction and mining machinery not normally driven on a completed public roadway.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-802 renumbered to Section R18-2-902, new Section R18-2-802 renumbered from R18-2-602 effective November 15, 1993 (Supp. 93-4).

R18-2-803. Heater-planer Units

No person shall cause, allow or permit to be emitted into the atmosphere from any heater-planer operated for the purpose of reconstructing asphalt pavements smoke the opacity of which exceeds 20%. However three minutes' upset time in any one hour shall not constitute a violation of this Section.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-803 renumbered to Section R18-2-903, new Section R18-2-803 renumbered from R18-2-603 effective November 15, 1993 (Supp. 93-4).

R18-2-804. Roadway and Site Cleaning Machinery

A. No person shall cause, allow or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than 10 consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

B. In addition to complying with subsection (A), no person shall cause, allow or permit the cleaning of any site, roadway, or alley without taking reasonable precautions to prevent particulate matter from becoming airborne. Reasonable precautions may include applying dust suppressants. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Amended effective February 3, 1993 (Supp. 93-1). Former Section R18-2-804 renumbered to Section R18-2-904, new Section R18-2-804 renumbered from R18-2-604 effective November 15, 1993 (Supp. 93-4).

R18-2-805. Asphalt or Tar Kettles

A. No person shall cause, allow or permit to be emitted into the atmosphere from any asphalt or tar kettle smoke for any period greater than 10 consecutive seconds, the opacity of which exceeds 40%.

B. In addition to complying with subsection (A), no person shall cause, allow or permit the operation of an asphalt or tar kettle without minimizing air contaminant emissions by utilizing all of the following control measures:

1. The control of temperature recommended by the asphalt or tar manufacturer;
2. The operation of the kettle with lid closed except when charging;
3. The pumping of asphalt from the kettle or the drawing of asphalt through cocks with no dipping;
4. The dipping of tar in an approved manner;
5. The maintaining of the kettle in clean, properly adjusted, and good operating condition;
6. The firing of the kettle with liquid petroleum gas or other fuels acceptable to the Director.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-805 renumbered to Section R18-2-905, new Section R18-2-805 renumbered from R18-2-605 effective November 15, 1993 (Supp. 93-4).

United States Department of the Interior

U.S. Fish and Wildlife Service
Arizona Ecological Services Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

In reply refer to:
AESO/SE
22410-2011-SL-0134

February 17, 2011

Mr. John R. Holt
U.S. Department of Energy
P.O. Box 6457
Phoenix, Arizona 85005-6457

RE: Hassayampa Tap-ED5 Construction and Rebuild for a Transmission Line DOE/EZ-1864, Located in Pinal and Maricopa Counties, Arizona (Hassayampa Tap, Pinal West Test Track, Thornton Road Test Track, and Thornton Road ED5)

Dear Mr. Holt:

Thank you for your recent request for information on threatened or endangered species, or those that are proposed to be listed as such under the Endangered Species Act of 1973, as amended (Act), which may occur in your project area. The Arizona Ecological Service Field Office has posted lists of the endangered, threatened, proposed, and candidate species occurring in each of Arizona's 15 counties on the Internet. Please refer to the following web page for species information in the county where your project occurs:
http://www.fws.gov/southwest/es/arizona

If you do not have access to the Internet or have difficulty obtaining a list, please contact our office and we will mail or fax you a list as soon as possible.

After opening the web page, find Arizona County/Species List on the main page. Then click on the county of interest. The arrows on the left will guide you through information on species that are listed, proposed, candidates, or have conservation agreements. Here you will find information on the species' status, a physical description, all counties where the species occurs, habitat, elevation, and some general comments. Additional information can be obtained by going back to the main page. On the left side of the screen, click on Document Library, then click on Documents by Species, then click on the name of the species of interest to obtain General Species Information, or other documents that may be available. Click on the "Cactus" icon to view the desired document.

Please note that your project area may not necessarily include all or any of these species. The information provided includes general descriptions, habitat requirements, and other information for each species on the list. Under the General Species Information, citations for the Federal Register (FR) are included for each listed and proposed species. The FR is available at most Federal depository libraries. This information should assist you in determining which species may or may not occur within your project area. Site-specific surveys could also be helpful and may be needed to verify the presence or absence of a species or its habitat as required for the evaluation of proposed project-related impacts.

Endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency will need to request formal consultation with us. If the action agency determines that the planned action may jeopardize a proposed species or destroy or adversely modify proposed critical habitat, the action agency will need to enter into a section 7 conference. The county list may also contain candidate or conservation agreement species. Candidate species are those for which there is sufficient information to support a proposal for listing; conservation agreement species are those for which we have entered into an agreement to protect the species and its habitat. Although candidate and conservation agreement species have no legal protection under the Act, we recommend that they be considered in the planning process in the event that they become listed or proposed for listing prior to project completion.

If any proposed action occurs in or near areas with trees and shrubs growing along watercourses, known as riparian habitat, we recommend the protection of these areas. Riparian areas are critical to biological community diversity and provide linear corridors important to migratory species. In addition, if the project will result in the deposition of dredged or fill materials into waterways, we recommend you contact the Army Corps of Engineers which regulates these activities under Section 404 of the Clean Water Act.

The State of Arizona and some of the Native American Tribes protect some plant and animal species not protected by Federal law. We recommend you contact the Arizona Game and Fish Department and the Arizona Department of Agriculture for State-listed or sensitive species, or contact the appropriate Native American Tribe to determine if sensitive species are protected by Tribal governments in your project area. We further recommend that you invite the Arizona Game and Fish Department and any Native American Tribes in or near your project area to participate in your informal or formal Section 7 Consultation process.

For additional communications regarding this project, please refer to consultation number 22410-2011-SL-0134. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area.

Mr. John R. Holt

If we may be of further assistance, please feel free to contact Brenda Smith (928) 226-0614 (x101) for projects in Northern Arizona, Debra Bills (602) 242-0210 (x239) for projects in central Arizona and along the Lower Colorado River, and Scott Richardson (520) 670-6150 (x242) for projects in southern Arizona.

Sincerely,

for Steven L. Spangle
Field Supervisor

cc: (hard copy)
Regional Supervisor, Arizona Game and Fish Department, Tucson, AZ

cc (electronic copy)
Assistant Field Supervisor, Fish and Wildlife Service, Tucson, AZ
Marc Wicke, Fish and Wildlife Service, Phoenix, AZ
Greg Wold, AZTEC, Phoenix, AZ

W:\Cathy Gordon\administration\species ltrs\complete\Dept of Energy Hassayampa Tap ED5 Construction and rebuild for transmission line.docx:cgg

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV

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GARY R. HOVATTER
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March 17, 2011

Mr. Greg Wold
AZTEC
4561 E. McDowell Rd.
Phoenix, AZ 85008

Re: **Hassayampa Tap – ED5 Construction and Rebuild for a Transmission Line DOE/EA-1864.**

Dear Mr. Wold:

The Arizona Game and Fish Department (Department) has reviewed your request, dated February 11, 2011, regarding 1) upgrading an existing transmission line; 2) building a new transmission line; and 3) obtaining capacity on an existing transmission line. The Department offers the following general comments, based on the general information provided:

- Adhere to existing roads, trails, and ROWs where possible with avoidance of the potential areas of travel for wildlife (i.e. washes (Santa Cruz and Greene). Temporary roads should be obliterated and revegetated directly following construction.
- Any clearing associated with the structures or substations should consider leaving any shrubs and/or brush undisturbed where possible and piled within intervals to enhance the habitat.
- Any new disturbance should consider revegetation and restoration where possible using native plants.
- All transmission lines must be designed to prevent or minimize risk of electrocution of raptors.
- Scheduling of construction should be done in a time with the least amount of risk to the wildlife, such as limiting project activities during the breeding season for birds, generally May through late August, depending on species in the local area. Raptors breed in early February through May. Conduct surveys to determine wildlife species that may be utilizing the area and develop a plan to avoid disturbance during nesting/breeding season.
- Avoid removal of deadfall/snags since many wildlife species use snags for refuge.
- Survey for Tucson shovel-nosed snake, Sonoran desert tortoise, and burrowing owls prior to project activities to ensure the species are not within the project area. Specific guidelines for tortoise and burrowing owls can be found at http://www.azgfd.gov/hgis/guidelines.aspx.
- Coordinate plant salvage efforts with the Arizona Department of Agriculture, in accordance with the Arizona Native Plant Law.

The Department would appreciate an opportunity to discuss the project and possible routes to consider in the EA to ensure wildlife impacts are minimized. We appreciate Western Area Power Administration's initiative to involve the Department early in the process and look forward to our continued collaboration on this project. If you have any questions regarding this letter, please contact me at (623) 236-7606. General status information, county and watershed distribution lists and abstracts for some special status species are available on our web site at http://www.azgfd.gov/hdms.

Sincerely,

Ginger Ritter
Project Evaluation Specialist

Attachment

cc: Laura Canaca, Project Evaluation Program Supervisor
John Windes, Habitat Program Manager, Region VI

AGFD #M11-02143633

Meeting Record

Subject: Western and Arizona Game and Fish Regarding Hassayampa Tap – ED5 EA

Meeting Date: March 31, 2011

Participants: John Windes, AGFD Reg. V Habitat Program Manager; Ginger Ritter, AGFD Habitat Branch; Bill Werner, Northstar Technology for Western

On March 31, 2011 Western hosted a call with AGFD representatives to review the Hassayampa Tap ED5 project after receiving the March 17, 2011 letter from AGFD. Bill Werner stepped through the project description, explaining which segments would be new construction and which would be replacement of an existing line. Bill also explained the geographic relationship of the project to Greene Wash and the Santa Cruz River, mentioned in the AGFD letter. The construction does not cross Greene Wash and the Santa Cruz River is channelized through the ag lands. The flow of the Santa Cruz is diverted into Greene Wash at the south end of the valley south of Eloy.

Windes commented that his concerns were generally alleviated upon learning that the Thornton Road to ED5 segment is replacement of an existing line rather than new construction. He explained that the new versus replacement distinction was not apparent from the map provided by Western. Ritter had no additional comment. Werner advised that AGFD would receive the draft EA and that Western welcomed comment.

B. Werner as 4/23/11

AK-CHIN INDIAN COMMUNITY

Community Government

42507 W. Peters & Nall Road • Maricopa, Arizona 85138 • Telephone: (520) 568-1000 • Fax: (520) 568-1001

January 24, 2011

Mr. John Holt
Environmental Affairs Manager
Department of Energy
Desert Southwest Customer Service Region
P.O. Box 6457
Phoenix, AZ 85005-6457

RE: Transmission Line from Palo Verde to ED5 Substation, and Proposed Maintenance from ED5 Substation to Saguaro Power Plant.

Dear Mr. Holt:

The Ak-Chin Indian Community received your letter dated January 3, 2011 regarding plans to rebuild existing transmission line, from the Hassayampa Tap near the Palo Verde Generating Station to Western's Saguaro Power Plant, Pinal County, Arizona

Based on the proposed location, three of the four transmission line segments will be located near the immediate boundary of the Ak-Chin Indian Community. The area is within the Land Management Area for the Ak-Chin Indian Community as per Arizona State Museum agreement, and although the project will be located outside of the Ak-Chin Indian Community A.R.S. 41-865 protects the inadvertent discoveries of human remains and funerary items that are made on private land within the State of Arizona.

At this time the Ak-Chin Indian Community would support this project and the Cultural Resource Office recommends that a burial agreement with Arizona State Museum is signed, and a qualified monitor is on site during the maintenance and rebuilding of existing transmission lines. If any discovery is made, the Arizona State Museum Director will be promptly notified of the discovery. However, our office does request to be informed, if there are any discoveries to determine if they are of specific interest to the Ak-Chin Indian Community.

Furthermore, in the event of an inadvertent discovery, all construction activity must immediately halt in the area of discovery, and the Ak-Chin Indian Community must be notified. The first point of contact for notification would be with the Ak-Chin Cultural Resources Office Manager, Caroline Antone at (520) 568-1372. If contact with her can not be established, then contact Gary Gilbert at (520) 251-2231. If contact with him can

not be established, then the Ak-Chin Tribal Council needs to be notified at (520) 568-1000. The Ak-Chin Cultural Resources staff and/or an Ak-Chin Council-Member will then visit the area to assess the discovery. If human remains are found, a designated individual from our Community will perform a blessing on the discovery.

Thank you for informing the Ak-Chin Indian Community about this project and we would welcome future information. If you should have any questions, please contact Mrs. Caroline Antone, Cultural Resources Manager at (520) 568-1372 or Mr. Gary Gilbert, Cultural Resources Technician II at (520) 568-1369.

Sincerely,

Louis J. Manuel, Jr., Chairman
Ak-Chin Indian Community

White Mountain Apache Tribe

Office of Historic Preservation
PO Box 507
Fort Apache, AZ 85926
Ph: (928) 338-3033 Fax: (928) 338-6055

To: Linette King, Western Area Power Administration Consultant

Date: January 10, 2011

Project: New Palo Verde to ED5 Substation Transmission Line/Maintenance

.....

The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the proposed project, January 03, 2011 . In regards to this, please attend to the following checked items below.

► ***There is no need to send additional information unless project planning or implementation results in the discovery of sites and/or items having known or suspected Apache Cultural affiliation.***

N/A - The proposed project is located within an area of probable cultural or historical importance to the White Mountain Apache tribe (WMAT). As part of the effort o identify historical properties that maybe affected by the project we recommend an ethno-historic study and interviews with Apache Elders. The tribe's ***Cultural Heritage Resource Director Mr. Ramon Riley*** may be contacted at (928) 338-3033 for further information should this become necessary.

► Please refer to the attached additional notes in regards to the proposed project:

We have received and reviewed the information regarding West Area Power Administration's proposal to replace exisiting transmission line, build new transmission line and accept capacity on an existing transmission line from the Hassayampa Tap near the Palo Verde Generating Station to Western's ED5 Substation, Pinal County, Arizona, and we have determined that the proposed project will ***not have an effect*** on the White Mountain Apache tribe's cultural heritage resources and/or traditional cultural properties. Regardless, any/all ground disturbing activities should be monitored ***if*** there are reasons to believe that there are human remains and/or funerary objects are present, and if such remains and/or objects are encountered all construction activities should be ceased and the proper authorities and/or affiliated tribe(s) be notified to evaluate the situation.

Thank you. We look forward to continued collaborations in the protection and preservation of place of cultural and historical significance.

Sincerely,

Mark T. Altaha

White Mountain Apache Tribe

Historic Preservation Office

THE HOPI TRIBE

LeRoy N. Shingoitewa
CHAIRMAN

Herman G. Honanie
VICE-CHAIRMAN

January 24, 2011

John R. Holt, Environmental Manager
Attention: Steve Tromly, Linette King
Department of Energy, Western Area Power Administration
615 S. 43rd Ave.
Phoenix, Arizona 85009-5313

Re: New Transmission Line from Palo Verde to ED5 Substation and
Proposed Maintenance from ED5 Substation to Saguaro Power Plant, Pinal County

Dear Mr. Holt,

This letter is in response to your correspondence dated January 3, 2011, regarding Western Area Power Administration (WAPA) planning to rebuild transmission line and construct new transmission line from the Hassayampa Tap near the Palo Verde Generating Station to the ED5 Substation.

As you know from our previous letters, the Hopi Tribe claims cultural affiliation to prehistoric cultural groups in Arizona. The Hopi Cultural Preservation Office supports the identification and avoidance of prehistoric archaeological sites and we consider the prehistoric archaeological sites of our ancestors to be Traditional Cultural Properties. Therefore, we appreciate WAPA's continuing solicitation of our input and your efforts to address our concerns.

The Hopi Cultural Preservation Office is interested in consulting on any proposal in Arizona that has the potential to adversely affect prehistoric sites. Please provide us with copies of the cultural resources survey report of the area of potential effect and any proposed treatment plans for review and comment.

If you have any questions or need additional information, please contact Terry Morgart at 928-734-3619 or tmorgart@hopi.nsn. Thank you for your consideration.

Respectfully,

Leigh J. Kuwanwisiwma, Director
Hopi Cultural Preservation Office

xc: Arizona State Historic Preservation Office

P.O. BOX 123 KYKOTSMOVI, AZ 86039 (928) 734-3000

SHPO-2011-0581(91142)

Department of Energy
Western Area Power Administration
Desert Southwest Customer Service Region
P.O. Box 6457
Phoenix, AZ 85005-6457

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APR 27 2011
DJ
ARIZONA STATE PARKS BOARD

APR 26 2011

Mr. James Garrison
State Historic Preservation Officer
Arizona State Historic Preservation Office
Arizona State Parks
1300 West Washington Street
Phoenix, AZ 85007

RE: **Palo Verde Hub- Thornton Road Construction and Rebuild for a Transmission Line and Substation, Maricopa and Pima County, Arizona.**

Dear Mr. Garrison:

Western is seeking a determination of no adverse effect. The Western Area Power Administration (Western), a power-marketing agency within the U.S. Department of Energy, proposes to achieve the increased power and reliability for their public and private utility clients through electrical agreements with multiple transmission entities. Without improvements to Western's system, as well as other utilities in the region, the regional grid may experience outages requiring more maintenance activity and The Proposed Action would provide transmission access to a major market hub (PVH) and could enhance significantly the viability of renewable resource development in Pinal County. Western has considered the effects of the undertaking as described below on cultural resources. Per 36 CFR § 800.5(b), Western has determined that there will be **a no adverse effect, providing the Special Conditions of Compliance** outlined below are followed. The submission of this documentation is an attempt to fulfill Western's responsibilities under Section 106 of the National Historic Preservation Act.

Description of the Undertaking –Western and southern Arizona utility districts and public utilities, have entered into an agreement to plan, design, fund, and construct: the granting of electrical transmission over existing PV-PW and proposed PW-SEV/BRG lines, the construction of a new 230-kV transmission line segments (a double circuit 500/230-kV line), and expanding Test Track substation.

SRP operates two of the substation/switchyard facilities, Palo Verde Hub and Pinal West, which are part of and the Palo Verde Hub – Pinal West (PVH-PW) transmission line. The PVH-PW line and Pinal West Substation were constructed in 2007 and energized in 2008. Western owns and operates Test Track substation. The existing substation is on Western fee-owned land. Land for Test Track substation was acquired in 2005 (see map).

Methodology and Reporting – Field surveys and geo-morphological studies have been performed to identify cultural resources has occurred at unavoidable sites along PVH to Thornton Road.

In addition to the field survey components of these investigations, existing site and project records were reviewed. The records reviewed included those maintained by AZSITE, Arizona's statewide database of cultural resource information; the Arizona State Historic Preservation Office (SHPO); BLM Phoenix Office; BLM Tucson Field Office; Arizona State Museum (ASM); Arizona State University; Museum of Northern Arizona; and the Arizona Department of Transportation (ADOT) Historic Preservation Team. Additionally, historic land survey maps prepared by the General Land Office were reviewed for indications of historic homesteads or other features that could be present in the project area.

As a result of these investigations, all project area segments have been subjected to 100 percent cultural resources survey coverage. All survey was conducted to AZ SHPO and Secretary of Interior standards.

Resources Located, Identified and Evaluated – The results of the field inventories identified the following properties:

Cultural Resources Properties in the Project Area				
Site No. or Property Name	**Description**	**NRHP Eligibility**	**Project Impacts**	**Land Status**
PALO VERDE HUB – PINAL WEST				
AZ T:9:5(ASM)	Prehistoric artifact scatter	Eligible, criterion d	None	ASLD
AZ T:9:60(ASM)	Historic artifact scatter	Not eligible	None	Private
AZ T:9:63(ASM)	Historic road	Not eligible	None	Private
AZ T:10:84(ASM) Southern Pacific Railroad: Wellton-Phoenix-Eloy Spur	Historic railroad	Eligible, criterion a	None	Private
AZ T:13:18(ASM) Gillespie Dam	Prehistoric village, historic canal	Eligible, criterion d	None	Private
AZ T:13:21(ASM)	Prehistoric and historic artifact scatter	Eligible, criterion d	None	Private
AZ T:13:121(ASM)	Prehistoric petroglyphs	Eligible, criterion d	None	Private
AZ T:13:125(ASM)	Prehistoric artifact scatter and rock features	Eligible, criterion d	None	BLM
AZ T:14:137(ASM)	Historic road	Not eligible	None	BLM
AZ T:15:7(ASM)	Prehistoric artifact scatter	Requires testing	None	Private
AZ T:15:9(ASM)	Historic artifact scatter and corral	Eligible, criterion d	None	BLM
AZ T:15:35(ASM)	Prehistoric cobble clusters	Not eligible	None	BLM
AZ T:15:36(ASM)	Historic homestead	Eligible, d	None	BLM

Cultural Resources Properties in the Project Area				
Site No. or Property Name	**Description**	**NRHP Eligibility**	**Project Impacts**	**Land Status**
AZ T:15:37(ASM)	Prehistoric lithic reduction area	Not eligible	None	BLM
AZ T:16:149(ASM)	Prehistoric rock scatter	Not eligible	None	BLM
AZ T:16:159(ASM)	Historic homestead	Not eligible	None	Private
AZ Z:2:66(ASM) Gila Bend Canal	Historic canal	Eligible, criteria a and b	None	Private
AZ CC:2:43(BLM) Enterprise Canal	Historic canal	Eligible; criteria a, c, and d	None	Private
AZ FF:9:17(ASM) Old US 80 Highway	Historic road	Eligible, criteria a and d	None	Maricopa County
AZ T:15:32(ASM) Butterfield Stage Route	Historic road	Eligible, criterion a	None	Private
AZ T:15:45(ASM)	Historic trash dump	Not eligible	None	Private
AZ T:15:46(ASM)	Historic artifact scatter and ranching features	Eligible, criterion d	None	Private
AZ T:15:47(ASM) State Route 238	Historic road	Not eligible	None	ADOT
AZ Z:2:40(ASM) Southern Pacific Railroad Mainline	Historic railroad	Eligible, criterion a	None	Private
PINAL WEST – TEST TRACK AND TEST TRACK – THORNTON ROAD				
AZ Z:4:41(ASM)	Prehistoric artifact scatter	Not eligible (destroyed)	None	Private
AZ AA:1:95(ASM) Maricopa–Saguaro 115-kV Transmission Line	Historic transmission line	Not eligible	A segment of the line between the Thornton Rd and ED5 Substation would be rebuilt	ASLD, Western
AZ AA:2:118(ASM) Historic State Route 84	Historic road	Eligible, criterion d	Highway would be spanned	ADOT
AZ AA:1:183(ASM)	Prehistoric artifact scatter	Eligible, criterion d	Avoidance and monitoring	ADOT
AZ AA:1:104(ASM)	Historic artifact scatter and structure foundations	Eligible, criterion d	Avoidance and monitoring	County/City
AZ AA:1:134(ASM) Montgomery Road	Historic road	Not eligible	Road would be spanned	County/City
AZ AA:1:233(ASM)	Historic artifact scatter	Not eligible	None	Private
AZ AA:1:234(ASM)	Historic artifact scatter	Not eligible	None	Private
AZ AA:1:129(ASM) Midway Road	Historic road	Not eligible	Road would be spanned	County/City
AZ AA:1:132(ASM) Bianco Road	Historic road	Not eligible	Road would be spanned	County/City

Effects Determination and Compliance Decision – Effects determinations are the responsibility of the lead Federal agency. Western will use an archaeological monitor at sites AZ AA:1:183(ASM) and AZ AA:1:104(ASM).

Special Conditions of Compliance –
The project will avoid impacts to all eligible or potentially eligible sites within the APE. Existing poles within sites will be cut off at ground level and hand carried out of the site. No New poles will be placed within sites but are to be offset at a minimum of 50 feet outside of existing site boundaries. To insure the above actions are completed, an archeological monitor will be present during construction at the eligible and potentially eligible sites. Temporary fencing or markers may be used to delineate sites. This fencing will be put up immediate prior to any work around the site and removed immediately after work around the site is completed. Consulted Tribes have been invited to participate in the monitoring of the sites and to participate in a field visit to the known sites. Attempts to conduct this Tribal (Tohono O'Odham) visit have been ongoing and continuous since late December 2010 based on their reported interested in the project. Although invitations have been sent, the Tribe has not responded to our multiple attempts to have this field visit over the last four months.

As a result, Western recommends a **no adverse effect** by the proposed project. Western recommends that the proposed project be allowed to proceed as planned.

Please concur with our determination of effect. If you have any questions about the determination or the project, please telephone Stephen Tromly, Federal Preservation Officer at (720) 962-7256 or Linette King, environmental planner, at (602) 605-2434.

Sincerely,

John R. Holt
Environmental Manager

CONCUR

5 MAY 11

Arizona State Historic Preservation Office

Enclosure

SHPO-2011-0838 (90081)

Department of Energy
Western Area Power Administration
Desert Southwest Customer Service Region
P.O. Box 6457
Phoenix, AZ 85005-6457

RECEIVED
MAR 04 2011
BJ
ARIZONA STATE PARKS/S.H.P.

MAR 03 2011

Mr. James Garrison
State Historic Preservation Officer
Arizona State Parks
1300 West Washington Street
Phoenix, Arizona 85007

RE: Casa Grande-Empire 115-kV Transmission Line Double Circuit Upgrade from Thornton Road to the Empire Substation with Salt River Project, Pinal County.

Dear Mr. Garrison:

The Western Area Power Administration (Western) is continuing consultation with your office on the double circuiting our Casa Grande-Empire 115-kV Transmission Line from Thornton Road to The Empire Substation with Salt River Project's (SRP) new Desert Basin 230-kV Transmission Line (Project). Per 36 CFR § 800.5(d)(1). Western has contracted a cultural resource inventory for the proposed project and is providing a copy for your review. Western is also making a determination of no adverse effect to historic properties based on the survey results and information listed below.

I. **Description of the Undertaking** – SRP contacted Western to double circuit their new 230-kV line from Thornton Road to Empire Substation for the Desert Basin Generating Station on 13.2 miles of Western's existing Casa Grande-Empire 115-kV Transmission Line. The project will require replacing the existing H-frame wood pole transmission line structures with monopole steel structures. The new structures will allow for a larger span between structures. This will require dozers, graders, backhoes, auger trucks, bucket trucks, cranes, crew trucks, trailer trucks, pullers and tensioners. Staging and pulling areas have not been identified at this time but the pulling locations for the conductor will require setting a piece of heavy equipment (e.g.D-6 Caterpillar) about 200 feet beyond the end of the APE. Survey of the pulling sites will be conducted and addendum reports will be sent to your office for review. No new access roads are necessary. The area of potential effect (APE) is 125' x 13.2 miles plus multiple pulling and staging sizes previously determined in consultation with your office and other consulting parties.

The project is located just south of Thornton Road, north of Interstate 8 and expands south-southeast to Harmon Road. SRP's transmission line extends further than the double-circuited section. The project is located on private and state lands. This section

106 consultation is only for the piece which will rebuild Western's existing transmission line.

II. **Methodology and Reporting** – Western contracted with Archaeological Consulting Services, Inc. (ACS) to do a Class III archaeological inventory. The report, "A Cultural Resource Survey and Inventory for the Casa Grande to Saguaro portion of Western's Test Track (formerly Maricopa) Saguaro 115-kV Transmission Line, Pinal County, Arizona," is enclosed for your review of the project. ACS surveyed the 125-foot-wide transmission line right-of-way with an additional 62.5-foot-wide buffer on each side, for a total of 250 feet, and a 50-foot-wide access road corridor with an additional 25-foot-wide buffer on both sides for a total of 100 feet. All survey was conducted to AZ SHPO and Secretary of Interior standards.

III. **Resources Located, Identified, and Evaluated (Significance Criteria Considered)** – The results of the ACS field inventory identified a total of twenty-three (23) historic-period properties in the project area , 18 are identified as structures and 5 properties are identified as sites. The field inventory also identified a total of fifteen (15) prehistoric-period properties in the project area, these properties are all identified as sites.

Casa-Grande 115-kV Transmission Line Upgrade from Thornton Road to Empire Substation Cultural Resources Identified in Project Area

Property Number	Property Type	Age	Description	Eligibility
AZ AA:1:95	Structure	Late Historic-Modern (1947-Present)	Maricopa-Saguaro 115-kV Transmission Line	Determined not eligible
AZ AA:1:229	Structure	Late Historic–Recent (ca.1930–present)	Thornton Road	Recommended not eligible
AZ AA:1:104	Site	Late Historic–Recent (1900–present)	Historic trash dump	Determined eligible (D), recommend eligible (A)
AZ AA:1:233	Site	Late Historic (1940s)	Historic trash scatter	Recommended not eligible
AZ AA:1:234	Site	Late Historic– Recent (1900– present)	Historic trash dump	Recommended not eligible
AZ AA:1:235	Structure	Late Historic– Recent (1946– present)	El Paso Natural Gas Pipeline No. 20109	Exempt from the Section 106 review process
AZ AA:1:236	Site	Late Historic (1950s)	Historic trash scatter	Recommended not eligible
AZ AA:1:218	Structure	Late Historic– Recent (1920– present)	Hanna Road	Recommended not eligible
AZ AA:1:237	Site	Sedentary– Classic period (A.D. 950– 1450); Late Historic (1920– 1960)	Prehistoric artifact scatter/historic trash scatter	Requires eligibility testing
AZ AA:1:238	Structure	Late Historic– Recent (1930– present)	Chuichu Road	Recommended not eligible
AZ AA:1:99	Site	Classic period (A.D. 1150– 1450)	Prehistoric artifact scatter	Requires eligibility testing
AZ AA:1:239	Site	Sedentary– Classic period (A.D. 950– 1450)	Prehistoric artifact scatter	Requires eligibility testing
AZ AA:1:131	Structure	Late Historic– Recent (ca.1920–present)	Shedd Road	Recommended not eligible

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AZ AA:2:320	Structure	Late Historic– Recent (ca. 1965–present)	Houser Road	Recommended not eligible
AZ CC:16:24	Structure	Late Historic (1946–present)	El Paso Natural Gas Line No. 1100	Exempt from the Section 106 review process
AZ AA:2:124	Site	Classic period (A.D. 1150– 1450)	Prehistoric artifact scatter	Recommended eligible (D)
AZ AA:2:321	Site	Late Archaic– Classic period (200 B.C.–A.D. 1450)	Prehistoric lithic reduction area	Recommended eligible (D)
AZ AA:2:322	Structure	Late Historic (ca. 1900– 1950)	Historic water control device	Recommended not eligible
AZ AA:2:323	Structure	Late Historic– Recent (ca. 1965–present)	Battaglia Road	Recommended not eligible
AZ AA:2:324	Structure	Late Historic– Recent (ca. 1910–present)	Historic canal	Recommended not eligible
AZ AA:2:125	Site	Middle/Late Archaic– Ceramic period (200 B.C – 1450)	Prehistoric artifact scatter	Recommended eligible (D)
AZ AA:6:52	Site	Ceramic period (A.D. 300– 1450)	Prehistoric artifact scatter	Previously recommended eligible (D)
AZ AA:6:82	Structure	Late Historic– Recent (ca. 1947–present)	Alsdorf Road	Recommended not eligible
AZ AA:2:189	Structure	Late Historic– Recent (ca. 1947–present)	Historic road	Recommended not eligible
AZ AA:6:53	Site	Classic period (A.D. 1150– 1450)	Prehistoric artifact scatter	Recommended not eligible
AZ AA:6:23	Site	Ceramic period (A.D. 300– 1450)	Prehistoric artifact scatter	Recommended not eligible
AZ AA:6:243	Structure	Late Historic– Recent (ca. 1947–present)	Lamb Road	Recommended not eligible
AZ AA:6:54	Site	Classic period (A.D. 1150– 1450)	Prehistoric artifact scatter	Recommended eligible (D)
AZ AA:6:55	Site	Classic period (A.D. 1150– 1450)	Prehistoric artifact scatter	Requires eligibility testing
AZ AA:6:56	Site	Sedentary– Classic (A.D. 950–1450)	Prehistoric artifact scatter	Recommended eligible (D)
AZ AA:6:241	Structure	Late Historic– Recent (ca. A.D. 1947– present)	Sunland Gin Road	Recommended not eligible
AZ AA:6:173	Structure	Late Historic– Recent (ca. 1963–present)	Historic road	Recommended not eligible
AZ AA:6:57	Site	Classic period (A.D. 1150– 1450)	Prehistoric artifact scatter	Recommended not eligible
AZ AA:6:175	Structure	Late Historic– Recent (ca. 1963–present)	Overfield Road	Recommended not eligible
AZ AA:6:174	Site	Late Historic (1940–1960)	Historic trash scatter	Recommended not eligible
AZ AA:6:30	Site	Ceramic period (A.D. 300– 1450), Late Historic (post- 1880–1960)	Multicomponent prehistoric artifact scatter, historic trash scatter	Requires eligibility testing
AZ AA:6:239	Structure	Late Historic– Recent (ca. 1947–present)	Harmon Road	Recommended not eligible
AZ AA:6:58	Site	Ceramic Period (A.D. 300– 1450)	Prehistoric artifact scatter	Previously recommended eligible (D)

The project will avoid impacts to all eligible or potentially eligible sites within the APE. Existing poles within sites will be cut off at ground level and hand carried out of the site. No new poles will be placed within sites but are to be offset at a minimum of 50 feet outside of existing site boundaries. To insure the above actions are completed an archaeological monitor will be present during construction at the eligible and potentially eligible sites. Temporary fencing and/or marking may be used to delineate sites. This fencing will be put up immediately prior to any work around the site and removed immediately after work around the site is completed. Consulted Tribes have been invited to participate in the monitoring of the sites and to participate in a field visit to the known sites. Attempts to conduct this Tribal (Tohono O' odham) visit have been ongoing and continuous since late December 2010 based on their reported interest in their project. We are hopeful for a mid March 2011 Tribal site visit.

IV. **Effects Determination and Compliance Decision** - Effects determinations are the responsibility of the lead agency. Western has considered the nature of the undertaking and plans to hand remove existing structures from known sites and avoid sites with new construction. Therefore Western has determined that there will be a **no adverse effect on historic properties**. A construction inspector will be assigned to the project to ensure the construction crews stay within the APE and adhere to the direction of the on-site archaeological monitor.

Western seeks your concurrence with our **determination of no adverse effect**. If you have any questions about the determination or the project, please telephone Stephen Tromly, Federal Preservation Officer at (720) 962-7256 or Linette King at (602) 605-2434.

Sincerely,

CONCUR

16MAR11

Arizona State Historic Preservation Office

John R. Holt
Environmental Manager

Enclosures

Reference:

2010; A *Cultural Resource Survey and Inventory for the Casa Grande-Saguaro Portion of Western's Test Track (formerly Maricopa) Saguaro 115-kV Transmission Line, Pinal County, Arizona*. Project Report No. 09-200-02, Archaeological Consulting Services, Ltd.., Tempe.

SHPO-2010-0838(90084)

Department of Energy
Western Area Power Administration
Desert Southwest Customer Service Region
P.O. Box 6457
Phoenix, AZ 85005-6457

MAR 03 2011

Mr. James Garrison
State Historic Preservation Officer
Arizona State Parks
1300 West Washington Street
Phoenix, Arizona 85007

RE: Empire-Electrical District 5 (ED5) 115-kV Transmission Line Double Circuit Upgrade with Salt River Project, Pinal County.

Dear Mr. Garrison:

The Western Area Power Administration (Western) is continuing consultation with your office for the double circuiting our Casa Grande-Empire 115-kV Transmission Line with Salt River Project's (SRP) new Desert Basin 230-kV Transmission Line. Per 36 CFR § 800.5(d)(1). Western contracted a cultural resource for the proposed project, enclosed for your review. Based on the findings and determinations listed below, Western has determined that there will be **no effect to historic properties.**

I. **Description of the Undertaking** – SRP contacted Western to double circuit their new 230-kV line from Empire to ED5 Substation for the Desert Basin Generating Station on 9.2 miles of Western's existing Empire-ED5 115-kV Transmission Line. The project will require replacing the existing H-frame wood pole transmission line structures with monopole steel structures. This will require dozers, graders, backhoes, auger trucks, bucket trucks, cranes, crew trucks, trailer trucks, pullers and tensioners. Staging and pulling areas have not been identified at this time but the pulling locations for the conductor will require setting a piece of heavy equipment (e.g.D-6 Caterpillar) about 200 feet beyond the end of the APE. Survey of the pulling sites will be conducted and an addendum report will be sent to your office for review. No new access roads are necessary. The area of potential effect (APE) is 125' x 13.2 miles plus multiple pulling and staging sizes previously determined in consultation with your office and other consulting parties.

The project is located just south of Harmon Road and expands south along Toltec Road to Curtis Road and runs east along Curtis Road to Eleven Mile Corner Road. The project is on private and state lands. This section 106 consultation is only for the piece which will rebuild Western's existing transmission line.

II. **Methodology and Reporting** - Western contracted with Archaeological Consulting Services, Inc. (ACS) to do a Class III archaeological inventory. The report, "A Cultural Resource Survey and Inventory for the Casa Grande to Saguaro portion of Western's Test Track (formerly Maricopa) Saguaro 115-kV Transmission Line, Pinal County, Arizona," is enclosed for your review. ACS surveyed the 125-foot-wide transmission line right-of-way with an additional 62.5-foot-wide buffer on each side, for a total of 250 feet, and a 50-foot-wide access road corridor with an additional 25-foot-wide buffer on both sides for a total of 100 feet. All survey was conducted to AZ SHPO and Secretary of Interior standards.

III. **Resources Located, Identified, and Evaluated (Significance Criteria Considered)** – The results of the ACS field inventory identified a total of thirteen (13) historic-period properties in the project area identified as structures. The field inventory also identified two (2) prehistoric-period properties in the project area, these properties are identified as sites.

Casa-Grande 115-kV Transmission Line Upgrade from Thornton Road to Empire Substation Cultural Resources Identified in Project Area

Property Number	Property Type	Age	Description	Eligibility
AZ AA:6:176	Structure	Late Historic–Modern (1961–present)	Empire Substation	Recommended not eligible
AZ AA:6:59	Site	Sedentary–Classic period (A.D. 950–1450)	Prehistoric artifact scatter	Recommended not eligible
AZ AA:6:60	Site	Sedentary–Classic period (A.D. 950–1450)	Prehistoric artifact scatter	Recommended not eligible
AZ AA:6:177	Structure	Late Historic–Recent (ca.1963–present)	Hotts Road	Recommended not eligible
AZ AA:6:178	Structure	Late Historic–Recent (ca.1965–present)	Pretzer Road	Recommended not eligible
AZ AA:1:95	Structure	Late Historic–Modern (1947–present)	Maricopa–Saguaro 115-kV Transmission Line	Determined not eligible
AZ AA:6:248	Structure	Late Historic–Recent (ca.1947–present)	Toltec Buttes Road	Recommended not eligible
AZ AA:6:250	Structure	Late Historic–Recent (ca.1947–present)	Greene Reservoir Road	Recommended not eligible
AZ AA:6:179	Structure	Late Historic–Recent (ca.1963–present)	Historic road	Recommended not eligible
AZ AA:6:249	Structure	Late Historic–Recent (ca.1963–present)	Curtis Road	Recommended not eligible
AZ AA:6:246	Structure	Recent (ca.1947–present)	Toltec Highway	Recommended not eligible
AZ AA:6:180	Structure	Late Historic–Recent (ca.1965–present)	Curry Road	Recommended not eligible
AZ AA:6:181	Structure	Late Historic–Recent (ca.1965–present)	Tweedy Road	Recommended not eligible
AZ AA:6:182	Structure	Late Historic–Modern (1950–present)	ED-5 Substation	Recommended not eligible
AZ AA:2:175	Structure	Late Historic–Recent (pre-1920–present)	Eleven Mile Corner Road	Recommended not eligible

No eligible or potentially eligible sites are located within the APE. Western agrees with the determinations of eligibility for the identified sites within the APE.

IV. **Effects Determination and Compliance Decision** - Effects determinations are the responsibility of the lead agency. Western has considered the nature of the undertaking and concurs with the survey results of no eligible sites present. Therefore Western has determined there will be **no effect on historic properties**. A construction inspector will be assigned to the project to ensure the construction crews stay within the APE.

Western seeks your concurrence with our **determination of no effect on Historic Properties**. If you have any questions about the determination or project, please telephone Stephen Tromly federal Preservation Officer at (720) 962-7256 or Linette King at (602) 605-2434.

Sincerely,

CONCUR

15 MAR 11

Arizona State Historic Preservation Office

John R. Holt

John R. Holt
Environmental Manager

Enclosures

Reference:

2010; A *Cultural Resource Survey and Inventory for the Casa Grande-Saguaro Portion of Western's Test Track (formerly Maricopa) Saguaro 115-kV Transmission Line, Pinal County, Arizona*. Project Report No. 09-200-02, Archaeological Consulting Services, Ltd.., Tempe.

APPENDIX H – SONORAN DESERT TORTOISE GUIDELINES

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GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES
ENCOUNTERED ON DEVELOPMENT PROJECTS
Arizona Game and Fish Department
Revised October 23, 2007

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

The Sonoran population of desert tortoises occurs south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position parallel to the ground at all times, and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 40° Celsius (105° Fahrenheit) unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to one-half mile, but no further than necessary from its original location. If a release site, or alternate burrow, is unavailable within this distance, and ambient air temperature exceeds 40° Celsius (105° Fahrenheit), the Department should be contacted to place the tortoise into a Department-regulated desert tortoise adoption program. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, will also be placed in desert tortoise adoption programs. *Managers of projects likely to affect desert tortoises should obtain a scientific collecting permit from the Department to facilitate temporary possession of tortoises.* Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- These guidelines do not apply to the Mojave population of desert tortoises (north and west of the Colorado River). Mojave desert tortoises are specifically protected under the Endangered Species Act, as administered by the U.S. Fish and Wildlife Service.

- These guidelines are subject to revision at the discretion of the Department. We recommend that the Department be contacted during the planning stages of any project that may affect desert tortoises.

- Take, possession, or harassment of wild desert tortoises is prohibited by state law. Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.