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Transcript Exhibit(s)

Docket #(s): L-00000D-02-0120-00000

Exhibit # : A1 - A9

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Application for a Certificate of Environmental Compatibility

L-00000D-02-0120

Arizona Public Service Company
North Valley 230kV Facility Siting Project

Prepared for:

Arizona Power Plant and Transmission Line Siting Committee

Submitted by:

Arizona Public Service Company

Date: _____
Case No. _____

EXHIBIT
A-1
admitted

BEFORE THE ARIZONA
POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

In the matter of the Application of Arizona Public Service Company, in conformance with the requirements of Arizona Revised Statutes Section 40-360, et seq., for a Certificate of Environmental Compatibility authorizing the North Valley 230kV Facility Siting Project, including the construction of approximately 31 miles of 230kV transmission lines, two 230kV substations, and three substation interconnections in Maricopa County, Arizona, originating at the Westwing Substation in Section 12, Township 4 North, Range 1 West, G&SRB&M and interconnecting at the Raceway Substation in Sections 4 and 5, Township 5 North, Range 1 East, G&SRB&M, continuing to the proposed Avery Substation in Section 15, Township 5 North, Range 2 East, G&SRB&M and the proposed Misty Willow Substation in Section 8, Township 4 North, Range 3 East, G&SRB&M, and terminating at the Pinnacle Peak Substation in Section 10, Township 4 North, Range 4 East, G&SRB&M.	Case No. _____

APPLICATION FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

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LIST OF ACRONYMS AND ABBREVIATIONS

AC	alternating current
ADA	Arizona Department of Agriculture
ADOT	Arizona Department of Transportation
AGFD	Arizona Game and Fish Department
AM	amplitude modulated
APS	Arizona Public Service Company
ASM	Arizona State Museum
ASLD	Arizona State Land Department
ASU	Arizona State University
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
CAP	Central Arizona Project Canal
CEC	Certificate of Environmental Compatibility
CWG	community working group
dB	decibels
dBA	decibels measured on an "A-weighted" scale
EHV	extra high voltage
EMF	electric and magnetic field
EPG	Environmental Planning Group
FM	frequency modulated
G&SRB&M	Gila and Salt River Base and Meridian
I-17	Interstate 17
KOP	Key Observation Point
kV	kilovolt
MHz	megahertz
NIEHS	National Institute of Environmental Health Services
NRHP	Natural Register of Historic Places
SHPO	State Historic Preservation Office
SQRU	Scenic Quality Rating Unit
SR	State Route

SRP	Salt River Project Agricultural Improvement and Power District
USFWS	U.S. Fish and Wildlife Service

INTRODUCTION

INTRODUCTION

Arizona Public Service Company (APS) is applying for a Certificate of Environmental Compatibility (CEC) for the proposed North Valley 230 kilovolt (kV) Facility Siting Project (North Valley Project or Project).

PROJECT OVERVIEW

The North Valley Project includes approximately 31 miles of double-circuit 230kV transmission lines, two new 230kV substations, and three interconnections to existing 230kV substations in north-central Maricopa County. The Proposed Route will interconnect with the existing Westwing, Raceway, and Pinnacle Peak substations and the proposed Avery and Misty Willow substations, crossing land under the jurisdiction of the City of Phoenix, City of Peoria, and unincorporated Maricopa County. The Project is an integral part of APS' long-range plans to develop a 230kV system for the North Valley that will accommodate existing and future load growth in conjunction with APS' 69kV subtransmission system in the area.

PROPOSED ROUTE

The Proposed Route for the North Valley Project is shown in Figure 1 of this Application. The Proposed Route originates at the Westwing Substation and proceeds to the northeast paralleling two 500kV transmission lines and a 230kV transmission line to the Raceway Substation. The route then turns southwest to the Dove Valley alignment and proceeds east along the Dove Valley alignment to a point approximately ½ mile west of Interstate 17 (I-17), at the proposed Avery Substation. From the proposed Avery Substation, the route extends south for approximately 1 mile adjacent to 39th Avenue, then turns to the southeast towards I-17. The Proposed Route then parallels the west side of I-17 south to the Happy Valley corridor, where the Proposed Route turns to the east and parallels a 230kV transmission line, interconnects with the proposed Misty Willow Substation, and continues east terminating at the existing Pinnacle Peak Substation.

PROJECT NEED

System studies have shown that new transmission facilities are necessary to accommodate continued load growth in the North Valley, as well as to enhance the reliability of the existing Valley Transmission System. Specifically, the construction of new 69kV subtransmission infrastructure is necessary to allow for the reliable distribution of electricity to customers as the North Valley continues to grow. This Project provides the 230kV "backbone" to the local 69kV system, including substations that will interconnect APS' 230kV system with the 69kV system being expanded in this area. The construction of the North Valley Project is necessary for APS to meet its legal obligation to serve customers in its growing North Valley service area.

OVERSIZED MAP

APS

-North Valley 230kV Facility Siting Project
Figure 1
Proposed Route

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
L-00000D-02-0120-00000

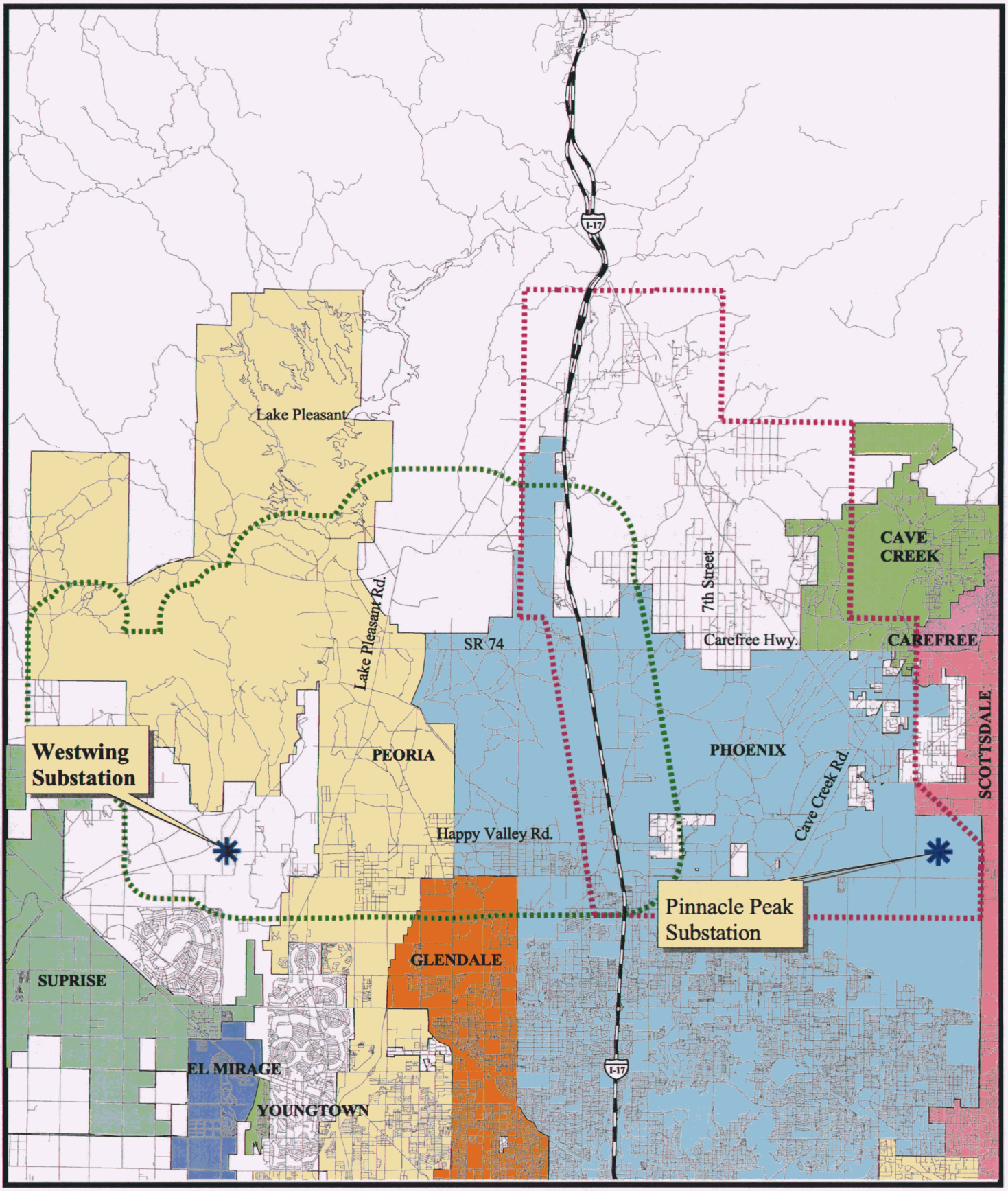
ENVIRONMENTAL STUDIES AND ROUTE SELECTION PROCESS

The North Valley Project incorporated information from two previous comprehensive siting studies referred to as the Northwest Valley Energy Enhancement Siting Project (Northwest Valley Project) and the North Central Facilities Siting Project (North Central Project). These studies were completed between September 1997 and March 2001; and further specific studies to support the North Valley Project were conducted between April 2001 and August 2002. The siting studies were conducted to evaluate potential 230/69kV transmission line routes and substation sites in north-central Maricopa County (Figure 2).

The two previous siting studies, which included extensive 69kV route planning, were conducted as separate studies to provide the public and affected jurisdictions the attention required to focus on local planning issues and concerns. The environmentally compatible 230kV transmission line routes and substation sites that were identified in each of the previous siting studies were then combined and updated, and are now referred to as the North Valley Project. Project updates have been given to public leaders and the Community Working Groups (CWGs). APS selected the Proposed Route and alternative routes based on engineering and technical considerations, environmental study results, public and agency input, and cost. More specific information on the Proposed Route selection is summarized below.

The Proposed Route, which is APS' preferred route, was selected based on environmental and engineering advantages and on agency and public input. Advantages of the Proposed Route include:

- maximizes opportunities to parallel and consolidate existing and approved linear facilities (e.g., transmission lines, utility corridors, and I-17)
- addresses key issues raised by the public and CWGs, including avoiding the Carefree Highway (a scenic corridor) and using existing utility corridors and other linear facilities (see Exhibits B and J)
- is supported or accepted by the two separate CWGs that were involved in the Northwest Valley Project and the North Central Project
- minimizes potential impacts to the proposed Sonoran Preserve
- is consistent with regional planning efforts in the Black Canyon corridor, due to coordination with the City of Phoenix and the Arizona State Land Department (ASLD)
- is consistent with the City of Peoria planning efforts



Legend

Northwest Valley Project Study Area Boundary

North Central Project Study Area Boundary

N
W E
S

2 0 2 4 Miles

Figure 2
Facility Siting Projects

APS

m:/projects/aps/ncp/cec/aprs/facilities.apr

In addition, potential visual impacts along the Proposed Route will be reduced through the use of dulled gray steel poles and non-specular conductors, matching structures and spans with existing transmission lines where practicable, and consolidation and underbuilding of planned and existing 69kV transmission lines. As part of this Application, cultural and biological resource studies were completed to identify potential areas of concern and develop mitigation as necessary. APS anticipates that impacts to registered historic sites and structures, registered archaeological sites, and sensitive species or habitat can be avoided or mitigated (see Exhibits C, D, and E).

PUBLIC INVOLVEMENT OVERVIEW

The public involvement program conducted for these studies was designed to disseminate information; establish lines of communication with interested agencies, groups or individuals; identify issues and concerns; and ensure that public input was integrated into the decision-making process. Elements of the program included advisory CWGs, public open house meetings, newsletters, small group meetings, as well as a Project website and telephone information lines.

Throughout the siting studies, a total of 11 newsletters and a fact sheet were distributed to project mailing lists and other interested parties. Thirteen public open houses were held for the Northwest Valley Project and North Central Project with a total of approximately 800 people attending these meetings. The final newsletter for the North Valley Project was mailed to over 65,000 area residents, property owners, business owners, and local officials.

Two CWGs were formed to provide additional input throughout the process. These advisory groups consisted of representatives from jurisdictions, state and federal agencies, school districts, homeowners groups, developers, and residents. The two groups met a total of 14 times. In addition, APS also met with smaller groups to disseminate project information and receive input from stakeholder groups. More information on these activities is included in Exhibit J.

RESULTS

The Proposed Route is environmentally compatible, and is a reasonable solution for interconnecting the Westwing, Raceway, Avery, Misty Willow, and Pinnacle Peak substations. It will also allow APS to meet its legal obligation to serve its growing North Valley customer base. Further, APS has coordinated its route planning and selection with the public and interested stakeholders. The Company has also worked closely with the City of Phoenix, City of Peoria, and ASLD to address these jurisdictions' planning and siting concerns in the rapidly developing I-17 corridor. Accordingly, APS requests that the Siting Committee and the Arizona Corporation Commission grant the Company a CEC for the Proposed Route and substation locations.

APPLICATION FOR
CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

APPLICATION FOR A
CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

(Pursuant to A.R.S. 40-360.03 and 40-360.06)

1. Name and address of the applicant:

   Arizona Public Service Company
   400 N. Fifth Street
   Phoenix, Arizona 85004

2. Name, address and telephone number of a representative of the Applicant who has access to technical knowledge and background information concerning this application, and who will be available to answer questions or furnish additional information:

   Michael DeWitt
   Project Manager, Transmission and Facilities Siting
   Arizona Public Service Company
   Mail Station 4030
   P.O. Box 53933
   Phoenix, Arizona 85072-3933
   Telephone: 602-493-4446

3. Dates on which the applicant filed a Ten Year Plan in compliance with A.R.S. Section 40-360.02, which the facilities for which this application is made were described:

   APS filed its current Ten Year Plan in January 2002, which includes the Project with the exception of the Misty Willow Substation. Previous Ten Year Plan filings for 2001, 2000, and 1999, also included facilities that are described in this application.

4. Description of the proposed facilities:

   4.1 Description of electric generating plant:

   (not applicable)

4.2 Description of the proposed transmission line:

4.2.1 General Description:

4.2.1.1 Nominal voltage for which the lines are designed:

230kV alternating current (AC)

4.2.1.2 Description of proposed structures:

The proposed facilities will include single pole structures with double-circuit 230kV transmission lines (which may be underbuilt with double-circuit 69kV transmission lines) that would be used for the majority of the route. Lattice towers with double-circuit 230kV transmission lines are proposed for the approximately 10-mile portion of the route along the Happy Valley corridor (illustrated in Figure 1 as Links 120, 140, and 170), to match existing structures and spans. Single-pole structures are typically between 110 and 150 feet in height with typical spans of between 300 and 700 feet. Lattice structures are typically between 105 and 150 feet in height with typical span lengths of between 800 and 1,200 feet. Typical structure diagrams are provided in Exhibit G. Final design characteristics will be determined in the detailed design phase of the Project.

4.2.1.3 Description of proposed switchyards and substations:

Two proposed sites for new 230kV substations have been identified (see Figure 1). The proposed Avery Substation will be located at the Dove Valley Road alignment approximately ½ mile to the west of I-17, in Section 15, Township 5 North, Range 2 East Gila and Salt River Base and Meridian (G&SRB&M). The substation will require approximately 10 acres and may be collocated with a proposed 10- to 15-acre service center. The proposed Misty Willow Substation will be located south of the Happy Valley corridor at the Central Arizona Project (CAP) Canal in Section 8, Township 4 North, Range 3 East G&SRB&M. This substation will require approximately 10 acres. The substation facilities would typically be surrounded by a block wall, solid steel gates, and landscaping. Final architectural characteristics and landscape density will be determined by the applicable permitting jurisdiction. Each

substation would also include dead-end structures, buswork, switches, transformers, and breakers.

Three 230kV substation interconnections will also be required at the Westwing Substation in Section 12, Township 4 North, Range 1 West G&SRB&M, the Raceway Substation in Sections 4 and 5, Township 5 North, Range 1 East G&SRB&M, and the Pinnacle Peak Substation in Section 10, Township 4 North, Range 4 East G&SRB&M. Each substation interconnection would also include dead-end structures, buswork, switches, and insulators.

4.2.1.4 Purpose for constructing said transmission line:

Growth projections of the jurisdictions within the Project area show continued growth in the APS' North Valley service area. In particular, the I-17 corridor is projected to become a major area of growth for the City of Phoenix in the North Black Canyon Corridor Plan (1999). APS' electrical system planning is based on an assessment of projected growth and the associated electrical load growth, and forecasting the areas of future electrical overloads. APS has determined that new facilities will be required to address continued growth in the Project area. Additionally, the Project will enhance the reliability of the existing system. Based on the anticipated electrical demand and existing system limitations, the proposed 230kV improvements will allow for adequate power to be distributed in the area in accordance with APS' Ten-Year Plan.

4.2.2 General Location:

4.2.2.1 Description of the geographic points between which the transmission line will run:

The proposed transmission line must interconnect the following substations as shown on Figure 1:

- Westwing Substation in Section 12, Township 4 North, Range 1 West, G&SRB&M
- Raceway Substation in Sections 4 and 5, Township 5 North, Range 1 East, G&SRB&M

- proposed Avery Substation in Section 15, Township 5 North, Range 2 East, G&SRB&M

- proposed Misty Willow Substation in Section 8, Township 4 North, Range 3 East G&SRB&M

- Pinnacle Peak Substation in Section 10, Township 4 North, Range 4 East, G&SRB&M

4.2.2.2 Straight-line distance between such geographic points:

The straight-line distance between the Westwing and Pinnacle Peak substations is approximately 22 miles. The Raceway Substation site is approximately 7 miles from Westwing and 20.5 miles from Pinnacle Peak. The Avery Substation is approximately 11.5 and 13 miles from Westwing and Pinnacle Peak, respectively. The Misty Willow Substation is approximately 14 miles from the Westwing Substation and 8 miles from Pinnacle Peak.

4.2.2.3 Length of the transmission line for each alternate route:

Proposed Route: 31.2 miles
Alternative Route #1: 31.1 miles
Alternative Route #2: 30.2 miles
Alternative Route #3: 34.9 miles
Alternative Route #4: 32.8 miles

4.2.3 Detailed Dimensions:

4.2.3.1 Nominal width of right-of-way requested:

A maximum right-of-way width of up to approximately 150 feet is required for the Project. The typical right-of-way width for single-pole structures is approximately 100 feet, and up to approximately 120 feet is typically required for the lattice towers. Factors that will affect the right-of-way widths include span lengths, pole type and framing, circuit configuration, and total number of circuits.

4.2.3.2 Nominal length of span:

The nominal length of span will vary from 300 to 1,200 feet.

4.2.3.3 Typical height of structures above ground:

The typical height of the supporting structures will vary from approximately 105 to 150 feet above existing grade.

4.2.3.4 Minimum height of conductor above ground:

24 feet for 230kV transmission lines.

4.2.4 Estimated costs of proposed transmission line and substations:

Proposed Route:	$71,000,000
Alternative Route #1:	$71,000,000
Alternative Route #2:	$69,000,000
Alternative Route #3:	$76,000,000
Alternative Route #4:	$75,000,000

4.2.5 Description of the proposed and alternate routes:

The Applicant is requesting a corridor of between 1,000 and 2,000 feet in total width for the proposed or alternative routes described below to provide for sufficient flexibility to accommodate final design and engineering of the Project, as well as to allow APS to work with affected landowners on specific routing and pole placement. The typical right-of-way widths are described in Section 4.2.3.1.

The Proposed Route and alternative routes are illustrated in Exhibit A-5. The map identifies link numbers that are associated with segments that comprise each route as follows:

Proposed Route

Links 15, 35, 60, 70, 90, 115, 120, 140, and 170

The Proposed Route would originate at the Westwing Substation in Section 12, Township 4 North, Range 1 West and parallel an existing 500/230kV transmission line corridor northeast to approximately the Dove Valley Road alignment (Link 15). At that point, a radial line will extend northeast interconnecting with the 230/69kV Raceway Substation in Sections 4 and 5, Township 5 North, Range 1 East (Link 35). For this portion of the Proposed Route (Links 15 and 35), the Applicant requests a 1,500-foot corridor. This corridor would extend to the east from the

westernmost edge of the existing transmission line right-of-way. The Proposed Route continues east along the section line associated with the Dove Valley Road alignment to the proposed Avery Substation, located approximately ½ mile west of I-17 in Section 15 Township 5 North, Range 2 East (Link 70). The Applicant requests a 1,000-foot corridor on each side of the Dove Valley Road alignment. From that point, the line will continue south along the 39th Avenue alignment to the Lone Mountain Road alignment and cross Sections 22 and 23, Township 5 North, Range 2 East on the diagonal (Link 90) to meet I-17, and continue south paralleling the west side of I-17 to the south side of Skunk Creek (Link 115). From the proposed Avery Substation to I-17, the Applicant requests a 1,000-foot corridor on each side of the proposed centerline. As the Proposed Route parallels I-17 south to the south side of Skunk Creek, the Applicant requests a 1,000-foot corridor west of the freeway controlled access of I-17. The route parallels the south side of Skunk Creek to the 29th Avenue alignment where it turns south and parallels the 29th Avenue alignment to a point approximately ¼ mile south of Happy Valley Road. Along Skunk Creek and the 29th Avenue alignment, the Applicant requests 1,000 feet on either side of the proposed centerline. The Route will turn east and cross I-17 approximately ¼ mile south of Happy Valley Road and parallel an existing 230kV transmission line corridor, interconnecting with the proposed Misty Willow Substation located south of the existing transmission corridor and west of the CAP in Section 8, Township 4 North, Range 3 East. The Proposed Route then continues east and parallel to the 230kV transmission line corridor, terminating at the Pinnacle Peak Substation in Section 10, Township 4 North, Range 4 East (Links 120, 140, and 170). From I-17 east to the Pinnacle Peak Substation, the Applicant requests a 1,000-foot corridor north of the existing Salt River Project (SRP) transmission line.

Alternative Route #1

Links 15, 35, 60, 70, 90, 100, 110, 140, and 170

Alternative Route #1 would originate at the Westwing Substation in Section 12, Township 4 North, Range 1 West and parallel an existing 500/230kV transmission line corridor northeast to approximately the Dove Valley Road alignment (Link 15). At that point, a radial line will extend northeast interconnecting with the 230/69kV Raceway Substation in Sections 4 and 5, Township 5 North, Range 1 East (Link 35). For this portion of Alternative Route #1 (Links 15 and 35), the Applicant requests a 1,500-foot corridor. This corridor would extend to the east from the

westernmost edge of the existing transmission line right-of-way. Alternative Route #1 continues east along the section line associated with the Dove Valley Road alignment to the proposed Avery Substation, located approximately ½ mile west of I-17 in Section 15, Township 5 North, Range 2 East (Link 70). The Applicant requests a 1,000-foot corridor on each side of the Dove Valley Road alignment. From that point, the line will continue south along the 39th Avenue alignment to the Lone Mountain Road alignment and cross Sections 22 and 23, Township 5 North, Range 2 East on the diagonal to meet I-17, and continue south paralleling the west side of I-17 to the CAP (Link 90). From the proposed Avery Substation to I-17, the Applicant requests a 1,000-foot corridor on each side of the proposed centerline. As Alternative Route #1 parallels I-17 south to the CAP, the Applicant requests a 1,000-foot corridor west of the freeway controlled access of I-17. At the CAP, the line crosses I-17 (Link 100) and continues south paralleling the east side of I-17 (Link 110). From the CAP south to a point ¼ mile south of Happy Valley Road the Applicant requests 1,000 feet east of the freeway controlled access of I-17. The Route will turn east approximately ¼ mile south of Happy Valley Road and parallel an existing 230kV transmission line corridor, interconnecting with the proposed Misty Willow Substation located south of the existing transmission corridor and west of the CAP in Section 8, Township 4 North, Range 3 East. Alternative Route #1 then continues east and parallels the 230kV transmission line corridor, terminating at the Pinnacle Peak Substation in Section 10, Township 4 North, Range 4 East (Links 140 and 170). From I-17 east to the Pinnacle Peak Substation, the Applicant requests a 1,000-foot corridor north of the existing SRP transmission line.

Alternative Route #2

Links 15, 35, 60, 70, 90, 100, 150, and 170

Alternative Route #2 would originate at the Westwing Substation in Section 12, Township 4 North, Range 1 West and parallel an existing 500/230kV transmission line corridor northeast to approximately the Dove Valley Road alignment (Link 15). At that point, a radial line will extend northeast interconnecting with the 230/69kV Raceway Substation in Sections 4 and 5, Township 5 North, Range 1 East (Link 35). For this portion of Alternative Route #2 (Links 15 and 35), the Applicant requests a 1,500-foot corridor. This corridor would extend to the east from the westernmost edge of the existing transmission line right-of-way. Alternative Route #2 continues east along the section line associated with

the Dove Valley Road alignment to the proposed Avery Substation, located approximately ½ mile west of I-17 in Section 15, Township 5 North, Range 2 East (Link 70). The Applicant requests a 1,000-foot corridor on each side of the Dove Valley Road alignment. From that point, the line will continue south along the 39th Avenue alignment to the Lone Mountain Road alignment and cross Sections 22 and 23, Township 5 North, Range 2 East on the diagonal to meet I-17, and continue south paralleling the west side of I-17 to the CAP (Link 90). From the proposed Avery Substation to I-17, the Applicant requests a 1,000-foot corridor on each side of the proposed centerline. As Alternative Route #2 parallels I-17 south to the CAP, the Applicant requests a 1,000-foot corridor west of the freeway controlled access of I-17. At the CAP, the line crosses I-17 (Link 100) and continues east and southeast paralleling the CAP (Link 150) to an existing 230kV transmission line corridor approximately ¼ mile south of Happy Valley Road. The Applicant requests a 1,000-foot corridor on either side of the CAP. The route will turn east and parallel the transmission line corridor, interconnecting with the proposed Misty Willow Substation located south of the existing transmission corridor and west of the CAP in Section 8, Township 4 North, Range 3 East. Alternative Route #2 then continues along the 230kV transmission line corridor terminating at the Pinnacle Peak Substation in Section 10, Township 4 North, Range 4 East (Link 170). From the CAP east to the Pinnacle Peak Substation, the Applicant requests a 1,000-foot corridor north of the existing SRP transmission line.

Alternative Route #3

Links 15, 35, 45, 50, 90, 115, 120, 140, and 170

Alternative Route #3 would originate at the Westwing Substation in Section 12, Township 4 North, Range 1 West and parallel an existing 500/230kV transmission line corridor northeast interconnecting with the 230/69kV Raceway Substation in Sections 4 and 5, Township 5 North, Range 1 East (Links 15 and 35). The line continues in a northeasterly direction parallel to the existing transmission line corridor to the Joy Ranch Road alignment (Link 45). For this portion of Alternative Route #3 (Links 15, 35, and 45), the Applicant requests a 1,500-foot corridor. This corridor would extend to the east from the westernmost edge of the existing transmission line right-of-way. From that point, the line continues east paralleling the existing 69kV line to I-17, where the line turns south, paralleling the west side of the existing 69kV line for approximately 1 mile to the Cloud Road alignment. The Applicant requests a 1,000-foot

corridor on each side of the 69kV transmission line to the Cloud Road alignment. The line continues south paralleling the west side of I-17 to the Dove Valley Road alignment. Along this portion of I-17, the Applicant requests a 1,000-foot corridor west of the freeway-controlled access of the interstate. From this point, the line goes west to the proposed Avery Substation, located approximately ½ mile west of I-17 in Section 15, Township 5 North, Range 2 East (Link 50). From I-17 west to the proposed Avery Substation, the Applicant requests a 1,000-foot corridor on each side of the Dove Valley Road alignment. From that point, the line will continue south along the 39th Avenue alignment to the Lone Mountain Road alignment and cross Sections 22 and 23, Township 5 North, Range 2 East on the diagonal (Link 90) to meet I-17, and continue south paralleling the west side of I-17 to the south side of Skunk Creek (Link 115). From the proposed Avery Substation to I-17, the Applicant requests a 1,000-foot corridor on each side of the proposed centerline. As Alternative Route #3 parallels I-17 south to the south side of Skunk Creek, the Applicant requests a 1,000-foot corridor west of the freeway controlled access of I-17. The route parallels the south side of Skunk Creek to the 29th Avenue alignment where it turns south and parallels the 29th Avenue alignment to a point approximately ¼ mile south of Happy Valley Road. Along Skunk Creek and the 29th Avenue alignment, the Applicant requests 1,000 feet on either side of the proposed centerline. The route will turn east and cross I-17 approximately ¼ mile south of Happy Valley Road and parallel an existing 230kV transmission line corridor, interconnecting with the proposed Misty Willow Substation located south of the existing transmission corridor and west of the CAP in Section 8, Township 4 North, Range 3 East. Alternative Route #3 then continues east and parallel to the 230kV transmission line corridor terminating at the Pinnacle Peak Substation in Section 10, Township 4 North, Range 4 East (Links 120, 140, and 170). From I-17 east to the Pinnacle Peak Substation, the Applicant requests a 1,000-foot corridor north of the existing SRP transmission line.

Alternative Route #4

Links 15, 35, 60, 80, 90, 100, 150, and 170

Alternative Route #4 would originate at the Westwing Substation in Section 12, Township 4 North, Range 1 West and parallel an existing 500/230kV transmission line corridor northeast to approximately the Dove Valley Road alignment (Link 15). At that point, a radial line will travel northeast interconnecting with the 230/69kV Raceway Substation in Sections 4 and 5, Township 5 North, Range 1 East (Link 35). For this

portion of Alternative Route #4 (Links 15 and 35), the Applicant requests a 1,500-foot corridor. This corridor would extend to the east from the westernmost edge of the existing transmission line right-of-way. The route continues east/southeast paralleling the CAP (Links 60 and 80) to I-17. For this segment of the route the Applicant requests a 1,000-foot corridor on either side of the CAP. Alternative Route #4 would continue paralleling the west side of I-17 north to a point in Section 23, Township 5 North, Range 2 East where the route crosses Sections 23 and 22 diagonally to the northwest to the 39th Avenue alignment. The route continues north along the 39th Avenue alignment to the proposed Avery Substation located at the Dove Valley Road alignment and approximately ½ mile west of I-17 in Section 15, Township 5 North, Range 2 East. From the proposed Avery Substation south to I-17, the Applicant requests a 1,000-foot corridor on each side of the proposed centerline. As Alternative Route #4 parallels I-17 to the CAP, the Applicant requests a 1,000-foot corridor west of the freeway controlled access of I-17. At this point, the route crosses I-17 (Link 100) and continues east and southeast paralleling the CAP (Link 150) to an existing 230kV transmission line corridor approximately ¼ mile south of Happy Valley Road. The Applicant requests a 1,000-foot corridor on either side of the CAP east of I-17. The route will turn east and parallel the transmission line corridor, interconnecting with the proposed Misty Willow Substation located south of the existing transmission line corridor and west of the CAP in Section 8, Township 4 North, Range 3 East. Alternative Route #4 then continues along the 230kV transmission line corridor, terminating at the Pinnacle Peak Substation in Section 10, Township 4 North, Range 4 East (Link 170). From the CAP to the Pinnacle Peak Substation, the Applicant requests a 1,000-foot corridor north of the existing SRP transmission line.

4.2.6 Land Ownership:

The Proposed Route and alternative routes would cross land owned by the following entities (see Exhibit A-2):

	BLM	BOR	State Trust Land	Arizona Game and Fish	Private	Total
Proposed Route	0.0	0.8	22.7	0.0	7.7	31.2
Alternative #1	0.0	0.8	22.4	0.0	7.9	31.1
Alternative #2	0.0	0.8	21.8	0.0	7.6	30.2
Alternative #3	0.1	0.7	26.1	1.5	6.5	34.9
Alternative #4	2.1	2.0	17.3	0.0	11.4	32.8
Distances in miles.						

5.0 Jurisdictions:

5.1 Areas of jurisdiction (as defined in A.R.S. 40-360) affected by this route:

The Proposed Route crosses land under the jurisdiction of the cities of Phoenix and Peoria, and unincorporated land that is within the jurisdiction of Maricopa County (see Exhibit A-1). Miles of routes located within each jurisdiction are as follows:

	Phoenix	**Peoria**	**Unincorporated[1]**	**Total**
Proposed Route	19.6	8.5	3.1	31.2
Alternative #1	19.5	8.5	3.1	31.1
Alternative #2	18.1	8.5	3.6	30.2
Alternative #3	19.1	6.9	8.9	34.9
Alternative #4	18.8	10.4	3.6	32.8

Distances in miles
[1] Jurisdiction of Maricopa County

5.2 Designation of proposed sites or routes, if any, which are contrary to the zoning ordinances or master plans of affected areas of jurisdiction:

The Proposed Route was determined in coordination with the cities of Phoenix and Peoria, Maricopa County, and ASLD throughout the planning process. Representatives of these entities were included on the advisory CWGs or consulted individually or in small group meetings. The Proposed Route is not contrary to the current general plans and zoning ordinances of the affected jurisdictions.

6.0 Description of the environmental studies the Applicant has performed:

The North Valley Project incorporated information from two previous siting studies referred to as the Northwest Valley Project and the North Central Project. The Northwest Valley Project and the North Central Project were completed between September 1997 and March 2001, and the North Valley Project was conducted between April 2001 and August 2002. The siting studies were conducted to evaluate potential 230kV transmission line routes and substation sites in the north-central Maricopa County area.

The Northwest Valley Project looked at the area between 163rd Avenue and I-17, and Lake Pleasant and Pinnacle Peak roads; an area that includes the jurisdictions of Phoenix, Peoria, Surprise, and Maricopa County. The North Central Project evaluated the area between New River Road and Deer Valley Road, and I-17 and approximately 56th Street;

an area that includes the jurisdictions of Phoenix, Maricopa County, and small portions of Cave Creek and Scottsdale (Figure 2).

A summary of the results and planning processes implemented for these two siting studies are included as part of this Application (Exhibit B). The siting studies were conducted separately (west and east of I-17) to ensure the ability to include the affected public and agencies in processes that were more directly focused on their areas of concern. Each study identified alternative routes and substation siting areas based on technical and environmental criteria and public input. An assessment was conducted, evaluating potential land use and visual impacts that could result from the construction of the alternatives.

Throughout the studies, an extensive public involvement program was implemented to identify issues to be addressed, disseminate information, determine the acceptability of various alternative routes, and generally receive feedback. Participation tools to achieve these objectives included advisory CWGs, public open house meetings, paid advertisements, newsletters, small group meetings, and a website and telephone information lines.

The North Valley Project began with an evaluation of engineering and system requirements and environmentally compatible routes identified in the Northwest Valley Project and the North Central Project. In total, there were 60 miles of 230kV transmission line alternatives and one 230kV substation siting area carried forward from the previous siting studies (Figure B-2). After APS conducted further engineering and system analyses, the need for another 230/69kV substation along the Happy Valley transmission corridor was identified. The Misty Willow Substation, which was previously identified as a 69kV substation in the North Central Project, was then added to the alternatives. The next step in the process was to identify alternatives that would interconnect the Westwing Substation, Raceway Substation, the proposed Avery and Misty Willow Substations and the Pinnacle Peak Substation. Five primary alternatives and two proposed substation sites were taken forward for updated inventory, impact assessment, and comparison (Exhibit A-5). Project updates were given to public leaders and the CWGs, and the general public through a Project newsletter. Ultimately, APS selected the proposed and alternative routes based on engineering and technical considerations, environmental study results, public and agency input, and cost. More specific information on the proposed and alternative routes selection is summarized in Section 7.0 below.

This Application also includes results of a study of biological resources (Exhibits C and D), Class I and Class III surveys for cultural resources (Exhibit E), and land use and visual resource studies (Exhibits B and E, respectively).

7.0 Rationale for route preference

The range of impacts of each of the five alternatives described in this Application have been found by APS and its environmental consultant, Environmental Planning Group (EPG), to be "environmentally compatible" as that term is defined in the Siting Act and applied in prior Arizona siting decisions. A summary of the pertinent environmental differences among the five routing alternatives follows.

7.1 Proposed Route:

The Proposed Route is preferred by APS based on environmental, engineering and system planning, public input, and cost considerations. The environmental advantages of the Proposed Route include using existing linear corridors and consolidating existing and planned 69kV transmission line structures on the proposed 230kV transmission line to lower impacts. The Proposed Route parallels existing and planned transmission lines for approximately 27 miles of the total length of the route (31 miles), which would reduce potential land use and visual impacts. Along the west side of the interstate, the Proposed Route is adjacent to an existing landfill, reducing the proximity to more sensitive land uses. The Proposed Route also has support from the CWGs, the affected jurisdictions, and the ASLD (a major landowner in the area). APS, the City of Phoenix, and the ASLD worked together to locate the proposed Avery Substation and the Proposed Route south of the Carefree Highway and west of I-17 to accommodate future planning. Although the Proposed Route includes paralleling an existing residential area adjacent to I-17, APS would underbuild the existing 69kV transmission line for approximately ½ mile. APS has initiated discussions to locate facilities within the Arizona Department of Transportation (ADOT) right-of-way. APS would remove the 69kV transmission line from the edge of residential development and underbuild and consolidate the 69kV transmission line on the proposed 230kV transmission line within ADOT right-of-way adjacent to I-17. This would lower land use impacts to the residential development.

7.2 Alternative Route #1:

The Proposed Route and Alternative Route #1 are similar with the exception of Link 115 of the Proposed Route (along the west side of I-17 south of the CAP), and Link 110 of the Alternative Route #1 (along the east side of I-17). Advantages to Alternative Route #1 are similar to the Proposed Route. A disadvantage of Alternative Route #1 is that Link 110 would be located adjacent to existing and approved residential and commercial development for the majority of its length, while Link 115 of the Proposed Route parallels an existing landfill for approximately 1 mile. Another disadvantage to Alternative Route #1 includes a lack of support for the alternative from the City of Phoenix and the CWGs.

7.3 Alternative Route #2:

Alternative Route #2 differs from the Proposed Route because Alternative Route #2 goes east from I-17 at the Biscuit Flat Substation and parallels the CAP southeast to the Happy Valley 230kV corridor. Advantages to this alternative are similar to the Proposed Route. However, this route would potentially require a residential take and cross residential properties along the CAP, and would visually impact existing and approved residential developments.

7.4 Alternative Route #3:

Alternative Route #3 differs from the Proposed Route because it parallels the existing transmission line corridor north past the Raceway Substation to the Joy Ranch Road alignment. The route then parallels an existing 69kV transmission line east to I-17, where it turns south and parallels the west side of I-17. Advantages to this alternative include paralleling existing transmission lines for approximately 29 miles of the route's overall length (35 miles). Disadvantages to this alternative included crossing the Ben Avery Regional Park in two areas—along the Joy Ranch Road alignment and along I-17. This alternative also parallels a portion of I-17 north of the Cloud Road alignment that has been designated by Maricopa County as a scenic road. Advantages and disadvantages of Alternative Route #3 south of the Dove Valley Road alignment along I-17 are similar to the Proposed Route.

7.5 Alternative Route #4:

Alternative Route #4 differs from the Proposed Route because this route parallels the CAP from the Westwing transmission line corridor at the Dove Valley Road alignment to I-17. The route continues across I-17 parallel to the CAP until it meets the Happy Valley 230kV corridor. The route then parallels the corridor east to the Pinnacle Peak Substation. This alternative has visual impacts to users of the Deems Hills Recreation Area and the proposed Sonoran Preserve as it parallels over 5 miles of the preserve, as well as existing residential development along the CAP west of I-17. Alternative Route #4 also potentially has land use impacts as it could cross approximately 1 mile of the Deems Hills Recreation Area and over 5 miles of the proposed Sonoran Preserve along the CAP west of I-17. East of I-17, Alternative Route #4 would potentially require a residential take and cross residential properties along the CAP, and would visually impact existing and approved residential developments.

ARIZONA PUBLIC SERVICE COMPANY

BY: _____
Michael DeWitt
Project Manager

Original and 25 copies of the foregoing hand delivered and filed with the Director of Utilities, Arizona Corporation Commission, this 23RD day of SEPTEMBER, 2002.

EXHIBIT A
LOCATION AND LAND USE MAPS

EXHIBIT A
LOCATION AND LAND USE MAPS

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"*Where commercially available, a topographic map, 1:250,000 scale, showing any proposed transmission line route of more than 50 miles in length and the adjacent area. For routes less than 50 miles in length, use a scale of 1:62,500. If application is made for alternative transmission line routes, all routes may be shown on the same map, if practicable, designated by the applicant's order of preference.*"

Exhibit A-1: Jurisdiction
Exhibit A-2: Land Ownership
Exhibit A-3: Existing Land Use
Exhibit A-4: Future Land Use
Exhibit A-5: Proposed and Alternative Routes

OVERSIZED MAP

APS

-North Valley 230kV Facility Siting Project
Exhibit A-1
Jurisdiction

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
L-00000D-02-0120-00000

OVERSIZED MAP

APS

-North Valley 230kV Facility Siting Project
Exhibit A-2
Ownership

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
L-00000D-02-0120-00000

OVERSIZED MAP

APS

-North Valley 230kV Facility Siting Project
Exhibit A-3
Existing Land Use

TO REVIEW SEE DOCKET SUPERVISOR

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OVERSIZED MAP

APS

-North Valley 230kV Facility Siting Project
Exhibit A-4
Future Land Use

TO REVIEW SEE DOCKET SUPERVISOR

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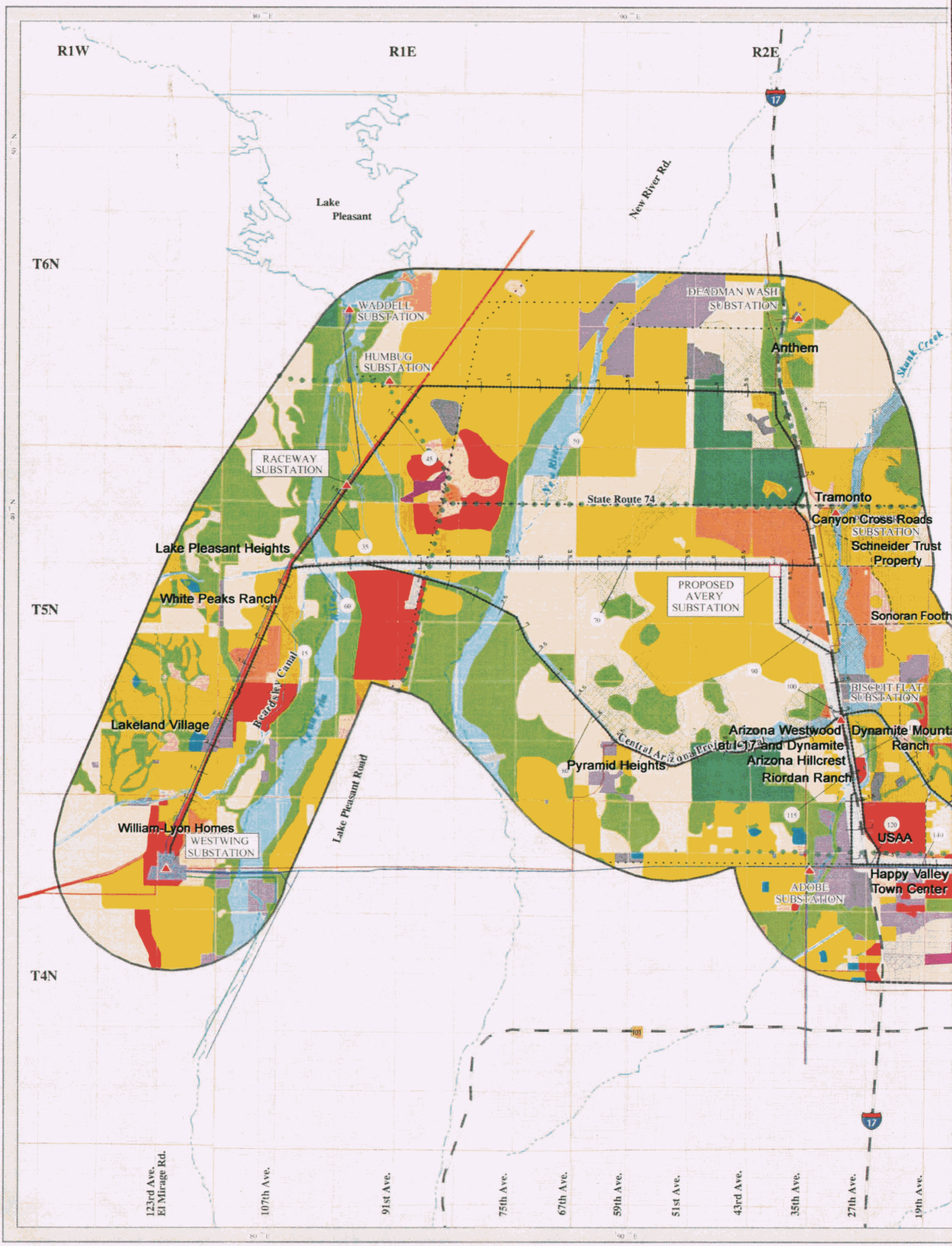
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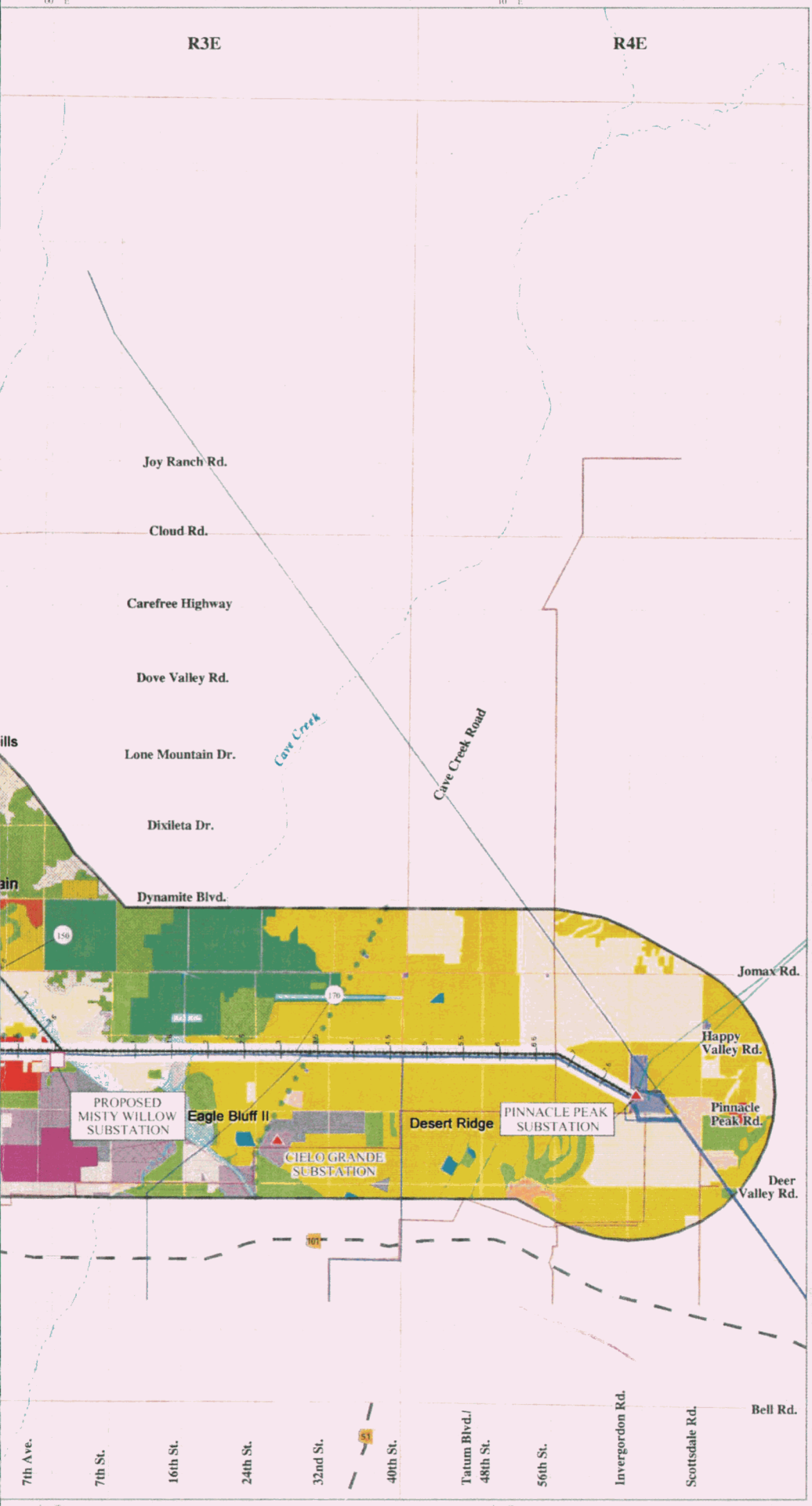
R1E
R2E
T6N
T5N
T4N
Lake Pleasant
New River Rd.
WADDELL SUBSTATION
HUMBUG SUBSTATION
DEADMAN WASH SUBSTATION
Anthem
Skunk Creek
RACEWAY SUBSTATION
State Route 74
Tramonto
Canyon Cross Roads SUBSTATION
Schneider Trust Property
Lake Pleasant Heights
White Peaks Ranch
PROPOSED AVERY SUBSTATION
Sonoran Footh
Beardsley Canal
BISCUIT FLAT SUBSTATION
Lakeland Village
Central Arizona Project (CAP)
Arizona Westwood and Dynamite
Dynamite Mounta Ranch
Pyramid Heights
Arizona Hillcrest
Riordan Ranch
Lake Pleasant Road
William-Lyon Homes
WESTWING SUBSTATION
USAA
Happy Valley Town Center
ADOBE SUBSTATION
17
123rd Ave. El Mirage Rd.
107th Ave.
91st Ave.
75th Ave.
67th Ave.
59th Ave.
51st Ave.
43rd Ave.
35th Ave.
27th Ave.
19th Ave.

Exhibit A-4.a

FUTURE LAND USE

NORTH VALLEY

230kV FACILITY SITING PROJECT



Land Use Inventory

- Residential Low Density
- Residential Medium Density
- Residential High Density
- Mixed Use
- Hotel/Resort
- Office/Business Park
- Commercial Retail
- Light Industry
- General Industrial
- Public/Quasi-Public (Churches, Fire Stations, Government Facilities)
- Public Airport
- Schools/Educational Facilities
- Flood Control Facilities, Canals, Floodplains, Lakes
- Regional Park/Preserve
- Recreation Facilities and Open Space (Campsites, City/Neighborhood Parks, Golf Courses)
- Planned-Final Approval
- Planned-Concept Stage
- Proposed Sonoran Preserve
- Airport Approach Zones
- Aviation Study Area
- Planned Transportation
- Planned 69kV Transmission Line
- Utility Corridor

General Reference Features

- Transmission Line Alternatives
- Proposed Substation Siting Area
- 99 Link Identification Number
- Study Area Boundary
- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- Pipeline
- Interstate/Highway
- Transportation Route
- Scenic Road/Parkway
- Lake
- Stream/River
- Canal
- Township and Range
- Section
- Contour
- Existing Substation

Sources

City of Phoenix, North Land Use Plan, 1996. City of Phoenix, Sonoran Preserve Master Plan, 1998. City of Phoenix, Phoenix General Plan and Land Use Map, 1985-2000, 1987, Revised 2001. Maricopa County, New River Area Plan, 1999. Maricopa County, Lake Pleasant Regional Park Master Development Plan/Trail Plan, 1997. City of Peoria, Comprehensive Land Use Plan, June, 2001. Development Plans from various developers

Scale 1:62,500

1 1/2 0 1 2 3 MILES

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APS

epg

EXHIBIT

A-1

1 of 4 A-

OVERSIZED MAP

APS

-North Valley 230kV Facility Siting Project
Exhibit A-5
Proposed and Alternative Routes

TO REVIEW SEE DOCKET SUPERVISOR

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EXHIBIT B
ENVIRONMENTAL REPORT

EXHIBIT B
ENVIRONMENTAL REPORT

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Attach any studies which the applicant has made or obtained in connection with the proposed site(s) or route(s). If an environmental report has been prepared for any Federal agency or if a Federal agency has prepared an environmental statement pursuant to Section 102 of the National Environmental Policy Act, a copy shall be included as part of this exhibit."

INTRODUCTION

EPG completed the environmental studies for the proposed and alternative transmission line routes and substation sites. The environmental studies included land use, visual resources, biological resources, and cultural resources, and were conducted between September 1997 and August 2002. The environmental planning processes completed for the North Valley Project are described below, followed by a more detailed discussion of the land use study. The biological, visual, and cultural resource studies are discussed in more detail in subsequent Exhibits C, D, and E.

Environmental Planning Process

Overview

The North Valley Project incorporated information from two previous siting studies referred to as the Northwest Valley Project and the North Central Project. The Northwest Valley Project and the North Central Project were completed between September 1997 and March 2001, and the North Valley Project was conducted between April 2001 and August 2002. The siting studies were conducted to evaluate potential 230kV transmission line routes and substation sites in north-central Maricopa County (Figure 2). The two previous siting studies, which include extensive 69kV elements, were conducted in two separate studies to provide the public and the jurisdictions the attention required to focus on local planning issues and concerns. The environmentally compatible 230kV transmission line routes and substation sites that were identified in each of the previous siting studies were then combined and updated, and are now referred to as the North Valley Project. Project updates were given to public leaders and the CWGs. Ultimately, APS selected the proposed and alternative routes based on engineering and technical considerations, environmental study results, public input, and cost. More specific information on the proposed and alternative route selection is summarized below.

The environmental planning processes for the Northwest Valley Project and the North Central Project were similar and included a regional study and alternatives identification, and detailed corridor study and route selection. This information is presented below, followed by a

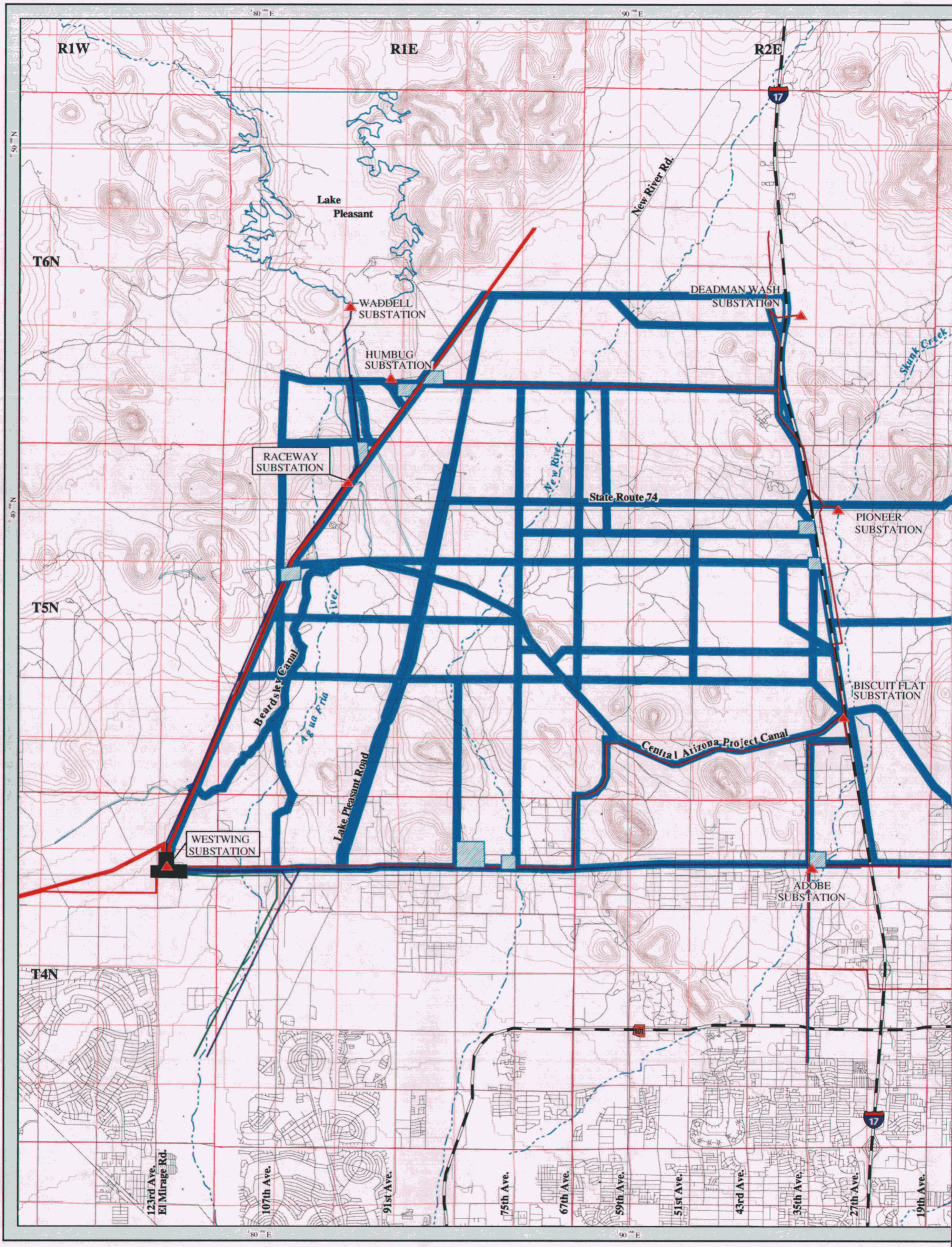
description of the update studies conducted for the North Valley Project. Each study identified alternative routes and substation siting areas based on engineering and environmental criteria and public input. Throughout the studies, an extensive public involvement program was implemented to identify issues to be addressed, disseminate information, determine acceptability of alternative routes, and generally receive feedback. Participation tools to achieve these objectives included advisory CWGs, public open house meetings, newsletters, small group meetings (e.g., homeowners associations), and the maintenance of a web site and telephone information lines (see Exhibit J).

Regional Study/Alternatives Identification

The Northwest Valley Project studied the area between 163rd Avenue and I-17, and Lake Pleasant and Pinnacle Peak Road; an area that includes the jurisdictions of Phoenix, Peoria, Surprise, and Maricopa County. The North Central Project evaluated the area between New River Road and Deer Valley Road, and I-17 and approximately 56th Street; an area that includes the jurisdictions of Phoenix, Maricopa County, and small portions of Cave Creek and Scottsdale (Figure 2). The Northwest Valley Project and North Central Project evaluated 230kV and 69kV transmission line routes and substation sites. The discussion for the North Valley Project will focus on the 230kV aspects of these previous studies.

The full set of preliminary alternative routes that were considered for the 230kV transmission lines are illustrated in Figure B-1. Land use and visual compatibility levels were developed to identify potential transmission line routing alternatives and substation siting areas. Determination of compatibility levels were based on resource value, protective status, present or future uses, and input from the public and governmental agencies (e.g., agency contacts, public open houses, and CWGs). This information was applied to the existing and future land use patterns within the regional study area, and transmission line route alternatives and substation locations were identified. The initial alternatives were chosen with a primary goal to maximize opportunities to utilize existing linear features (e.g., utility corridors, canals, and major roadways). The regional study and alternatives identification resulted in approximately 221 miles of 230kV transmission line routes and nine 230kV substation siting areas (Figure B-1).

After alternative identification, several levels of screening were conducted to eliminate alternatives based on criteria related to (1) minimizing potential land use and visual impacts, (2) meeting system or engineering requirements, and (3) responding to issues raised by the public. In both siting studies referenced above, the first level of screening was conducted for the purpose of eliminating less environmentally compatible or publicly acceptable routes prior to the detailed corridor study. Alternatives were eliminated along State Route (SR) 74 (Carefree Highway) west of I-17 because of a county scenic road designation and public concern. Carefree Highway to the east of I-17 was retained as an alternative to evaluate despite the scenic designation because of the scarcity of east-west linear corridors that avoid the proposed Sonoran Preserve. The alternative along the Dixileta Drive road alignment west of I-17 was eliminated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Lake Pleasant
New River Rd.
WADDELL SUBSTATION
HUMBUG SUBSTATION
DEADMAN WASH SUBSTATION
RACEWAY SUBSTATION
New River
State Route 74
PIONEER SUBSTATION
Skunk Creek
BISCUIT FLAT SUBSTATION
Beardsley Canal
Agua Fria
Lake Pleasant Road
Central Arizona Project Canal
WESTWING SUBSTATION
ADOBE SUBSTATION
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El Mirage Rd.
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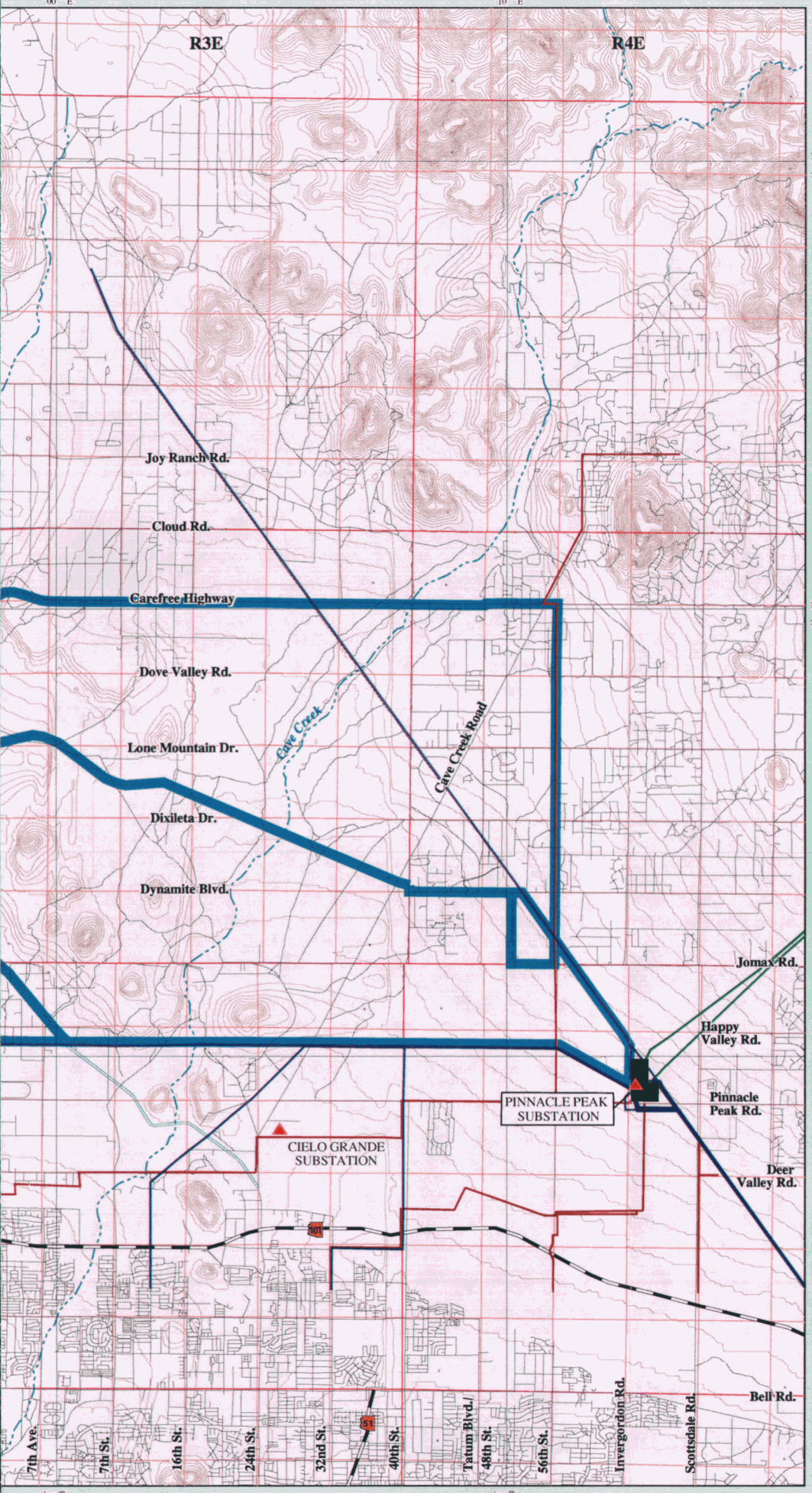

Figure B-1

PRELIMINARY ALTERNATIVES

NORTH VALLEY
230kV FACILITY SITING PROJECT

Preliminary Alternative Routes

Preliminary Substation Siting Area Considered and Eliminated

General Reference Features

- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- Interstate/Highway
- Transportation Route
- Lake
- Stream
- Canal
- Township and Range
- Section
- Contour
- ▲ / ■ Existing Substation

Sources:
Landiscor Aerial Information, June 2001.
Arizona State Land Department and Arizona Land Resources Information System, June 1995.

Scale 1:62,500

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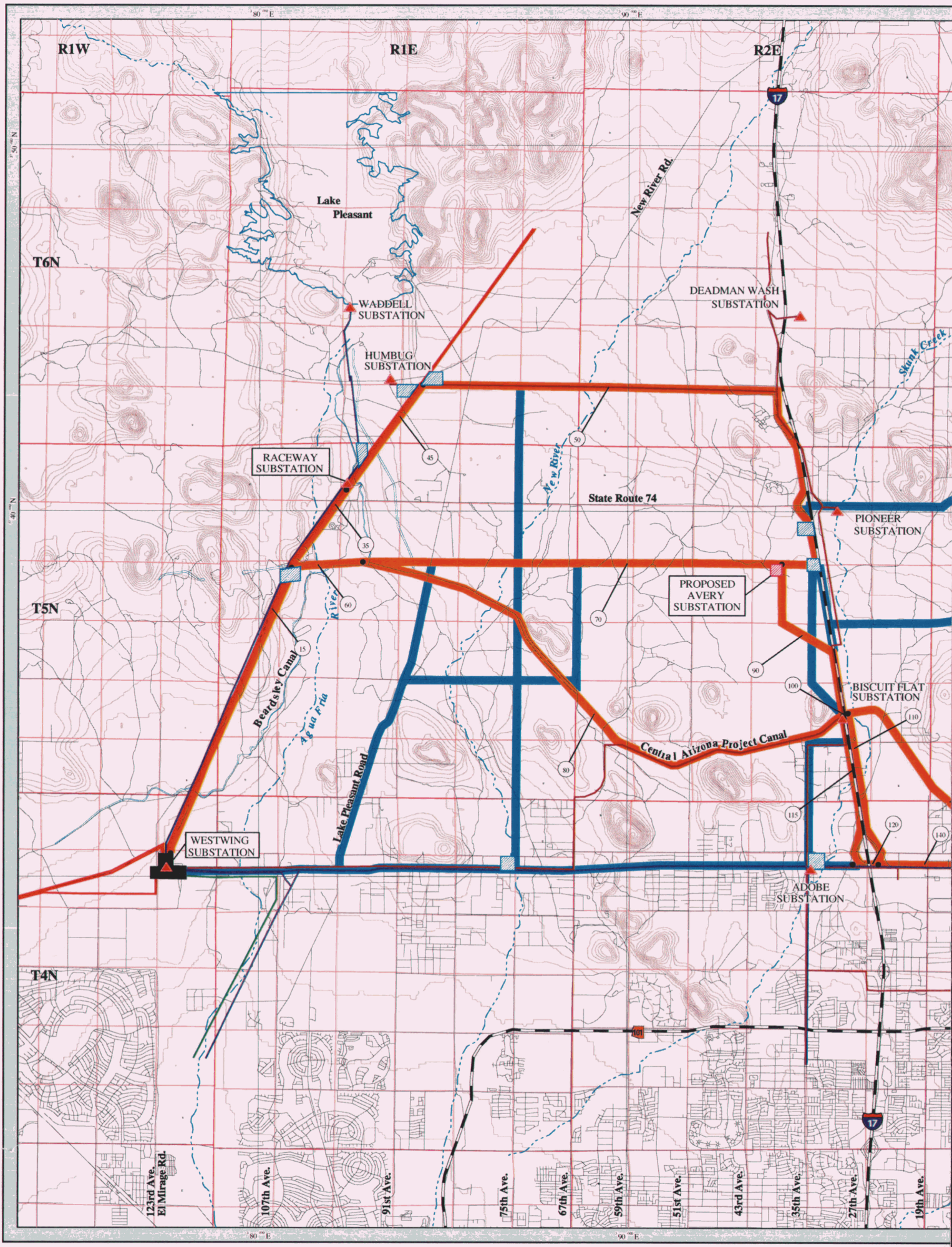
because it bisected the proposed Sonoran Preserve. East of I-17, an alternative that crosses the proposed preserve was retained because it would be collocated with a planned roadway. Several alternatives were eliminated based on potential aviation conflicts with the Pleasant Valley Airport. Engineering considerations resulted in the elimination of alternatives along the Beardsley Canal and several 12kV distribution lines; these were options that would have required a large number of turning structures that are costly and larger, while not providing environmental or other benefits.

Detailed Corridor Study/Route Selection

The detailed corridor study was an in-depth analysis of the potential land use and visual impacts of the proposed routes. A second level of screening occurred based on this information and public input that was solicited through the CWGs and another set of open houses. The detailed corridor study resulted in 124 miles of 230kV transmission line routes and nine 230kV substation siting areas to be evaluated in the alternatives comparison (Figure B-2). These alternatives were evaluated to determine the routes that were considered to be environmentally compatible, meet the engineering requirements of APS, and were acceptable to the public. The alternatives that were carried forward to the North Valley Project are also displayed in Figure B-2, under the alternatives and substation siting areas evaluated in the final comparison. In total, there were 60 miles of 230kV transmission line alternatives and one 230kV substation siting area. The discussion below focuses on the comparison of alternatives for the Northwest Valley Project and North Central Project, followed by an overview of the studies completed for the North Valley Project.

Alternatives paralleling the Dove Valley Road alignment, Joy Ranch Road alignment, and the existing Happy Valley utility corridor west of I-17 (Northwest Valley Project) were considered to have the highest level of environmental compatibility. This is primarily because of the high number of miles parallel to linear features, including utility corridors and existing and proposed major roadways. West of I-17, the Happy Valley route generated the highest level of opposition from the public and jurisdictions. The fewest number of public comments were associated with the Joy Ranch Road and Dove Valley Road route, and the Dove Valley route was preferred by the City of Phoenix, City of Peoria, and ASLD. The jurisdictions preferred this route because it is located 1 mile south of SR 74 (county designated scenic road), which was considered a sufficient buffer, and it avoided the most residences. Other routes west of I-17 that were not considered as environmentally or publicly acceptable as either the Dove Valley or Joy Ranch alignments include Lake Pleasant Road (county scenic road designation), 75th Avenue (existing residences), and 35th Avenue (existing residences).

East of I-17 (North Central Project), several alternatives were considered after the first level of screening. The alternative along Carefree Highway (county designated scenic road) was less acceptable to the public and affected jurisdictions due to potential visual impacts to residences and road users. Visual considerations were also a concern associated with the alternative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New River Rd.
DEADMAN WASH SUBSTATION
WADDELL SUBSTATION
HUMBUG SUBSTATION
RACEWAY SUBSTATION
State Route 74
PIONEER SUBSTATION
PROPOSED AVERY SUBSTATION
BISCUIT FLAT SUBSTATION
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Agua Fria River
New River
Skunk Creek
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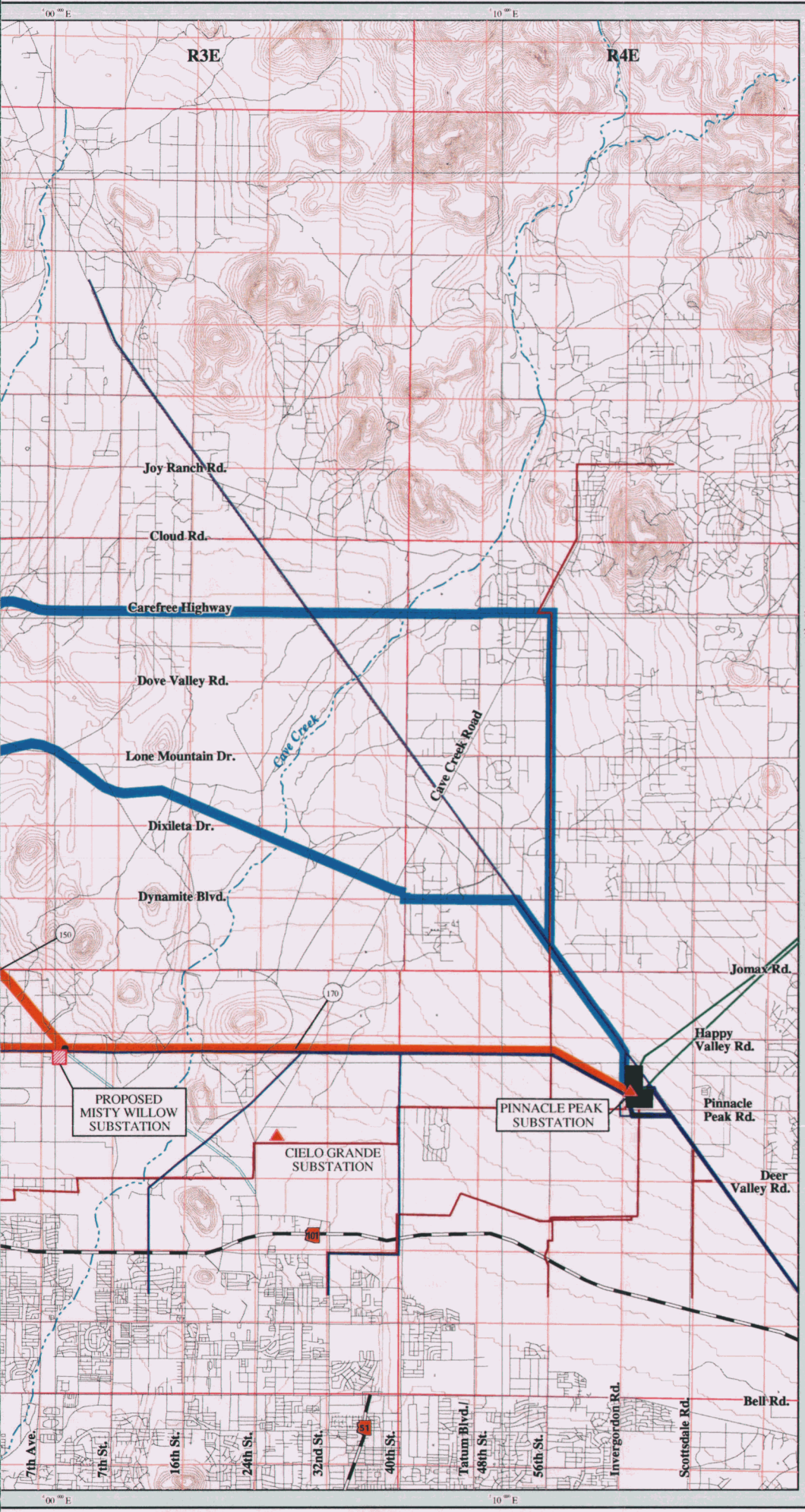

Figure B-2

ALTERNATIVES EVALUATION

NORTH VALLEY
230kV FACILITY SITING PROJECT

- Alternatives Evaluated in the Final Environmental Comparison
- Alternative Routes Evaluated in the Northwest and North Central 230kV Facility Siting Studies
- Proposed Substation Siting Area Evaluated in the Final Environmental Comparison
- Preliminary Substation Siting Area Evaluated in the Northwest and North Central 230kV Facility Siting Studies
- (99) Link Identification Number
- • Link Node

General Reference Features

- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- Interstate/Highway
- Transportation Route
- Lake
- Stream
- Canal
- Township and Range
- Section
- Contour
- ▲ / ■ Existing Substation

Sources:
Landiscor Aerial Information, June 2001.
Arizona State Land Department and Arizona Land Resources Information System, June 1995.

Scale 1:62,500

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paralleling the planned roadway through the proposed Sonoran Preserve. The alternative parallel to the CAP would have visual impacts to existing residences and planned developments. Residents adjacent to the CAP east of I-17 who attended the open house meetings opposed the CAP alternative and supported the I-17 alternative. The use of the I-17 corridor and the existing utility corridor located approximately ¼ mile south of Happy Valley Road were determined to be the most publicly acceptable and environmentally compatible.

North Valley Project

The North Valley Project began with an evaluation of engineering and system requirements and the environmentally compatible routes identified in the Northwest Valley Project and the North Central Project. The environmentally compatible alternatives that were carried forward from the previous siting studies are displayed in Figure B-2. In total, there were 60 miles of 230kV transmission line alternatives and one 230kV substation siting area. After APS conducted further engineering and system analyses, the need for another 230/69kV substation along the Happy Valley transmission corridor was identified. The Misty Willow Substation site was then added to the alternatives.

The next step in the process was to identify alternatives that would interconnect the Westwing Substation, Raceway Substation, the proposed Avery and Misty Willow substations, and the Pinnacle Peak Substation. The five primary alternative transmission line routes and two proposed substation sites that were taken forward for updated inventory, impact assessment, and comparison are displayed in Exhibit A-5. The Proposed Route includes preferred and environmentally compatible routes identified in the Northwest Valley Project and North Central Project. Project updates were given to public leaders and the CWG. Ultimately, APS selected the proposed and alternative routes based on engineering and technical considerations, environmental study results, public input, and cost. More specific information on the proposed and alternative routes environmental selection is summarized below.

The environmental advantages of the Proposed Route include using existing linear corridors and consolidating existing and planned 69kV transmission line structures on the proposed 230kV transmission line to lower impacts. The route parallels existing and planned transmission lines for approximately 27 miles of the total length of the route (31 miles), which reduces potential land use and visual impacts. The Proposed Route avoids potential residential takes and has isolated areas of visual impacts. Along the west side of the interstate, the Proposed Route is adjacent to an existing landfill, reducing the proximity to more sensitive land uses. The Proposed Route also has support from the CWGs, the affected jurisdictions, and the ASLD (a major landowner in the area). APS, the City of Phoenix, and the ASLD worked together to locate the proposed Avery Substation and the Proposed Route south of the Carefree Highway and west of I-17 to accommodate future planning. Although the Proposed Route includes paralleling an existing residential area adjacent to I-17 with an existing 69kV transmission line (for approximately ½ mile), APS will seek to acquire ADOT right-of-way. APS will remove the 69kV transmission line from the residential development and underbuild and consolidate the

69kV transmission line on the proposed 230kV transmission line within ADOT right-of-way adjacent to I-17. This would reduce impacts to the residential development.

The Proposed Route and Alternative Route #1 are similar with the exception of Link 115 of the Proposed Route (along the west side of I-17 south of the CAP), and Link 110 of Alternative Route #1 (along the east side of I-17). Advantages to Alternative Route #1 are similar to the Proposed Route. A disadvantage of the Alternative Route #1 is that Link 110 would be located adjacent to existing and planned residential or commercial development for the majority of its length, while Link 115 of the Proposed Route parallels an existing landfill for approximately 1 mile. Another disadvantage to Alternative Route #1 is a lack of support for the alternative from the City of Phoenix and the CWGs.

Alternative Route #2 differs from the Proposed Route because Alternative Route #2 goes east from I-17 at the Biscuit Flat Substation and parallels the CAP southeast to the Happy Valley 230kV corridor. Advantages to this alternative are similar to the Proposed Route. However, this route would potentially require at least one residential take and cross residential properties along the CAP, and would visually impact existing and proposed residential developments as well as cross the proposed Sonoran Preserve.

Alternative Route #3 differs from the Proposed Route because it parallels the existing 500kV corridor north past the Raceway Substation to the Joy Ranch Road alignment. The route then parallels an existing 69kV transmission line east to I-17, where it turns south and parallels the interstate on the west side. Advantages to this alternative include paralleling existing transmission lines for approximately 29 miles of the route's overall length (35 miles). Disadvantages to this alternative included crossing the Ben Avery Regional Park in two areas—along the Joy Ranch Road alignment and along I-17. This alternative also parallels a portion of I-17 north of the Cloud Road alignment that has been designated by Maricopa County as a scenic road. Advantages and disadvantages of Alternative Route #3 south of the Dove Valley Road alignment along I-17 are similar to the Proposed Route.

Alternative Route #4 differs from the Proposed Route because this route parallels the CAP from the Westwing transmission corridor at the Dove Valley Road alignment to I-17. The route continues across I-17 parallel to the CAP until it meets the Happy Valley 230kV corridor. The route parallels the corridor east to the Pinnacle Peak Substation. This alternative would have visual impacts to users of the Deems Hills Recreation Area and the proposed Sonoran Preserve as it parallels over 5 miles of the preserve, as well as a residential development along the CAP west of I-17. Alternative Route #4 also has land use impacts as it crosses approximately 1 mile of the Deems Hills Recreation Area and 1 mile of residential development along the CAP and west of I-17. East of I-17, Alternative Route #4 would potentially require at least one residential take and cross residential properties along the CAP and would visually impact existing and proposed residential developments.

Each of the five alternatives described in this Application is "environmentally compatible" as defined in the Siting Act and applied in prior Arizona siting decisions.

LAND USE

Overview

The Northwest Valley Project and North Central Project, referenced above, included a land use inventory and an assessment of potential impacts that may occur as a result of construction and operation of the Project. Since those siting studies were completed, additional land use studies were conducted for the North Valley Project, verifying existing land uses and updating land use plans. These studies were conducted from April 2001 to August 2002.

The following describes the inventory results for the land use study and updates for the North Valley Project.

Inventory

The land use inventory included the following major components: land ownership, jurisdiction, existing land uses, and future land uses. Methods used for the land use inventory include review and interpretation of maps, aerial imagery and other documents, and field verification. In addition, this inventory is based on communication with governmental agencies as well as private businesses within the study area. Land use data were inventoried for 2 miles on either side of the proposed and alternative routes and are illustrated on Exhibits A-1 through A-4 and described below.

Jurisdiction and Land Ownership

The proposed and alternative routes cross three jurisdictions including the cities of Phoenix and Peoria, and Maricopa County (unincorporated land) (see Exhibit A-1). Land ownership crossed by the proposed and alternative routes includes Bureau of Land Management (BLM); Bureau of Reclamation (BOR); ASLD; Arizona Game and Fish Department (AGFD), which owns the land associated with the Ben Avery Shooting Range; and private parties (see Exhibit A-2). The miles of the routes that cross each jurisdiction and type of land ownership are compiled in the following tables.

Land Ownership Crossed (in miles)						
	BLM	BOR	State Trust Land	Arizona Game and Fish	Private	Total
Proposed Route	0.0	0.8	22.7	0.0	7.7	31.2
Alternative #1	0.0	0.8	22.4	0.0	7.9	31.1
Alternative #2	0.0	0.8	21.8	0.0	7.6	30.2
Alternative #3	0.1	0.7	26.1	1.5	6.5	34.9
Alternative #4	2.1	2.0	17.3	0.0	11.4	32.8

Land Jurisdiction Crossed (in miles)				
	Phoenix	**Peoria**	**Unincorporated[1]**	**Total**
Proposed Route	19.6	8.5	3.1	31.2
Alternative #1	19.5	8.5	3.1	31.1
Alternative #2	18.1	8.5	3.6	30.2
Alternative #3	19.1	6.9	8.9	34.9
Alternative #4	18.8	10.4	3.6	32.8
[1] Jurisdiction of Maricopa County				

Existing Land Use

Existing land uses are mapped in Exhibit A-3. Overall, the Project area is sparsely populated to the west of I-17 and north of the CAP. South of the CAP, residential and industrial development is clustered largely around the I-17 corridor. The land use categories identified in Exhibit A-3 are described below.

Residential – Residential land uses primarily include low (less than 2 dwelling units per acre) and medium density residential areas (between 2 and 15 dwelling units per acre). Master planned residential developments have been built recently or are under construction on both the east and west sides of I-17.

Commercial/Office/Business Park – The majority of the commercial/office and business park land uses are located along the I-17 corridor in the City of Phoenix.

Industry/Light Industry – Industrial land uses are scattered throughout the study area and include gravel-mining operations, the Skunk Creek Landfill (located west of I-17 along Deer Valley Road), and utility uses. Light industrial operations are concentrated primarily in the vicinity of the Deer Valley Airport in the City of Phoenix.

Mixed Use – The mixed-use land designation is used for areas, which contain a combination of residential, commercial, and/or light industrial uses.

Schools/Educational Facilities – The school/educational facility land use designation includes all levels of schools and any facilities associated with them.

Public/Quasi-Public – Public/quasi-public uses in the study area include the Adobe Mountain Juvenile Institute, Veterans Administration Cemetery, churches, and government offices. The majority of these areas are located in the southeastern portion of the study area. Adobe Mountain Juvenile Institute is located between I-17 and the Skunk Creek Landfill; the Veterans

Administration Cemetery is located on the south side of Pinnacle Peak Road between 24th Street and 40th Street.

Airports – The Deer Valley Airport and the Pleasant Valley Airport are the only two airports within the study area. The Deer Valley Airport is located north of Deer Valley Road between 19th Avenue and 7th Street. The Pleasant Valley Airport is located on the north side of SR 74 between the 83rd Avenue alignment and 91st Avenue alignment.

Agriculture – Agricultural areas occur in the western portion of the study area. Two areas of irrigated farmland are adjacent to the Agua Fria River. Other agricultural land in the study area occurs adjacent to the southwestern border of the study area, approximately ½ mile southwest of the Westwing Substation.

Utilities – Power substations and transmission lines are present in the study area. Two 500kV transmission lines extend northeast from the Westwing Substation across the western side of the study area. A 230kV line parallels the 500kV lines for approximately 7 miles to the Raceway Substation before turning north and connecting to the Waddell Substation. Another 230kV transmission line extends east from the Westwing Substation for approximately 21½ miles to the Pinnacle Peak Substation. Various 345kV and 230kV transmission lines extend from the Pinnacle Peak Substation, and 500kV, 345kV, and 230kV transmission lines extend from the Westwing Substation. Additional 69kV substations are found throughout the study area along with a network of 69kV transmission lines.

Transportation – Major arterials in the study area include I-17, SR 74 (Carefree Highway), and Lake Pleasant Road. Scenic designations or characteristics of such designations (such as setbacks) are associated with Carefree Highway/SR 74, Cave Creek Road north of the CAP, Lake Pleasant Road, a portion of Happy Valley Road west of the CAP, and I-17 north of the Cloud Road alignment.

Vacant Land/Undeveloped – The majority of land in the study area is vacant or undeveloped. These lands are characterized by a lack of development and typical lower Sonoran desertscrub.

Regional Parks/Recreation Areas – There are four regional parks and recreation areas (Lake Pleasant Regional Park, Ben Avery Regional Park, Deems Hills Recreation Area, and Cave Buttes Recreation Area) and a number of recreation facilities located throughout the study area. Lake Pleasant Regional Park is located north of the Waddell Dam, in the far northwest corner of the study area. The Ben Avery Regional Park is located at the northwest corner of I-17 and SR 74. The Deems Hills Recreation Area is located at approximately the Dynamite Boulevard alignment between 51st Avenue and 39th Avenue. The Cave Buttes Recreation Area is located north of Happy Valley Road between approximately 7th Street and 40th Street. Other recreation facilities include golf courses, community parks, racetracks, and equestrian facilities.

Future Land Use

Future land uses are illustrated in Exhibit A-4. These data are based primarily on the City of Phoenix General Plan (2001), North Black Canyon Corridor Plan (1999), City of Peoria Comprehensive Land Use Plan (updated 2001), New River Area Plan (1999), site plans from private developers, and communication with staff planners and developers. Additional specific plans also were referenced, including the Sonoran Preserve Master Plan (1999).

Highlights of the future land use map and additional information are provided by jurisdiction below.

City of Phoenix – The Black Canyon Corridor (along I-17) is expected to experience rapid future population and employment growth. Numerous master planned communities are in various stages of the site approval process and construction on both sides of I-17. The status of these developments is current as of August 2002. In addition, a commercial development has been proposed on the southwestern corner of Carefree Highway and I-17.

The proposed Sonoran Preserve occupies portions of the study area. As of February 2002, 1 square mile north of Jomax Road between 7th Avenue and 7th Street had been purchased from the ASLD. The remainder of the proposed preserve totals almost 15,000 acres and must be obtained by the City of Phoenix from ASLD at auction.

City of Peoria – The current comprehensive plan for the City of Peoria focuses on low density residential development with open space corridors along major washes. The comprehensive plan also identifies a commercial/industrial core at the intersection of SR 74 and Lake Pleasant Road. Peoria master planned communities are located in the study area along the Westwing 500kV corridor.

An aviation study area is identified in Exhibit A-4, and several studies to locate an airport have been completed. However, the timing and location of a potential future airport have not been determined at this time.

Maricopa County – Portions of unincorporated land within the study area north of Cloud Road are included in the New River Area Plan. This includes the area along I-17. The New River Plan identifies I-17 north of Cloud Road as a scenic corridor. Other land in the New River Plan that is included in the North Valley study area is designated as low and medium density residential.

Impact Assessment Methods

Land use impacts may be defined primarily as (1) restrictions on a land use that would result from the construction or operation of the proposed Project, or (2) incompatibility with existing plans. Typically, restrictions on a land use would result from right-of-way acquisition across a property. An impact to existing land uses could adversely affect structures or improvements on a

property, or might cross the edge of a property adjacent to an existing linear feature without affecting any structures or improvements.

Land use impacts for each route are reported assuming that an existing transmission line right-of-way would be utilized from the Westwing Substation to the Raceway Substation and the existing SRP right-of-way would be utilized from I-17 to the Pinnacle Peak Substation. If use of the existing rights-of-way could not be secured for this Project, impacts were also evaluated assuming new rights-of-way in these corridors. Impact differences are also reported below. Field visits were completed to evaluate site-specific conditions and existing plans were provided by jurisdictions and developers in the Project area.

Results

Results of the impact analysis for both existing and future land use are described below in relation to each route as it crosses different land uses. The discussion of impacts for the Proposed Route will focus on the entire route, and the alternative routes will focus on differences from the Proposed Route.

Proposed Route

The Proposed Route is 31.2 miles long and achieves the necessary interconnections with the Westwing, Raceway, proposed Avery, proposed Misty Willow, and Pinnacle Peak substations with generally minimal impacts to existing and future residential properties and the proposed Sonoran Preserve. Approximately 17 miles of the Proposed Route parallels existing utility corridors (69kV transmission lines and greater). The majority of the route crosses existing vacant lands that are not included in specific development plans. An existing residential development located along the west side of I-17 and south of the CAP is paralleled by the Proposed Route for approximately ½ to 1 mile. An existing 69kV transmission line parallels the east side of this development in an open space area for approximately ½ mile. If APS is able to acquire ADOT right-of-way, the existing 69kV lines adjacent to the edge of the development will be underbuilt and consolidated on the new 230kV structures; therefore, residential land use impacts are reduced. Along the Happy Valley transmission corridor the Proposed Route may be located in an existing SRP utility right-of-way in which case no residential displacements are expected. If the SRP right-of-way could not be secured, approximately two residences could potentially be displaced with the acquisition of new rights-of-way along the north side of the existing right-of-way. Along the Dove Valley Road alignment, the Proposed Route will be underbuilt and consolidated with a planned APS 69kV transmission line.

Planned residential uses that are crossed by the Proposed Route are typically low or medium density residential uses indicated in general plans. A portion of the route crosses a proposed master planned community along Link 15; however, the Proposed Route may be located in an existing transmission right-of-way which the master planned community has designated as an open space corridor; therefore, minimal land use impacts are expected. South of the master

planned community there is a conceptual residential development. Because the proposed transmission line may be located within the existing transmission line right-of-way, minimal impacts are expected for the development. If the existing transmission line right-of-way were not able to be secured for this Project, both developments would incur some additional impacts from the acquisition of additional right-of-way adjacent to the existing transmission line corridor. The master planned community to the north would have a planned industrial area within the new right-of-way and the conceptual development to the south would have a planned residential area within the new right-of-way. Representatives of these developments were active participants in the CWG for the Northwest Valley Project. Two areas of proposed Sonoran Preserve are crossed by the proposed Project—along the Dove Valley Road alignment and along the Happy Valley transmission corridor. APS has acquired a corridor reservation for planning purposes for the Proposed Route from ASLD through the proposed Sonoran Preserve along the Dove Valley Road alignment. The other segment of the Proposed Route that would cross the proposed Sonoran Preserve would be located in the existing Happy Valley transmission corridor.

Alternative Route #1

Alternative Route #1 is 31.1 miles long. The primary distinction between the Proposed Route and the Alternative Route #1 is the use of Link 110 in place of Link 115. Link 110 is located along the east side of I-17. On the northeast corner of I-17 and Happy Valley Road, the insurance company USAA has an approved commercial park that is currently under construction. If APS is able to acquire ADOT right-of-way, existing and future land use impacts would be reduced. Link 110 also crosses land along Skunk Creek that is associated with the proposed Sonoran Preserve.

Alternative Route #2

Alternative Route #2 is 30.3 miles long and differs from the Proposed Route in that it follows a portion of the CAP east of I-17 to the Happy Valley corridor (Link 150). Residential land use impacts were identified for Alternative Route #2 because the portion of the route that follows the CAP could potentially result in an existing residential displacement and cross several residential properties. APS will seek to acquire right-of-way from the CAP for this portion of the route, eliminating residential land use impacts. Future land use impacts along Link 150 occur where the route crosses the proposed Sonoran Preserve and the Dynamite Mountain Ranch master planned community.

Alternative Route #3

Alternative Route #3 is 34.9 miles long and differs from the Proposed Route in that it goes north along the Westwing corridor past the Raceway Substation to the Joy Ranch Road alignment. The route follows the Joy Ranch Road alignment paralleling an existing 69kV transmission line east to I-17, where it turns south and connects to the proposed Avery Substation. From this point, the route is similar to the Proposed Route. Along the Joy Ranch Road alignment, the route would

require new easements parallel to the existing 69kV transmission line. Existing land use impacts resulting from Alternative Route #3 were identified where Alternative Route #3 crosses the Ben Avery Regional Park along the Joy Ranch Road alignment, as well as along I-17. Future land use impacts from the Alternative Route #3 were also identified where the route crosses the proposed Sonoran Preserve along the Joy Ranch Road alignment.

Alternative Route #4

Alternative Route #4 is 32.8 miles long and differs from the Proposed Route because this route parallels the CAP from the Westwing transmission line corridor at the Dove Valley Road alignment to I-17. The Route continues across I-17 parallel to the CAP until it meets the Happy Valley 230kV corridor, where it parallels the corridor east to the Pinnacle Peak Substation. Alternative Route #4 crosses approximately 1 mile of the Deems Hills Recreation Area along the CAP west of I-17. This route also crosses approximately 5 miles of the proposed Sonoran Preserve along the CAP. APS will seek to acquire right-of-way from the CAP for this portion of the route, eliminating land use impacts. Similar to Alternative Route #2, an existing residential displacement and crossing of several residential properties could potentially also occur along the CAP east of I-17.

Substations

Minimal land use impacts are anticipated to result from the construction and operation of the proposed Avery Substation. The proposed substation is located on currently vacant land owned by the ASLD. The Avery Substation site would be located on or near planned mixed use and residential land uses. The ASLD has been consulted with regard to the location of the proposed Avery Substation, and supports the general location as proposed. The proposed Misty Willow Substation site is located on vacant land and is adjacent to existing industrial areas. City of Phoenix general plan designations show the planned land use for the substation area to be commerce/business park and open space.

EXHIBIT C
AREAS OF BIOLOGICAL WEALTH

EXHIBIT C
AREAS OF BIOLOGICAL WEALTH

As stated in Arizona Corporation Commission Rules of Practice and Procedure R-14-3-219:

"Describe any areas in the vicinity of the proposed site or route which are unique because of biological wealth or because they are habitats for rare and endangered species. Describe the biological wealth or species involved and state effects, if any, the proposed facilities will have thereon."

BIOLOGICAL WEALTH

Arizona Game and Fish Department (AGFD), Arizona Department of Agriculture (ADA), and U.S. Fish and Wildlife Service (USFWS) have been contacted regarding this Project, and responses from these agencies are attached in Exhibit C-1. Supplemental letters with a current project description were sent on April 11, 2001 requesting information on special status species in the Project area. Only USFWS responded to the supplemental letter. AGFD identified five special status species that may occur in the Project vicinity (January 1999). These species are discussed below. The USFWS provided a list of 13 threatened or endangered species occurring in Maricopa County (April 2001). Only 3 of the 13 species are likely to occur in the Project area, and these species are discussed below. Table C-1 summarizes information on special status species with the potential to occur in the Project area. For the remaining 10 species on the USFWS Maricopa County list, refer to Table C-2.

Sonoran desert tortoise (*Gopherus agassizii*) may be present within rocky hills located along the proposed transmission line. The Sonoran desert tortoise is a species of wildlife of special concern in Arizona.

Gila topminnow (*Poeciliopsis occidentalis occidentalis*) is classified as wildlife of special concern by AGFD and endangered by USFWS. These fish are generally found in small streams and springs. This species may be present in areas of the Agua Fria and New River drainages.

Hohokam agave (*Agave murpheyi*) is classified as highly safeguarded by the ADA and is known from a number of sites in eastern Maricopa, Pinal, and Gila counties in rocky habitat. It may be present in the Project area.

The lowland leopard frog (*Rana yavapaiensis*) uses permanent water in springs, creeks, rivers and stock tanks. This species is classified as wildlife of special concern by AGFD and it may be present in the Project area.

Native vegetation in the vicinity of the proposed transmission line provides potential habitat for the federally listed endangered cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*).

Southwestern willow flycatcher (*Empidonax traillii extimus*), a federally listed endangered species, could occur in the cottonwood/willow/tamarisk riparian woodland on the Agua Fria River south of Lake Pleasant and possibly in tamarisk groves along Cave Creek.

Impacts

Potential effects of the proposed facilities on special status species include loss of foraging habitat for wildlife and potential disturbance of foraging or breeding activities. Special status species may be disturbed by noise from construction activities along the proposed transmission line route. However, any impacts resulting from construction activities are expected to be minimal.

Native vegetation, especially along xeroriparian washes, is one component of the cactus ferruginous pygmy-owl habitat. It is anticipated that the Proposed Route and alternative routes will span riparian areas and washes, avoiding the associated vegetation to the extent possible. However, surveys for the pygmy-owl will be conducted prior to construction of the proposed Project.

Vehicles and heavy equipment could displace or cause mortality in some fossorial species, particularly the desert tortoise. A biological monitor will assist in minimizing impacts on tortoise.

Riparian areas and their associated watersheds could be impacted by vegetation removal on banks of major drainages or direct disturbance to streambeds. Impacts to these areas should be minimized to avoid the loss of potential habitat for the Gila topminnow and lowland leopard frog in the unlikely case they are identified within the study area. In addition, clearing of riparian vegetation could result in habitat loss for the southwestern willow flycatcher. If vegetation disturbance in riparian areas is anticipated, surveys will be completed prior to disturbance.

APS will develop a construction, mitigation, and restoration plan to identify sensitive biological features and delineate access. A biological monitor will be on site during all groundbreaking activities in areas of biologically sensitive features (i.e., major river crossings and threatened and endangered species habitat).

TABLE C-1 SPECIAL STATUS SPECIES THAT MAY OCCUR IN THE PROJECT AREA				
Common Name	**Scientific Name**	**Habitat**	**Federal Status**	**State Status**
Cactus ferruginous pygmy-owl	*Glaucidium brasilianum cactorum*	Sonoran desertscrub vegetation with saguaro cactus and trees	E	WC
Southwestern willow flycatcher	*Empidonax traillii extimus*	Riparian corridors with willow, cottonwood or tamarisk.	E	WC
REPTILES				
Desert tortoise	*Gopherus agassizii*	Rocky slopes, wash banks, creosote bush desert		WC
AMPHIBIANS				
Lowland leopard frog	*Rana yavapaiensis*	Permanent water in creeks, springs, rivers and stock tanks		WC
FISH				
Gila topminnow	*Poeciliopsis occidentalis occidentalis*	Small streams and springs below 4,500 feet	E	WC
PLANTS				
Hohokam agave	*Agave murphyi*	Rocky slopes		HS

Sources: AGFD 2000; Hoffmeister 1986; National Geographic Society 1999; USFWS 2000

Key to Table:
Federal Status: E = Endangered T=Threatened

State Status: WC = Wildlife of Special Concern in Arizona
HS= Highly Safeguarded Plant Species

TABLE C-2 SPECIAL STATUS SPECIES FROM MARICOPA COUNTY NOT IN THE PROJECT AREA				
Common Name	**Scientific Name**	**Habitat**	**Federal Status**	**Reason not found**
Bald eagle	*Haliaeetus leucocephalus*	Large trees or cliffs near water with large fish	T	No habitat; needs larger trees; winters in areas with larger permanent water bodies
Yuma clapper rail	*Rallus longirostris yumanensis*	Fresh and brackish marshes	E	No habitat; requires wet substrate with cattails and other dense emergent riparian vegetation
Mexican spotted owl	*Strix occidentalis lucida*	Canyons and dense forests with mixed conifer or higher elevation pine-oak	T	No habitat; habitat types not on Project; elevation too low
MAMMALS				
Lesser long-nosed bat	*Leptonycteris curasoae yerbabuenae*	Desertscrub with agaves and columnar cactus and mines or caves for roost sites	E	No habitat; forage plant density too low; lack of undisturbed roost sites in area
Sonoran pronghorn	*Antilocapra americana sonoriensis*	Broad valleys with palo verde-mixed cacti association	E	Outside of historic range, inappropriate habitat
FISH				
Desert pupfish	*Cyprinodon macularius*	Shallow springs, small streams and marshes	E	Very limited range; nearest population is the possible reintroduction to Lousy Canyon
Razorback sucker	*Xyrauchen texanus*	Rivers and lakes	E	Only one population in Maricopa County; reintroduced to Horseshoe Reservoir
PLANTS				
Arizona agave	*Agave arizonica*	Steep, rocky slopes	E	Grows in locations between 3,000 to 6,000 feet; known from New River Mountains
Arizona cliffrose	*Purshia subintegra*	Tertiary limestone lakebed deposits	E	No habitat; single known population 35 miles east of Project at Horseshoe Lake
Arizona Hedgehog cactus	*Echinocereus triglochidiatus arizonicus*	Ecotone between interior chaparral and madrean evergreen woodland	E	No habitat; known from elevations between 3,700 to 5,200 feet

Sources: AGFD 2000; Hoffmeister 1986; National Geographic Society 1999; USFWS 2000
Key to Table:
E = Endangered T=Threatened

LITERATURE CITED

Arizona Game and Fish Department, Heritage Data Management System. 2000. Special status species by county for Arizona. Arizona Game and Fish Department, Habitat Branch, Phoenix, Arizona, October 26, 2000.

Hoffmeister, D.F. 1986. Mammals of Arizona. University of Arizona Press, Tucson, Arizona. 602 pp.

National Geographic Society. 1999. Field guide to birds of North America. Third edition. National Geographic Society, Washington, D.C. 480 pp.

U.S. Fish and Wildlife Service (USFWS). 2000. Recommended guidance for private landowners concerning the cactus ferruginous pygmy-owl. March 2000. 6 pp.

EXHIBIT C-1
RESPONSE LETTERS

United States Department of the Interior
U.S. Fish and Wildlife Service
Arizona Ecological Services Field 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
2-21-02-I-275

July 26, 2002

RE
7.29.02

Mr. Paul Trenter, Project Manager
EPG Environmental Group
4350 East Camelback Road, Suite G-200
Phoenix, Arizona 85018

RE: Proposed Avery Substation

Dear Mr. Trenter:

This letter responds to 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://arizonaes.fws.gov**

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 when 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 public 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 species. Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate 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 protects 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 in your project area.

For future projects, you do not need to contact our office to obtain a project number. However, for additional communications regarding this project, please refer to consultation number 2-21-02-I-275. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. If we may be of further assistance, please feel free to contact Tom Gatz for projects in northern Arizona or along the Colorado River (x240) or Sherry Barrett for projects in southern Arizona.

Sincerely,

Jacqueline Johnson

Steven L. Spangle
Acting Field Supervisor

cc: John Kennedy, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ

W:\Cathy Gordon\species list letters\epg proposed avery substation.wpd:cgg

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
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STEVE K. FERRELL

April 26, 2001

Ms. Locana de Souza
EPG
1430 E Ft. Lowell Blvd.
Suite 304
Tucson, AZ 85719

Re: Special Status Species Information for **APS Proposed and Alternate Route North Valley 230kV Transmission Line Project (T4N,R1W Sec 12 to T4N,R4E Sec 10).**

Dear Ms. de Souza:

The Arizona Game and Fish Department (Department) has reviewed your letter, dated April 11, 2001, regarding special status species information associated with the above-referenced project areas. The Department's Heritage Data Management System (HDMS) has been accessed and current records show that the special status species listed on the attachment have been documented as occurring in the project vicinity. In addition, the project does not occur in the vicinity of any proposed or designated Critical Habitats.

The Department's HDMS data are not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity.

Making available this information does not substitute for the Department's review of project proposals, and should not decrease our opportunities to review and evaluate new project proposals and sites. The Department is also concerned about other resource values, such as other wildlife, including game species, and wildlife-related recreation. The Department would appreciate the opportunity to provide an evaluation of impacts to wildlife or wildlife habitats associated with project activities occurring in the subject area, when specific details become available.

If you have any questions regarding the attached species list, please contact me at (602) 789-3618. General status information and county distribution lists for special status species are also available on our web site at http://www.azgfd.com/frames/fishwild/hdms_site/Home.htm.

Sincerely,

Sabra S. Schwartz

Sabra S. Schwartz
Heritage Data Management System, Coordinator

SSS:ss

Attachment

cc: Bob Broscheid, Project Evaluation Program Supervisor
Russ Haughey, Habitat Program Manager, Region VI

AGFD# 04-13-01 (19)

Special Status Species within 5 Miles of Proposed and Alternate Route North Valley 230kV Transmission Line Project

Arizona Game and Fish Department, Heritage Data Management System

April 26, 2001

Scientific Name	Common Name	ESA	USFS	BLM	WSCA	NPL
BUFO MICROSCAPHUS MICROSCAPHUS	ARIZONA TOAD	SC	S			
GASTROPHRYNE OLIVACEA	GREAT PLAINS NARROWMOUTH TOAD				WC	
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC			WC	
MYOTIS VELIFER	CAVE MYOTIS	SC		S		
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC	S		WC	

No Critical Habitats in project area; AGFD #4-13-01(19), APS Proposed Transmission Line, North Valley (T4N,R1W Sec 12 to T4N,R4E Sec 10).

United States Department of the Interior
U.S. Fish and Wildlife Service
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
2-21-01-I-251

April 17, 2001

Mr. Locana de Souza
Staff Biologist
Environmental Planning Group
1430 East Ft. Lowell Boulevard, Suite 304
Tucson, Arizona 85719

RE: APS 230 kV Transmission Line and Substations crossing Cities of Phoenix and Peoria (Westwing Substation to Pinnacle Peak Substation)

Dear Mr. de Souza:

This letter responds to your April 11, 2001, request for an inventory of 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 potentially occur in your project area (Maricopa County). The enclosed list may include candidate species as well. We hope the enclosed county list of species will be helpful. In future communications regarding this project, please refer to consultation number 2-21-01-I-251.

The enclosed list of the endangered, threatened, proposed, and candidate species includes all those potentially occurring anywhere in the county, or counties, where your project occurs. 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. Also on the enclosed list is the Code of Federal Regulations (CFR) citation for each list and is available at most public 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 must request formal consultation with the Service. 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 must enter into a section 7 conference with the Service. Candidate species are those which are being considered for addition to the list of threatened or endangered species. Candidate species are those for which there is sufficient information to support a

proposal for listing. Although candidate 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, the Service recommends 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 or excavation in 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 protects 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 in your project area.

The Service appreciates your efforts to identify and avoid impacts to listed and sensitive species in your project area. If we may be of further assistance, please feel free to contact Tom Gatz (x240).

Sincerely,

Jacqueline Harrison

for David L. Harlow
Field Supervisor

Enclosure

cc: John Kennedy, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: MARICOPA

02/26/2001

1) LISTED

TOTAL= 13

NAME: ARIZONA AGAVE *AGAVE ARIZONICA*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: No CFR: 49 FR 21055, 05-18-1984

DESCRIPTION: HAS ATTRACTIVE ROSETTES OF BRIGHT GREEN LEAVES WITH DARK MAHOGANY MARGINS. FLOWER: BORNE ON SUB-UMBELLATE INFLORESCENCES.

ELEVATION RANGE: 3000-6000 FT.

COUNTIES: GILA, YAVAPAI, MARICOPA

HABITAT: TRANSITION ZONE BETWEEN OAK-JUNIPER WOODLAND & MOUNTAIN MAHOGANY-OAK SCRUB

SCATTERED CLONES IN NEW RIVER MOUNTAINS AND SIERRA ANCHA. USUALLY FOUND ON STEEP, ROCKY SLOPES. POSSIBLY MAZATAL MOUNTAINS. SHOULD BE LOOKED FOR WHEREVER THE RANGES OF *Agave toumeyana var. bella* AND *Agave chrystantha* OVERLAP.

NAME: ARIZONA CLIFFROSE *PURSHIA SUBINTEGRA*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 49 FR 22326 5-29-84

DESCRIPTION: EVERGREEN SHRUB OF THE ROSE FAMILY (ROSEACEAE). BARK PALE SHREDDY. YOUNG TWIGS WITH DENSE HAIRS. LEAVES 1-5 LOBES AND EDGES CURL DOWNWARD (REVOLUTE). FLOWERS: 5 WHITE OR YELLOW PETALS <0.5 INCH LONG.

ELEVATION RANGE: <4000 FT.

COUNTIES: GRAHAM YAVAPAI MARICOPA MOHAVE

HABITAT: CHARACTERISTIC WHITE SOILS OF TERTIARY LIMESTONE LAKEBED DEPOSITS.

WHITE SOILS OF TERITIARY LIMESTONE LAKEBED DEPOSITS CAN BE SEEN FROM A DISTANCE.

NAME: ARIZONA HEDGEHOG CACTUS *ECHINOCEREUS TRIGLOCHIDIATUS ARIZONICUS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: No CFR: 44 FR 61556,10-15-1979

DESCRIPTION: DARK GREEN CYLINDROID 2.5-12 INCHES TALL, 2-10 INCHES IN DIAMETER, SINGLE OR IN CLUSTERS. 1-3 GRAY OR PINKISH CENTRAL SPINES LARGEST DEFLEXED AND 5-11 SHORTER RADIAL SPINES. FLOWER: BRILLIANT RED, SIDE OF STEM IN APRIL- MAY

ELEVATION RANGE: 3700-5200 FT.

COUNTIES: MARICOPA, GILA, PINAL

HABITAT: ECOTONE BETWEEN INTERIOR CHAPPARAL AND MADREAN EVERGREEN WOODLAND

OPEN SLOPES, IN NARROW CRACKS BETWEEN BOULDERS, AND IN UNDERSTORY OF SHRUBS. THIS VARIETY IS BELIEVED TO INTERGRADE AT THE EDGES OF ITS DISTRIBUTION WITH VARIETIES MELANCANTHUS AND NEOMEXICANUS CAUSING SOME CONFUSION IN IDENTIFICATION.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: MARICOPA

02/26/2001

✓

NAME: LESSER LONG-NOSED BAT *LEPTONYCTERIS CURASOAE YERBABUENAE*

Tom - ILO

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 53 FR 38456, 09-30-88

DESCRIPTION: ELONGATED MUZZLE, SMALL LEAF NOSE, AND LONG TONGUE. YELLOWISH BROWN OR GRAY ABOVE AND CINNAMON BROWN BELOW. TAIL MINUTE AND APPEARS TO BE LACKING. EASILY DISTURBED.

ELEVATION RANGE: <6000 FT.

COUNTIES: COCHISE, PIMA, SANTA CRUZ, GRAHAM, PINAL, MARICOPA

HABITAT: DESERT SCRUB HABITAT WITH AGAVE AND COLUNMNAR CACTI PRESENT AS FOOD PLANTS

DAY ROOSTS IN CAVES AND ABANDONED TUNNELS. FORAGES AT NIGHT ON NECTAR, POLLEN, AND FRUIT OF PANICULATE AGAVES AND COLUMNAR CACTI. THIS SPECIES IS MIGRATORY AND IS PRESENT IN ARIZONA, USUALLY FROM APRIL TO SEPTMBER AND SOUTH OF THE BORDER THE REMAINDER OF THE YEAR.

NAME: SONORAN PRONGHORN *ANTILOCAPRA AMERICANA SONORIENSIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67

DESCRIPTION: BUFF ON BACK AND WHITE BELOW; HOOFED WITH SLIGHTLY CURVED BLACK HORNS HAVING A SINGLE PRONG. SMALLEST AND PALEST OF THE PRONGHORN SUBSPECIES.

ELEVATION RANGE: 2000-4000 FT.

COUNTIES: PIMA, YUMA, MARICOPA

HABITAT: BROAD, INTERMOUNTAIN ALLUVIAL VALLEYS WITH CREOSOTE-BURSAGE & PALO VERDE-MIXED CACTI ASSOCIATIONS

TYPICALLY, BAJADAS ARE USED AS FAWNING AREAS AND SANDY DUNE AREAS PROVIDE FOOD SEASONALLY. HISTORIC RANGE WAS PROBABLY LARGER THAN EXISTS TODAY. THIS SUBSPECIES ALSO OCCURS IN MEXICO.

✓

NAME: DESERT PUPFISH *CYPRINODON MACULARIUS*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 51 FR 10842, 03-31-1986

.o- Ann Watson, FWS 4/25/01

DESCRIPTION: SMALL (2 INCHES) SMOOTHLY ROUNDED BODY SHAPE WITH NARROW VERTICAL BARS ON THE SIDES. BREEDING MALES BLUE ON HEAD AND SIDES WITH YELLOW ON TAIL. FEMALES & JUVENILES TAN TO OLIVE COLORED BACK AND SILVERY SIDES.

ELEVATION RANGE: <5000 FT.

COUNTIES: LA PAZ, PIMA, GRAHAM, MARICOPA, PINAL, YAVAPAI, SANTA CRUZ

HABITAT: SHALLOW SPRINGS, SMALL STREAMS, AND MARSHES. TOLERATES SALINE & WARM WATER

CRITICAL HABITAT INCLUDES QUITOBAQUITO SPRING, PIMA COUNTY, PORTIONS OF SAN FELIPE CREEK, CARRIZO WASH, AND FISH CREEK WASH, IMPERIAL COUNTY, CALIFORNIA. TWO SUBSPECIES ARE RECOGNIZED: DESERT PUPFISH (C. m. macularis) AND QUITOBAQUITO PUPFISH (C. m. eremus).

→ no desert pupfish in the area, closest would be a possible reintroduction by AGFD into Lousy Canyon on BLM land.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: MARICOPA

02/26/2001

NAME: GILA TOPMINNOW *POECILIOPSIS OCCIDENTALIS OCCIDENTALIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967

DESCRIPTION: SMALL (2 INCHES), GUPPY-LIKE, LIVE BEARING, LACKS DARK SPOTS ON ITS FINS. BREEDING MALES ARE JET BLACK WITH YELLOW FINS.

ELEVATION RANGE: <4500 FT.

COUNTIES: GILA, PINAL, GRAHAM, YAVAPAI, SANTA CRUZ, PIMA, MARICOPA, LA PAZ

HABITAT: SMALL STREAMS, SPRINGS, AND CIENEGAS VEGETATED SHALLOWS

SPECIES HISTORICALLY OCCURRED IN BACKWATERS OF LARGE RIVERS BUT IS CURRENTLY ISOLATED TO SMALL STREAMS AND SPRINGS

NAME: RAZORBACK SUCKER *XYRAUCHEN TEXANUS*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 55 FR 21154, 05-22-1990; 59 FR 13374, 03-21-1994

DESCRIPTION: LARGE (UP TO 3 FEET AND UP TO 16 POUNDS) LONG, HIGH SHARP-EDGED KEEL-LIKE HUMP BEHIND THE HEAD. HEAD FLATTENED ON TOP. OLIVE-BROWN ABOVE TO YELLOWISH BELOW.

ELEVATION RANGE: <6000 FT.

COUNTIES: GREENLEE, MOHAVE, PINAL, YAVAPAI, YUMA, LA PAZ, MARICOPA (REFUGIA), GILA, COCONINO, GRAHAM

HABITAT: RIVERINE & LACUSTRINE AREAS, GENERALLY NOT IN FAST MOVING WATER AND MAY USE BACKWATERS

SPECIES IS ALSO FOUND IN HORSESHOE RESERVOIR (MARICOPA COUNTY). CRITICAL HABITAT INCLUDES THE 100-YEAR FLOODPLAIN OF THE RIVER THROUGH GRAND CANYON FROM CONFLUENCE WITH PARIA RIVER TO HOOVER DAM; HOOVER DAM TO DAVIS DAM; PARKER DAM TO IMPERIAL DAM. ALSO GILA RIVER FROM AZ/NM BORDER TO COOLIDGE DAM; AND SALT RIVER FROM HWY 60/SR 77 BRIDGE TO ROOSEVELT DAM; VERDE RIVER FROM FS BOUNDARY TO HORSESHOE LAKE.

NAME: BALD EAGLE *HALIAEETUS LEUCOCEPHALUS*

DM - NO

STATUS: THREATENED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 60 FR 35999, 07-12-95

DESCRIPTION: LARGE, ADULTS HAVE WHITE HEAD AND TAIL. HEIGHT 28 - 38"; WINGSPAN 66 - 96". 1-4 YRS DARK WITH VARYING DEGREES OF MOTTLED BROWN PLUMAGE. FEET BARE OF FEATHERS.

ELEVATION RANGE: VARIES FT.

COUNTIES: YUMA, LA PAZ, MOHAVE, YAVAPAI, MARICOPA, PINAL, COCONINO, NAVAJO, APACHE, SANTA CRUZ, PIMA, GILA, GRAHAM, COCHISE

HABITAT: LARGE TREES OR CLIFFS NEAR WATER (RESERVOIRS, RIVERS AND STREAMS) WITH ABUNDANT PREY

SOME BIRDS ARE NESTING RESIDENTS WHILE A LARGER NUMBER WINTERS ALONG RIVERS AND RESERVOIRS. AN ESTIMATED 200 TO 300 BIRDS WINTER IN ARIZONA. ONCE ENDANGERED (32 FR 4001, 03-11-1967; 43 FR 6233, 02-14-78) BECAUSE OF REPRODUCTIVE FAILURES FROM PESTICIDE POISONING AND LOSS OF HABITAT, THIS SPECIES WAS DOWN LISTED TO THREATENED ON AUGUST 11, 1995. ILLEGAL SHOOTING, DISTURBANCE, LOSS OF HABITAT CONTINUES TO BE A PROBLEM. SPECIES HAS BEEN PROPOSED FOR DELISTING (64 FR 36454) BUT STILL RECEIVES FULL PROTECTION UNDER ESA.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: MARICOPA

02/26/2001

NAME: CACTUS FERRUGINOUS PYGMY-OWL *GLAUCIDIUM BRASILIANUM CACTORUM*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: No CFR: 62 FR 10730, 3-10-97

DESCRIPTION: SMALL (APPROX. 7"), DIURNAL OWL REDDISH BROWN OVERALL WITH CREAM-COLORED BELLY STREAKED WITH REDDISH BROWN. SOME INDIVIDUALS ARE GRAYISH BROWN

ELEVATION RANGE: <4000 FT.

COUNTIES: MARICOPA, YUMA, SANTA CRUZ, GRAHAM, GREENLEE, PIMA, PINAL, GILA, COCHISE

HABITAT: MATURE COTTONWOOD/WILLOW, MESQUITE BOSQUES, AND SONORAN DESERTSCRUB

RANGE LIMIT IN ARIZONA IS FROM NEW RIVER (NORTH) TO GILA BOX (EAST) TO CABEZA PRIETA MOUNTAINS (WEST). ONLY A FEW DOCUMENTED SITES WHERE THIS SPECIES PERSISTS ARE KNOWN, ADDITIONAL SURVEYS ARE NEEDED. CRITICAL HABITAT IN PIMA, COCHISE, PINAL, AND MARICOPA COUNTIES (64 FR 37419).

NAME: MEXICAN SPOTTED OWL *STRIX OCCIDENTALIS LUCIDA*

STATUS: THREATENED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 56 FR 14678, 04-11-91; 66 FR 8530, 2/1/01

DESCRIPTION: MEDIUM SIZED WITH DARK EYES AND NO EAR TUFTS. BROWNISH AND HEAVILY SPOTTED WITH WHITE OR BEIGE.

ELEVATION RANGE: 4100-9000 FT.

COUNTIES: MOHAVE, COCONINO, NAVAJO, APACHE, YAVAPAI, GRAHAM, GREENLEE, COCHISE, SANTA CRUZ, PIMA, PINAL, GILA, MARICOPA

HABITAT: NESTS IN CANYONS AND DENSE FORESTS WITH MULTI-LAYERED FOLIAGE STRUCTURE

GENERALLY NESTS IN OLDER FORESTS OF MIXED CONIFER OR PONDERSA PINE/GAMBEL OAK TYPE, IN CANYONS, AND USE VARIETY OF HABITATS FOR FORAGING. SITES WITH COOL MICROCLIMATES APPEAR TO BE OF IMPORTANCE OR ARE PREFERED. CRITICAL HABITAT WAS REMOVED IN 1998 BUT RE-PROPOSED IN JULY 2000 AND FINALIZED IN FEB 2001 FOR APACHE, COCHISE, COCONINO, GRAHAM, MOHAVE, PIMA COUNTIES; ALSO IN NEW MEXICO, UTAH, AND COLORADO.

NAME: SOUTHWESTERN WILLOW FLYCATCHER *EMPIDONAX TRAILLII EXTIMUS*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS, WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH BELLY, TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM, YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS. CRITICAL HABITAT ON PORTIONS OF THE 100-YEAR FLOODPLAIN ON SAN PEDRO AND VERDE RIVERS; WET BEAVER AND WEST CLEAR CREEKS, INCLUDING TAVASCI MARSH AND ISTER FLAT; THE COLORADO RIVER, THE LITTLE COLORADO RIVER, AND THE WEST, EAST, AND SOUTH FORKS OF THE LITTLE COLORADO RIVER, REFERENCE 60 CFR;62 FR 39129, 7/22/97.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: MARICOPA

02/26/2001

NAME: YUMA CLAPPER RAIL *RALLUS LONGIROSTRIS YUMANENSIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67; 48 FR 34182, 07-27-83

DESCRIPTION: WATER BIRD WITH LONG LEGS AND SHORT TAIL. LONG SLENDER DECURVED BILL. MOTTLED BROWN ON GRAY ON ITS RUMP. FLANKS AND UNDERSIDES ARE DARK GRAY WITH NARROW VERTICAL STRIPES PRODUCING A BARRING EFFECT.

ELEVATION RANGE: <4500 FT.

COUNTIES: YUMA, LA PAZ, MARICOPA, PINAL, MOHAVE

HABITAT: FRESH WATER AND BRACKISH MARSHES

SPECIES IS ASSOCIATED WITH DENSE EMERGENT RIPARIAN VEGETATION. REQUIRES WET SUBSTRATE (MUDFLAT, SANDBAR) WITH DENSE HERBACEOUS OR WOODY VEGETATION FOR NESTING AND FORAGING. CHANNELIZATION AND MARSH DEVELOPMENT ARE PRIMARY SOURCES OF HABITAT LOSS.

THE STATE OF ARIZONA

GAME & FISH DEPARTMENT

2221 West Greenway Road, Phoenix, Arizona 85023-4399 (602) 942-3000
www.gf.state.az.us

Mesa Office, 7200 E. University, Mesa, Arizona 85207 (602) 981-9400

Governor
Jane Dee Hull

Commissioners:
Chairman, Herb Guenther, Tacna
Michael M. Golightly, Flagstaff
William Berlat, Tucson
M. Jean Hassell, Scottsdale
Dennis D. Manning, Alpine

Director
Duane L. Shroufe

Deputy Director
Thomas W. Spalding

January 26, 1999

Ms. Kimberly Otero
Environmental Planner
Dames & Moore
Cambric Corporate Center
1790 E. River Road, Suite E-300
Tucson, Arizona 85718-5876

Re: SRP Siting Projects

Dear Ms. Otero:

I would like to apologize for the delay in getting this letter to your firm. Hopefully this delay has not negatively impacted your project or delayed it in any way.

The Department's Heritage Data Management System has been accessed and current records show that the special status species listed below has been documented as occurring in the project vicinity.

Transmission line and substation in the Northeast Phoenix
Dames & Moore - 02353-139-050

COMMON NAME	SCIENTIFIC NAME	STATUS
Harris' hawk	*Parabuteo unicinctus*	**S**

Transmission lines and substations in the east valley
Dames & Moore - 01009-066-050

COMMON NAME	SCIENTIFIC NAME	STATUS
Harris' hawk	*Parabuteo unicinctus*	**S**
Sonoran desert tortoise	*Gopherus agassizii*	**WC,S**

4 New substations North Phoenix and New River
Dames & Moore - 02353-142-050

COMMON NAME	SCIENTIFIC NAME	STATUS
Gila topminnow	*Poeciliopsis occidentalis occidentalis*	**LE,WC,S**

Harris' hawk	*Parabuteo unicinctus*	**S**
Hohokam agave	*Agave murpheyi*	**S,HS**
lowland leopard frog	*Rana yavapaiensis*	**WC,S**
Sonoran desert tortoise	*Gopherus agassizii*	**WC,S**

STATUS DEFINITIONS

LE - Listed Endangered. Species identified by the U.S. Fish and Wildlife Service under the Endangered Species Act as being in imminent jeopardy of extinction.

WC - Wildlife of Special Concern in Arizona. Species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines, as described by the Department's listing of **Wildlife of Special Concern in Arizona** (WSCA, in prep.). Species included in WSCA are currently the same as those in **Threatened Native Wildlife in Arizona** (1988).

S - Sensitive. Species classified as **"sensitive"** by the Regional Forester when occurring on lands managed by the U.S.D.A. Forest Service.

HS - Highly Safeguarded. Those Arizona native plants whose prospects for survival in this state are in jeopardy or are in danger of extinction, or are likely to become so in the foreseeable future, as described by the Arizona Native Plant Law (1993).

The Department recommends that the above mentioned special status species are considered in the planning and implementation of this project. We further recommend that the Department's "Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects" are used in the instance that a tortoise or its burrow is located during project implementation. Also, your firm should contact the U.S. Fish and Wildlife Service to determine what effect, if any, the presence of the above species listed as "Endangered" may have on your project.

The Department also recommends that you contact the Arizona Department of Agriculture, at the address listed below, for additional information regarding Arizona Native Plant Law and potential restrictions which may apply to the salvage or removal of species noted above as "SR".

Mr. James McGinnis
Manager, Native Plant Law
Plant Services Division
Arizona Department of Agriculture
1688 West Adams
Phoenix, Arizona 85007
Phone: (602) 542-3292

The Department does not anticipate any significant impacts to wildlife resources due to the implementation of this project. We appreciate the opportunity to comment and again, apologize for the delay.

Sincerely,

Timothy Wade
Habitat Evaluation Specialist

TPW:tw

cc: Kelly Neal, Regional Supervisor, Region VI
Russell Haughey. Habitat Program Manager, Region VI
John Kennedy, Project Evaluation Program Supervisor, Habitat Branch

AGFD# 12-18-99(02), 12-18-98(14), 12-18-98(03)

United States Department of the Interior
Fish and Wildlife Service
Arizona Ecological Services Field Office
2321 W. Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
(602) 640-2720 Fax (602) 640-2730

In Reply Refer To:
AESO/SE
2-21-99-I-073

December 23, 1998

Ms. Kimberly A. Otero
Dames & Moore
Cambric Corporate Center
1790 East River Road, Suite E-300
Tucson, Arizona 85718-5876

RE: 230/69kV Transmission Line and Substation Projects (D&M Job No. 02353-139-050 and 02353-142-050)

Dear Ms. Otero:

This letter responds to your December 14, 1998, requests for an inventory of 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 potentially occur in your project areas (Maricopa County). The enclosed list may include candidate species as well. We hope the enclosed county list of species will be helpful. In future communications regarding this project, please refer to consultation number 2-21-99-I-073.

Please be aware that you may also access limited county species lists for Arizona on our internet web site at the following:

http://ifw2es.fws.gov/endspcs/lists/

The enclosed list of the endangered, threatened, proposed, and candidate species includes all those potentially occurring anywhere in the county, or counties, where your project occurs. 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. Also on the enclosed list is the Code of Federal Regulations (CFR) citation for each listed or proposed species. Additional information can be found in the CFR and is available at most public 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 must request formal consultation with the Service. 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 must enter into a section 7 conference with the Service. Candidate species are those which are being considered for addition to the list of threatened or endangered species. Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate 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, the Service recommends 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 or excavation in 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 protects 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 in your project area.

The Service appreciates your efforts to identify and avoid impacts to listed and sensitive species in your project area. If we may be of further assistance, please feel free to contact Tom Gatz.

Sincerely,

For David L. Harlow
Field Supervisor

Enclosure

cc: Director, Arizona Game and Fish Department, Phoenix, AZ

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: Maricopa

10/5/98

LISTED TOTAL= 14

NAME: ARIZONA AGAVE *AGAVE ARIZONICA*

STATUS: ENDANGERED CRITICAL HAB: No RECOVERY PLAN: No CFR: 49 FR 21055, 05-18-1984

DESCRIPTION: HAS ATTRACTIVE ROSETTES OF BRIGHT GREEN LEAVES WITH DARK MAHOGANY MARGINS. FLOWER: BORNE ON SUB-UMBELLATE INFLORESCENCES.

ELEVATION RANGE: 3000-6000 FT.

COUNTIES: GILA, YAVAPAI, MARICOPA

HABITAT: TRANSITION ZONE BETWEEN OAK-JUNIPER WOODLAND & MOUNTAIN MAHOGANY-OAK SCRUB

SCATTERED CLONES IN NEW RIVER MOUNTAINS AND SIERRA ANCHA. USUALLY FOUND ON STEEP, ROCKY SLOPES. POSSIBLY MAZATAL MOUNTAINS. SHOULD BE LOOKED FOR WHEREVER THE RANGES OF Agave toumeyana var. bella AND Agave chrystantha OVERLAP.

NAME: ARIZONA CLIFFROSE *PURSHIA SUBINTEGRA*

STATUS: ENDANGERED CRITICAL HAB: No RECOVERY PLAN: Yes CFR: 49 FR 22326 5-29-84

DESCRIPTION: EVERGREEN SHRUB OF THE ROSE FAMILY (ROSEACEAE). BARK PALE SHREDDY. YOUNG TWIGS WITH DENSE HAIRS. LEAVES 1-5 LOBES AND EDGES CURL DOWNWARD (REVOLUTE). FLOWERS: 5 WHITE OR YELLOW PETALS <0.5 INCH LONG.

ELEVATION RANGE: <4000 FT.

COUNTIES: GRAHAM YAVAPAI MARICOPA MOHAVE

HABITAT: CHARACTERISTIC WHITE SOILS OF TERTIARY LIMESTONE LAKEBED DEPOSITS.

WHITE SOILS OF TERITIARY LIMESTONE LAKEBED DEPOSITS CAN BE SEEN FROM A DISTANCE.

NAME: ARIZONA HEDGEHOG CACTUS *ECHINOCEREUS TRIGLOCHIDIATUS ARIZONICUS*

STATUS: ENDANGERED CRITICAL HAB: No RECOVERY PLAN: No CFR: 44 FR 61556,10-15-1979

DESCRIPTION: DARK GREEN CYLINDROID 2.5-12 INCHES TALL, 2-10 INCHES IN DIAMETER, SINGLE OR IN CLUSTERS. 1-3 GRAY OR PINKISH CENTRAL SPINES LARGEST DEFLEXED AND 5-11 SHORTER RADIAL SPINES. FLOWER: BRILLIANT RED, SIDE OF STEM IN APRIL- MAY

ELEVATION RANGE: 3700-5200 FT.

COUNTIES: MARICOPA, GILA, PINAL

HABITAT: ECOTONE BETWEEN INTERIOR CHAPPARAL AND MADREAN EVERGREEN WOODLAND

OPEN SLOPES, IN NARROW CRACKS BETWEEN BOULDERS, AND IN UNDERSTORY OF SHRUBS. THIS VARIETY IS BELIEVED TO INTERGRADE AT THE EDGES OF ITS DISTRIBUTION WITH VARIETIES MELANCANTHUS AND NEOMEXICANUS CAUSING SOME CONFUSION IN IDENTIFICATION.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: Maricopa

10/5/98

NAME: GILA TOPMINNOW *POECILIOPSIS OCCIDENTALIS OCCIDENTALIS*

STATUS: ENDANGERED CRITICAL HAB: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-1967

DESCRIPTION: SMALL (2 INCHES), GUPPY-LIKE, LIVE BEARING, LACKS DARK SPOTS ON ITS FINS. BREEDING MALES ARE JET BLACK WITH YELLOW FINS.

ELEVATION RANGE: <4500 FT.

COUNTIES: GILA, PINAL, GRAHAM, YAVAPAI, SANTA CRUZ, PIMA, MARICOPA, LA PAZ

HABITAT: SMALL STREAMS, SPRINGS, AND CIENEGAS VEGETATED SHALLOWS

SPECIES HISTORICALLY OCCURRED IN BACKWATERS OF LARGE RIVERS BUT IS CURRENTLY ISOLATED TO SMALL STREAMS AND SPRINGS

NAME: RAZORBACK SUCKER *XYRAUCHEN TEXANUS*

STATUS: ENDANGERED CRITICAL HAB: Yes RECOVERY PLAN: Yes CFR: 55 FR 21154, 05-22-1990; 59 FR 13374, 03-21-1994

DESCRIPTION: LARGE (UP TO 3 FEET AND UP TO 16 POUNDS) LONG, HIGH SHARP-EDGED KEEL-LIKE HUMP BEHIND THE HEAD. HEAD FLATTENED ON TOP. OLIVE-BROWN ABOVE TO YELLOWISH BELOW.

ELEVATION RANGE: <6000 FT.

COUNTIES: GREENLEE, MOHAVE, PINAL, YAVAPAI, YUMA, LA PAZ, MARICOPA (REFUGIA), GILA, COCONINO, GRAHAM

HABITAT: RIVERINE & LACUSTRINE AREAS, GENERALLY NOT IN FAST MOVING WATER AND MAY USE BACKWATERS

SPECIES IS ALSO FOUND IN HORSESHOE RESERVOIR (MARICOPA COUNTY). CRITICAL HABITAT INCLUDES THE 100-YEAR FLOODPLAIN OF THE RIVER THROUGH GRAND CANYON FROM CONFLUENCE WITH PARIA RIVER TO HOOVER DAM; HOOVER DAM TO DAVIS DAM; PARKER DAM TO IMPERIAL DAM. ALSO GILA RIVER FROM AZ/NM BORDER TO COOLIDGE DAM; AND SALT RIVER FROM HWY 60/SR 77 BRIDGE TO ROOSEVELT DAM; VERDE RIVER FROM FS BOUNDARY TO HORSESHOE LAKE.

NAME: AMERICAN PEREGRINE FALCON *FALCO PEREGRINUS ANATUM*

STATUS: ENDANGERED CRITICAL HAB: No RECOVERY PLAN: Yes CFR: 35 FR 16047, 10-13-70; 35 FR 8495, 06-02-70

DESCRIPTION: A RECLUSIVE, CROW-SIZED FALCON SLATY BLUE ABOVE WHITISH BELOW WITH FINE DARK BARRING. THE HEAD IS BLACK AND APPEARS TO BE MASKED OR HELMETED. WINGS LONG AND POINTED. LOUD WAILING CALLS ARE GIVEN DURING BREEDING PERIOD.

ELEVATION RANGE: 3500-9000 FT.

COUNTIES: MOHAVE COCONINO NAVAJO APACHE SANTA CRUZ MARICOPA COCHISE YAVAPAI GILA PINAL PIMA GREENLEE GRAHAM

HABITAT: CLIFFS AND STEEP TERRAIN USUALLY NEAR WATER OR WOODLANDS WITH ABUNDANT PREY

THIS IS A WIDE-RANGING MIGRATORY BIRD THAT USES A VARIETY OF HABITATS. BREEDING BIRDS ARE YEAR-ROUND RESIDENTS. OTHER BIRDS WINTER AND MIGRATE THROUGH ARIZONA. SPECIES IS ENDANGERED FROM REPRODUCTIVE FAILURE FROM PESTICIDES.

NAME: SOUTHWESTERN WILLOW FLYCATCHER *EMPIDONAX TRAILLII EXTIMUS*

STATUS: ENDANGERED CRITICAL HAB: Yes RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS, WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH BELLY. TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM, YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS. CRITICAL HABITAT ON PORTIONS OF THE 100-YEAR FLOODPLAIN ON SAN PEDRO AND VERDE RIVERS; WET BEAVER AND WEST CLEAR CREEKS, INCLUDING TAVASCI MARSH AND ISTER FLAT; THE COLORADO RIVER, THE LITTLE COLORADO RIVER, AND THE WEST, EAST, AND SOUTH FORKS OF THE LITTLE COLORADO RIVER, REFERENCE 60 CFR:62 FR 39129, 7/22/97.

NAME: YUMA CLAPPER RAIL *RALLUS LONGIROSTRIS YUMANENSIS*

STATUS: ENDANGERED CRITICAL HAB: No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67; 48 FR 34182, 07-27-83

DESCRIPTION: WATER BIRD WITH LONG LEGS AND SHORT TAIL. LONG SLENDER DECURVED BILL. MOTTLED BROWN ON GRAY ON ITS RUMP. FLANKS AND UNDERSIDES ARE DARK GRAY WITH NARROW VERTICAL STRIPES PRODUCING A BARRING EFFECT.

ELEVATION RANGE: <4500 FT.

COUNTIES: YUMA, LA PAZ, MARICOPA, PINAL, MOHAVE

HABITAT: FRESH WATER AND BRACKISH MARSHES

SPECIES IS ASSOCIATED WITH DENSE EMERGENT RIPARIAN VEGETATION. REQUIRES WET SUBSTRATE (MUDFLAT, SANDBAR) WITH DENSE HERBACEOUS OR WOODY VEGETATION FOR NESTING AND FORAGING. CHANNELIZATION AND MARSH DEVELOPMENT ARE PRIMARY SOURCES OF HABITAT LOSS.

SHELDON R. JONES
Director

G. JOHN CARAVETTA
Associate Director

Arizona Department of Agriculture

1688 West Adams, Phoenix, Arizona 85007
(602) 542-4373 FAX (602) 542-0999

PLANT SERVICES DIVISION

December 18, 1998

Kimberly A. Otero
Project Biologist
Dames & Moore
Cambric Corporate Center
1790 E. River Rd., Ste. E-300
Tucson, AZ 85718-5876

RE: **D & M Job Number 01009-076-050**
D & M Job Number 02353-139-050
D & M Job Number 02353-142-050

Dear Ms. Otero:

The Arizona Department of Agriculture has reviewed the referenced information and maps dated December 14, 1998.

The Department recommends that, if any protected native plants exist on site, they be avoided or transplanted preferably on site. If any plants or wood are removed from the site for personal use, State permits must first be obtained.

If it is not known if protected plants occur on the proposed project site, the Department, upon request, will conduct a survey of the site to determine the type and number of protected plants present. The applicant, however, will be billed for the survey. The Department will also accept survey counts from other competent sources.

We appreciate the opportunity to review the proposed actions. If you need additional information, please contact me at 602/542-3292.

Sincerely,

James McGinnis
Chief Enforcement Officer
Native Plants/Antiquities

JM:clw

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Phoenix Field Office
2015 West Deer Valley Road
Phoenix, AZ 85027-2099

IN REPLY REFER TO:
(6840) (020)

December 18, 1998

Kim Otero
Dames & Moore
Cambric Corporate Center
1790 East River Road, Suite E-300
Tucson, Arizona 85718-5876

Ms. Otero:

The lands in the North Central Phoenix Siting Project are by and large devoid of Bureau of Land Management parcels. There are perhaps six isolated blocks still held in the public interest. None of these lands contains any high value habitats for special status plants or animals. It is possible, but highly unlikely, that the lands may contain Cactus Ferruginous Pygmy-owls or potential habitat. The areas have not been surveyed as they may be outside the current distribution for the species. Some of these lands may be slated for disposal, but until that time probably function best as Open Space.

There is a large block containing some hills on either side of the Cave Creek Dam Recreation Area and three smaller parcels adjacent to the Cave Creek Recreation Area, north of the Carefree Highway. These parcels in/near recreation areas with broken and elevated terrain should likely be left unencumbered by transmission lines and/or generating stations. Such actions would preserve the character of a natural view shed and avoid disturbance to such plants and animals that remain in these isolated natural areas.

Sincerely,

Eugene A. Dahlem

for Michael A. Taylor
Field Manager

EXHIBIT D
BIOLOGICAL RESOURCES

EXHIBIT D
BIOLOGICAL RESOURCES

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"List the fish, wildlife, plant life, and associated forms of life in the vicinity of the proposed site or route and describe the effects, if any, other proposed facilities will have thereon."

BIOLOGICAL RESOURCES

A biological field crew surveyed the proposed transmission line routes in order to assess the plant communities and associated fauna affected by the Project. Plants and animals were identified and noted along with major geographic features. Lists of potentially occurring species of animals were assembled from standard references for the state.

The Proposed Route and alternative routes cross areas that include native vegetation of the Lower Colorado River Valley and Arizona Upland subdivisions of the Sonoran desertscrub biome (Turner & Brown 1994). The majority of the Sonoran desertscrub on the Project site is dominated by creosote bush (*Larrea tridentata*) and triangle-leaf bursage (*Ambrosia deltoidea*), but these sites are regularly interrupted by washes and xeroriparian areas where larger shrubs and trees dominate. Plant species in these areas include saguaro cactus (*Carnegiea gigantea*), foothill palo verde (*Cercidium microphyllum*), blue palo verde (*Cercidium floridum*), ironwood (*Olneya tesota*), velvet mesquite (*Prosopis velutina*), and wolfberry (*Lycium* sp.). Barrel cactus (*Ferocactus wislizenii*), hedgehog cactus (*Echinocereus* spp.), and cholla cactus (*Opuntia* spp.) are found in both vegetation types.

The Proposed Route and alternative routes will cross the Agua Fria River, New River, Cave Creek Wash, Skunk Creek, and Beardsley Canal. The New River is dry in this area and flows only in response to storm events. The Agua Fria River shows some minor flow and pooling below the dam that forms Lake Pleasant. Vegetation in this area includes large stands of salt cedar (*Tamarix* sp.) and willow (*Salix gooddingii*).

For species of mammals, birds, and reptiles and amphibians that may occur in the Project area, refer to Tables D-1, D-2, and D-3 respectively.

Impacts

Potential effects of the proposed Project on wildlife and plants include vegetation clearing and associated habitat loss, as well as disturbance, injury, or mortality of wildlife due to construction activities.

One result of construction of this Project may be the potential removal of protected plant species as identified in the Arizona Native Plant Law. If these trees are removed during construction of the Project, ADA will be notified 30 days before plants are destroyed over an area of one acre or more but less than 40 acres, and 60 days before plants are destroyed over an area of 40 acres or more. Native vegetation characteristic of the Lower Colorado River Valley subdivision is extensive in southern Arizona. Therefore, removal of the relatively small amount of native vegetation present on the Project site would not harm this vegetation community as a whole.

In areas where native vegetation is cleared there may be a permanent loss of potential habitat for small mammals, reptiles, and birds. Construction activities may result in temporary disturbance of wildlife due to the presence of construction equipment and human activity. Another construction-related impact is the potential for incidental injury or mortality of small animals.

A construction, mitigation, and restoration plan will be developed to identify sensitive biological features (i.e., major river crossings and threatened and endangered species habitat) and delineate access. A biological monitor will be on site during all groundbreaking activities in areas of biologically sensitive features.

TABLE D-1 MAMMAL SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT		
Common Name	**Scientific Name**	**Habitat**
Desert shrew	*Notiosorex crawfordi*	Any area with ample ground cover including plant debris, trash and lumber
California leaf-nosed bat	*Macrotus californicus*	Sonoran desertscrub with caves and mines
Yuma myotis	*Myotis yumanensis*	Areas with rivers, ponds, canals, or other permanent water
Cave myotis	*Myotis velifer*	Desertscrub with caves, mines, or bridges and water nearby
California myotis	*Myotis californicus*	Desertscrub with rock faces containing crevices, occasionally caves and mines
Western pipistrelle	*Pipistrellus hesperus*	Areas with canyon walls or cliff faces for roosting, streambeds and tanks for foraging
Big brown bat	*Eptesicus fuscus*	Wooded areas, desertscrub
Southern yellow bat	*Lasiurus ega*	Areas with large trees, especially fan palms (*Washingtonia*)
Townsend's big-eared bat	Plecotus townsendii	Areas with caves or mines, structures for night roosts
Pallid bat	*Antrozous pallidus*	Desertscrub with caves, mine, cliffs, bridges or other structures for roosts
Brazilian free-tailed bat	*Tadarida brasiliensis*	Desertscrub and foothills with mines, caves, bridges or old buildings
Pocketed free-tailed bat	*Tadarida femorosacca*	Rocky cliffs and slopes, structures
Big free-tailed bat	*Tadarida macrotis*	Rocky cliffs with crevices
Western mastiff bat	*Eumops perotis*	Rocky cliffs with crevices or shallow caves
Desert cottontail	*Sylvilagus audubonii*	Desertscrub, semi-desert grassland
Black-tailed jack rabbit	*Lepus californicus*	Desertscrub and other areas with open ground cover
Harris' antelope squirrel	*Ammospermophilus harrisii*	Rocky areas of creosote bush/saltbush/bursage
Rock squirrel	*Spermophilus variegatus*	Rocky areas above 1,600 feet
Round-tailed ground squirrel	*Spermophilus tereticaudus*	Creosote bush/saltbush desert with sandy or gravelly soil
Botta's pocket gopher	*Thomomys bottae*	Any area with soil suitable for digging burrows
Little pocket mouse	*Perognathus longimembris*	Sandy or gravelly soils in broken or rolling country
Arizona pocket mouse	Perognathus amplus	Desertscrub
Rock pocket mouse	*Chaetodipus intermedius*	Rocky areas of desertscrub
Desert pocket mouse	*Chaetodipus penicillatus*	Sandy areas of desertscrub with sparse vegetation
Bailey's pocket mouse	*Chaetodipus baileyi*	Flats and lower slope areas of desertscrub
Merriam's kangaroo rat	*Dipodomys merriami*	Sandy areas of desertscrub
Desert kangaroo rat	*Dipodomys deserti*	Areas with deep sandy soil

TABLE D-1 MAMMAL SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT		
Common Name	**Scientific Name**	**Habitat**
Plains harvest mouse	*Reithrodontomys montanus*	Desertscrub or chaparral
Western harvest mouse	*Reithrodontomys megalotis*	Desertscrub or chaparral
Cactus mouse	*Peromyscus eremicus*	Desertscrub, rocky areas, chaparral
Deer mouse	*Peromyscus maniculatus*	Coniferous or riparian woodland, desertscrub adjacent to canals or intermittent creeks
Southern grasshopper mouse	*Onychomys torridus*	Desertscrub or semi-desert grassland with compact soil
Arizona cotton rat	*Sigmodon arizonae*	Mesquite scrub and weedy areas along canals and washes
White-throated wood rat	*Neotoma albigula*	Areas below the conifer belt, especially with *Opuntia*, or palo verde
Desert wood rat	*Neotoma lepida*	Desertscrub
House mouse	*Mus musculus*	Weedy areas and cultivated fields, usually near human habitation
Coyote	*Canis latrans*	Cosmopolitan, from spruce forest to low desert
Kit fox	*Vulpes macrotis*	Desertscrub and desert grassland with sandy or softer clay soils
Gray fox	*Urocyon cineroargenteus*	Open desertscrub, chaparral, lower elevation woodland
Raccoon	*Procyon lotor*	Areas with permanent water
Ringtail	*Bassariscus astutus*	Steep rocky areas near water
Badger	*Taxidea taxus*	Flats and drainages adjacent to mountains, grasslands
Western spotted skunk	*Spilogale gracilis*	Low and middle elevations, often in rocky areas or around human habitation
Striped skunk	*Mephitis mephitis*	From spruce/fir belt to sea level, usually near permanent water
Bobcat	*Felis rufus*	Rocky upland areas interspersed with open desert, grassland or woodland
Mule deer	*Odocoileus hemionus*	Pine forest, oak woodland, chaparral, upland desert
Source: Hoffmeister 1986		

TABLE D-2 BIRD SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT		
Common Name	**Scientific Name**	**Habitat**
Common loon	*Gavia immer*	Lakes, ponds, and aqueducts
Pied-billed grebe	*Podilymbus podiceps*	Lakes, ponds, streams, and canals
Eared grebe	*Podiceps nigricollis*	Lakes and ponds
Western grebe	*Aechmophorus occidentalis*	Lakes, ponds, and lagoons
Double-crested cormorant	*Phalacrocorax auritus*	Lakes, ponds, streams, and aqueducts
Great blue heron	*Ardea herodias*	Lakes, ponds, streams, canals, and marshes
Great egret	*Ardea alba*	Ponds, streams, and marshes
Snowy egret	*Egretta thula*	Ponds, streams, and marshes
Green heron	*Butorides virescens*	Lakes, ponds, streams, marshes, and canals
Black-crowned night heron	*Nycticorax nycticorax*	Lakes, ponds, marshes, and streams
White-faced ibis	*Plegadis chihi*	Lakes, ponds, streams, marshes, and fields
Turkey vulture	*Cathartes aura*	Open country, woodlands, farms
Canada goose	*Branta canadensis*	Lakes, ponds, and fields
Gadwall	*Anas strepera*	Lakes, ponds, and streams
American wigeon	*Anas americana*	Lakes, ponds, and streams
Mallard	*Anas platyrhynchos*	Lakes, ponds, streams, and canals
Blue-winged teal	*Anas discors*	Ponds
Cinnamon teal	*Anas cyanoptera*	Ponds, streams, and canals
Northern shoveler	*Anas clypeata*	Lakes, ponds, and streams
Northern pintail	*Anas acuta*	Lakes, ponds, and streams
Green-winged teal	*Anas crecca*	Lakes, ponds, and streams
Redhead	*Aythya americana*	Lakes and ponds
Ring-necked duck	*Aythya collaris*	Lakes and ponds
Lesser scaup	*Aythya affinis*	Lakes and ponds
Bufflehead	*Bucephala albeola*	Lakes, ponds, and streams
Ruddy duck	*Oxyura jamaicensis*	Lakes and ponds
Northern harrier	*Circus cyaneus*	Wetlands, open fields
Sharp-shinned hawk	*Accipiter striatus*	Generally distributed
Cooper's hawk	*Accipiter cooperii*	Broken woodlands or streamside groves
Harris's hawk	*Parabuteo unicinctus*	Semiarid woodland, brushland
Swainson's hawk	*Buteo swainsoni*	Fields and desert
Red-tailed hawk	*Buteo jamaicensis*	Plains, prairie groves, desert
Ferruginous hawk	*Buteo regalis*	Dry, open country
American kestrel	*Falco sparverius*	Open country, cities
Prairie falcon	*Falco mexicanus*	Dry, open country, prairies
Gambel's quail	*Callipepla gambelii*	Desert scrublands and thickets
Common moorhen	*Gallinula chloropus*	Streams, marshes, and ponds
American coot	*Fulica americana*	Lakes, ponds, streams, and marshes
Killdeer	*Charadrius vociferus*	Ponds, streams, and fields
Greater yellowlegs	*Tringa melanoleuca*	Lakes, ponds, streams, and flooded fields
Spotted sandpiper	*Actitis macularia*	Lakes, ponds, streams, and canals
Western sandpiper	*Calidris mauri*	Ponds and streams

TABLE D-2 BIRD SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT		
Common Name	**Scientific Name**	**Habitat**
Least sandpiper	*Calidris minutilla*	Ponds and streams
Long-billed dowitcher	*Limnodromus scolopaceus*	Ponds and streams
Common snipe	*Gallinago gallinago*	Ponds, marshes, streams, and wet fields
Ring-billed gull	*Larus delawarensis*	Lakes, ponds, and streams
Rock dove	*Columba livia*	Parks, fields, urban settings
Mourning dove	*Zenaida macroura*	Wide variety of habitats
Inca dove	*Columbina inca*	Near human habitations
Greater roadrunner	*Geococcyx californianus*	Scrub desert and mesquite groves, less common in chaparral and oak woodland
Barn owl	*Tyto alba*	Dark cavities in city and farm buildings, cliffs, trees
Western screech owl	*Otus kennicottii*	Open woodlands, streamside groves, deserts, suburban areas
Great horned owl	*Bubo virginianus*	Common in wide variety of habitats
Cactus ferruginous pygmy-owl	*Glaucidium brasilianum cactorum*	Saguaro deserts, woodlands
Elf owl	*Micrathene whitneyi*	Desert lowlands, canyons, foothills
Burrowing owl	*Athene cunicularia*	Open country, golf courses, airports
Lesser nighthawk	*Chordeiles acutipennis*	Dry, open country, scrubland, desert
Common poorwill	*Phalaenoptilus nuttallii*	Sagebrush and chaparral slopes
White-throated swift	*Aeronautes saxatalis*	Mountains, canyons, and cliffs
Black-chinned hummingbird	*Archilochus alexandri*	Lowlands and low mountains
Anna's hummingbird	*Calypte anna*	Coastal lowlands, mountains, deserts
Costa's hummingbird	*Calypte costae*	Desert washes, dry chaparral
Rufous hummingbird	*Selasphorus rufus*	Suburban and riparian areas
Belted kingfisher	*Ceryle alcyon*	Rivers and brooks, ponds and lakes, estuaries
Gila woodpecker	*Melanerpes uropygialis*	Towns, scrub desert, cactus country, streamside woods
Ladder-backed woodpecker	*Picoides scalaris*	Dry brushlands, mesquite and cactus country, towns and rural areas
Northern flicker	*Colaptes auratus*	Open woodlands, suburban areas
Gilded flicker	*Colaptes chrysoides*	Low desert woodlands, favors saguaro
Western wood-pewee	*Contopus sordidulus*	Riparian areas, wooded habitats, including suburban areas
Southwestern willow flycatcher	*Empidonax traillii extimus*	Brushy habitats in wet areas
Pacific-slope flycatcher	*Empidonax difficilis*	Migrant through lowlands
Black phoebe	*Sayornis nigricans*	Woodlands, parks, suburbs, prefers to nest near water
Say's phoebe	*Sayornis saya*	Dry, open areas, canyons, cliffs
Vermilion flycatcher	*Pyrocephalus rubinus*	Streamside shrubs, bottomlands, near small wooded ponds
Ash-throated flycatcher	*Myiarchus cinerascens*	Wide variety of habitats
Brown-crested flycatcher	*Myiarchus tyrannulus*	Saguaro desert, river groves, lower mountain woodlands
Western kingbird	*Tyrannus verticalis*	Dry, open country
Cassin's kingbird	*Tyrannus vociferans*	Varied habitats
Loggerhead shrike	*Lanius ludovicianus*	Hunt in open or brushy areas
Common raven	*Corvus corax*	Mountains, deserts, coastal areas

TABLE D-2 BIRD SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT		
Common Name	**Scientific Name**	**Habitat**
Bell's vireo	*Vireo bellii*	Riparian areas, especially in mesquite trees
Plumbeous vireo	*Vireo plumbeus*	Woodland habitats
Warbling vireo	*Vireo gilvus*	Deciduous woods
Horned lark	*Eremophila alpestris*	Dirt fields, gravel ridges, shores
Tree swallow	*Tachycineta bicolor*	Streams, ponds, and lakes
Violet-green swallow	*Tachycineata thalassina*	Riparian areas, streams, ponds, and lakes
Northern rough-winged swallow	*Stelgidopteryx serripennis*	Banks of streams and canals, streams, ponds, and lakes
Cliff swallow	*Petrochelidon pyrrhonota*	Lakeside, cliffs, and canals; nesting under nearby bridges, buildings, and other overhangs; streams and ponds
Barn swallow	*Hirundo rustica*	Streams, ponds, lakes, and agricultural areas
Verdin	*Auriparus flaviceps*	Southwestern desert
Cactus wren	*Campylorhynchus brunneicapillus*	Cholla cactus habitat
Rock wren	*Salpinctes obsoletus*	Arid and semiarid habitats
Canyon wren	*Catherpes mexicanus*	Canyons and cliffs, often near water
Bewick's wren	*Thryomanes bewickii*	Wooded riparian areas
House wren	*Troglodytes aedon*	Dense, brushy areas
Ruby-crowned kinglet	*Regulus calendula*	Woodlands, thickets
Black-tailed gnatcatcher	*Polioptila melanura*	Desert, especially washes
Western bluebird	*Sialia mexicana*	Woodlands, farmlands, orchards, deserts, especially in mesquite-mistletoe groves
Hermit thrush	*Catharus guttatus*	Lowland woodlands and suburban areas
Northern mockingbird	*Mimus polyglottos*	Variety of habitats
Bendire's thrasher	*Toxostoma bendirei*	Open farmlands, grasslands, brushy desert
Curve-billed thrasher	*Toxostoma curvirostre*	Cholla deserts and suburban areas
Cedar waxwing	*Bombycilla cedrorum*	Riparian and suburban areas
Phainopepla	*Phainopepla nitens*	Riparian areas, especially in trees with mistletoe
Loggerhead shrike	*Lanius ludovicianus*	Generally distributed
European starling	*Sturnus vulgaris*	Generally distributed
Orange-crowned warbler	*Vermivora celata*	Open brushy woodlands, forest edges, thickets
Lucy's warbler	*Vermivora luciae*	Mesquites and cottonwoods along watercourses
Yellow warbler	*Dendroica petechia*	Wet habitats, open woodlands, gardens, orchards
Yellow-rumped warbler	*Dendroica coronata*	Riparian and suburban areas
Townsend's warbler	*Dendroica townsendi*	Riparian and suburban areas
Common yellowthroat	*Geothlypis trichas*	Marshes and suburban areas
Wilson's warbler	*Wilsonia pusilla*	Dense, moist woodlands, bogs, streamside tangles
Yellow-breasted chat	*Icteria virens*	Dense thickets and brush
Summer tanager	*Piranga rubra*	Riparian areas
Green-tailed towhee	*Pipilo chlorurus*	Brushy areas, riparian, and suburban areas
Spotted towhee	*Pipilo maculates*	Brushy areas, riparian, and suburban areas
Canyon towhee	*Pipilo fuscus*	Sonoran desertscrub
Abert's towhee	*Pipilo aberti*	Riparian areas, suburban areas
Chipping sparrow	*Spizella pallida*	Brushy edges and riparian areas
Brewer's sparrow	*Spizella breweri*	Deserts, field edges, and suburban areas

TABLE D-2 BIRD SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT		
Common Name	**Scientific Name**	**Habitat**
Black-chinned sparrow	*Spizella atrogularis*	Rocky hillsides in Sonoran desertscrub
Vesper sparrow	*Pooecetes gramineus*	Open weedy fields, roadsides, and grassy areas
Lark sparrow	*Chondestes grammacus*	Brushy, weedy areas, riparian areas, and field edges
Black-throated sparrow	*Amphispiza bilineata*	Desertscrub
Lark bunting	*Calamospiza melanocorys*	Brushy desert and field edges
Savannah sparrow	*Passerculus sandwichensis*	Open fields, roadsides, and grassy areas
Song sparrow	*Melospiza melodia*	Riparian areas, marshes, and vegetated lakesides
Lincoln's sparrow	*Melospiza lincolnii*	Riparian areas, marshes, brushy fields, and hedgerows
White-crowned sparrow	*Zonotrichia leucophrys*	Suburban, riparian, and other brushy areas
Dark-eyed junco	*Junco hyemalis*	Desertscrub
Northern cardinal	*Cardinalis cardinalis*	Woodland edges, swamps, streamside thickets, suburban gardens
Pyrrhuloxia	*Cardinalis sinuatus*	Thorny brush, mesquite thickets, desert, woodland edges, ranchlands
Blue grosbeak	*Guiraca caerulea*	Riparian areas
Lazuli bunting	*Passerina amoena*	Weedy and shrubby areas along irrigation ditches and other bodies of water and suburban areas
Red-winged blackbird	*Agelaius phoeniceus*	Riparian areas, irrigated fields, marshes, and feedlots
Western meadowlark	*Sturnella neglecta*	Fields and other open areas, deserts
Brewer's blackbird	*Euphagus cyanocephalus*	Fields, farmyards, feedlots, ponds, and riparian areas
Great-tailed grackle	*Quiscalus mexicanus*	Riparian areas, marshes, ponds, farmyards, and suburban areas
Bronzed cowbird	*Molothrus aeneus*	Riparian and suburban areas
Brown-headed cowbird	*Molothrus ater*	Suburbs and agricultural areas
Hooded oriole	*Icterus cucullatus*	Riparian and suburban areas
Bullock's oriole	*Icterus bullockii*	Riparian areas
House finch	*Carpodacus mexicanus*	Riparian and suburban areas, farmland, desert
Lesser goldfinch	*Carduelis psaltria*	Riparian areas
House sparrow	*Passer domesticus*	Associated with human presence
Sources: National Geographic Society 1999; Witzeman et al. 1997		

TABLE D-3 REPTILE AND AMPHIBIAN SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT		
Common Name	**Scientific Name**	**Habitat**
Sonoran desert toad	*Bufo alvarius*	Ranges from arid mesquite-creosote bush lowlands and arid grasslands into the oak-sycamore-walnut groves in mountain canyons, often found near permanent water of springs, reservoirs, canals, and streams, but also frequents temporary pools
Great plains toad	*Bufo cognatus*	Inhabits prairies or deserts, often breeding after heavy rains in summer in shallow temporary pools or quiet water of streams, marshes, irrigation ditches, and flooded fields, frequents creosote bush desert, mesquite woodland, and sagebrush plains
Red-spotted toad	*Bufo punctatus*	Desert streams and oases, open grassland and scrubland, oak woodland, rocky canyons and arroyos, in crevices among rocks for shelter, breeds in rain pools, reservoirs, and temporary pools of intermittent streams
Southwestern woodhouse toad	*Bufo woodhousei australis*	Grassland, sagebrush flats, woods, desert streams, valleys, floodplains, farms, and city backyards, in sandy areas, breeds in quiet water of streams, marshes, lakes, freshwater pools, and irrigation ditches
Canyon treefrog	*Hyla arenicolor*	Huddles in niches on sides of boulders or stream banks, favors intermittent or permanent streams with quiet pools that have a hard rocky bottom, frequents arroyos in semi-arid grassland, streams in piñon-juniper and pine-oak woodlands, and tropical scrub forest
Couch spadefoot	*Scaphiopus couchii*	Frequents shortgrass plains, mesquite savannah, creosote bush desert, thornforest, tropical deciduous forest, and other areas of low rainfall
Southern spadefoot	Spea multiplicata	Frequents desert grassland, shortgrass plains, creosote bush and sagebrush desert, mixed grassland and chaparral, piñon-juniper and pine-oak woodlands, and open pine forests, soil is often sandy or gravelly
Bullfrog	*Rana catesbeiana*	Highly aquatic, remaining in or near permanent water, frequents prairie, woodland, chaparral, forests, desert oases, and farmland, enters marshes, ponds, lakes, reservoirs, and streams – usually quiet water with thick growth of cattails or other aquatic vegetation
Lowland leopard frog	*Rana yavapaiensis*	Frequents desert, grassland, oak and oak-pine woodland, in permanent pools of foothill streams, overflow ponds and side channels of major rivers, permanent springs, and in drier areas – more or less permanent stock tanks
Sonoran mud turtle	*Kinosternon sonoriense*	Stream-dwelling turtle that frequents springs, creeks, ponds, and the water holes of intermittent streams, inhabits woodlands, or oaks and piñon–juniper or forests of ponderosa pine and Douglas fir, also occasionally inhabits foothill grasslands and desert
Sonoran desert tortoise	*Gopherus agassizii*	Completely terrestrial desert species requiring firm but not hard ground for construction of burrows, frequent desert oases, riverbanks, washes, and rocky slopes
Spiny softshell	*Trionyx spiniferus*	River turtle attracted to quiet water with bottom of mud, sand, or gravel, also enters ponds, canals, and irrigation ditches
Eastern collared lizard	*Crotaphytus collaris*	Rock-dwelling lizard that frequents canyons, rocky gullies, limestone ledges, mountain slopes, and boulder-strewn alluvial fans, usually where vegetation is sparse

TABLE D-3 REPTILE AND AMPHIBIAN SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT		
Common Name	**Scientific Name**	**Habitat**
Long-nosed leopard lizard	*Gambelia wislizenii wislizenii*	Arid and semiarid plains grown to bunch grass, alkali bush, sagebrush, creosote bush, or other scattered low plants, ground may be hardpan, gravel, or sand
Gila monster	*Heloderma suspectum*	Canyon bottoms and washes in desert or desert grassland
Desert iguana	*Dipsosaurus dorsalis*	Creosote bush desert to subtropical scrub, most common in sandy habitats but also occurs along rocky streambeds, on bajadas, silty floodplains, and on clay soils
Common chuckwalla	*Sauromalus obesus*	Rock-dwelling, herbivorous lizard, widely distributed in the desert
Zebra-tailed lizard	*Callisaurus draconoides*	Frequents washes, desert pavements of small rocks, and hardpan
Desert horned lizard	*Phrynosoma platyrhinos*	Arid lands on sandy flats, alluvial fans, along washes, and at the edges of dunes, associated with creosote bush, saltbush, greasewood, cactus, and ocotillo in the desert
Regal horned lizard	*Phrynosoma solare*	Frequents rocky and gravelly habitats of the arid and semiarid plains, hills, and lower slopes of mountains, often with cactus, mesquite, and creosote bush
Desert spiny lizard	*Sceloporus magister*	Arid and semiarid regions on plains and lower slopes of mountains, found in Joshua-tree, creosote bush, and shad-scale deserts, mesquite-yucca grassland, juniper and mesquite woodland, subtropical thornscrub, and along rivers grown to willows and cottonwoods
Brush lizard	*Urosaurus graciosus*	Desert species, frequents areas of loose sand and scattered bushes and trees, creosote bush, burrobush, galleta grass, catclaw, mesquite, and palo verde
Tree lizard	*Urosaurus ornatus*	Frequents mesquite, oak, pine, juniper, alder, cottonwood, and non-native trees such as tamarisk and rough-bark eucalyptus, but also may occur in treeless areas, especially attracted to river courses
Side-blotched lizard	*Uta stansburiana*	Arid or semiarid regions with sand, rock, hardpan, or loam with grass, shrubs, and scattered trees, often found along sandy washes
Western whiptail	*Cnemidophorus tigris*	Inhabits deserts and semiarid habitats, usually where plants are sparse, also found in woodland, streamside growth, and in the warmer, drier parts of forests
Western glossy snake	*Arizona occidentalis*	Below 6,000 feet in sparsely vegetated woodland, chaparral, grassland or desertscrub with loose soil
Western shovel-nosed snake	*Chionactis occipitalis*	Sparsely vegetated desert areas with pockets of loose soil
Night snake	*Hypsiglena torquata*	Various upland and desert habitats used
Coachwhip	*Masticophis flagellum*	Sparsely vegetated areas from juniper woodland to low desert
Spotted leaf-nosed snake	*Phyllorhynchus descurtatus*	Open desert with finer loose soils, especially creosote bush (*Larrea tridentata*)
Gopher snake	*Pituophis catenifer*	Various habitats from mountain to low desert and coastal
Long-nosed snake	*Rhinocheilus lecontei*	Desertscrub, prairie, tropical woodland to 5,500 feet
Western patch-nosed snake	*Salvadora hexalepis*	Piñon–juniper woodland to low deserts on variety of soil types
Ground snake	*Sonora semiannulata*	Wide range of habitats in loose soil with some subsurface moisture

TABLE D-3 REPTILE AND AMPHIBIAN SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT		
Common Name	**Scientific Name**	**Habitat**
Southwestern black-headed snake	*Tantilla hobartsmithi*	In loose soil or plant litter in desert grassland and wood land habitats
Black-necked garter snake	*Thamnophis cyrtopsis*	Pine-fir forest to upland desert and chaparral, generally in the vicinity of a water source
Checkered garter snake	*Thamnophis marcianus*	Low elevation rivers, streams, ponds, and canals, and adjacent areas.
Lyre snake	*Trimorphodon biscutatus*	From oak and juniper woodland to higher elevation desert and grasslands, particularly in rocky areas.
Western coral snake	*Micruroides euryxanthus*	Wide range of arid habitats including grassland, woodland, scrub and agricultural lands, particularly upland desert in washes and river bottoms.
Western blind snake	*Leptotyphlops humilis*	Desertscrub and brush covered hillsides with loose soils
Western diamondback rattlesnake	*Crotalus atrox*	Wide range of habitats below 7,000 feet
Sidewinder	*Crotalus cerastes*	Desert areas with fine loose sand, often near small shrubs
Southwestern speckled rattlesnake	*Crotalus mitchellii*	From juniper woodland to succulent desert, often in rocky areas
Black-tailed rattlesnake	*Crotalus molossus*	Upland desert to pine-oak woodland
Mojave rattlesnake	*Crotalus scutulatus*	Mostly in upland desert and lower mountain slopes
Tiger rattlesnake	*Crotalus tigris*	Rocky desert canyons and foothills
Source: Prival 1999; Stebbins 1985		

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EXHIBIT E
SCENIC AND VISUAL RESOURCES, HISTORIC SITES AND STRUCTURES AND ARCHAEOLOGICAL SITES

EXHIBIT E
SCENIC AREAS, HISTORIC SITES AND STRUCTURES, AND ARCHAEOLOGICAL SITES

As stated in Arizona Corporation Commission Rules of Practice and Procedure R-14-3-219:

"Describe any existing scenic areas, historic sites and structures, or archaeological sites in the vicinity of the proposed facilities and state the effects, if any, the proposed facilities will have thereon."

INTRODUCTION

The visual resource analysis and the historic and archaeological resource analysis were conducted by EPG. Both analyses are detailed below.

VISUAL RESOURCES

Overview

The visual resource study for the North Valley Project addresses the potential visual effects of the proposed Project and alternatives on landscape scenic quality and sensitive viewers. The inventory and assessment was completed between April 2001 and August 2002.

Existing Conditions

Inventory Methods and Results

Inventory data for visual resources within the study area were collected from existing and future land use plans (see Exhibit A), aerial photography, previous studies, and field review. The visual resource inventory focused on landscape character, determination of scenic quality, identification of sensitive viewers, and viewing conditions within the study area. Data were collected 2 miles on either side of the centerline of the proposed and alternative route in order to characterize the visual resources in the study area.

The following describes the inventory results for landscape character, landscape scenic quality, and sensitive viewers.

Landscape Character

Due to the relatively large size of the Project, the study area was divided into three regions, the western region (the Agua Fria River valley), central region (volcanic and desert hills), and eastern region (Sonoran Desert lowlands). A description of the landscape character and existing visual conditions for each region of the study area including topographic character, vegetation character, and cultural/infrastructure modifications is presented below.

Western Region

The Agua Fria River and its associated river valley dominate the western region (Litchfield Road to approximately Lake Pleasant Road) of the study area. The land slopes gently towards the river channel to the south and east, whereas to the north the land is slightly more varied and includes desert foothills. New Waddell Dam and Lake Pleasant are located at the extreme northern portion of the region.

The vegetation character of the western region resembles that of the rest of the study area (i.e., lower Sonoran Desert type). However, because of the hydrology and geology of the Agua Fria River valley, the composition of the vegetation has a higher density than that of the rest of the study area. This condition is especially articulated along the northeastern side of the river valley with a dense stand of saguaros and other desert flora.

Several modifications to the landscape setting are apparent throughout this region, starting with the Westwing Substation in the southern portion of the area. Transmission lines (500kV, 345kV, 230kV, and 69kV) extend from the substation heading to the east, northeast, and southwest. Two areas of citrus orchards occur on the western side of the river. Other modifications to the region include Cowtown, a gravel extraction plant, a small airport, a racetrack, Beardsley Canal and CAP, and clusters of low density residences.

Central Region

The central region of the study area (Lake Pleasant Road to Cave Creek Road) consists of a variety of topographic features including volcanic knolls rising abruptly from the land, desert hills (Union Hills and Hedgepeth Hills), three ephemeral streams (New River, Cave Creek, Skunk Creek), and several xeroriparian washes. Many of the hills, knolls, and riparian areas have been viewed by the City of Phoenix as natural with recreational amenities and have therefore been designated as either natural preserves (proposed Sonoran Preserve) or recreation areas (Deems Hills Recreation Area, Adobe Dam Recreation Area, and Cave Buttes Recreation Area).

The vegetation that occurs throughout this region is typical of the rest of the study area. However, because of the varied topography the vegetation is more diverse. A mixture of

saguaros and chollas interspersed with palo verde occur on the southern slopes of the hills and mountains of the regions in abundance.

Cultural and infrastructure modifications to the natural landscape setting include several master-planned communities, dispersed low density residences, and an airport (Deer Valley/Phoenix Municipal Airport). The CAP crosses the region from the southeast to northwest. Four dams occur in this region with three of them regarded as recreational by the City of Phoenix including, Cave Creek Dam, Adobe Dam, and Cave Buttes Dam. New River Dam is not a designated recreation area. An existing 230kV transmission line crosses the region in the southern portion of the study area from west to east. Other power lines include several 69kV transmission and 12kV distribution lines mainly occurring in the medium and low density residences. Other visual modifications include a landfill along I-17, a juvenile detention center, and several gravel pits. There are five designated scenic roads in the region—Lake Pleasant Road to the west, I-17 (north of Cloud Road) and Carefree Highway Scenic Corridor (SR 74) to the north, Happy Valley Road to the south, and Cave Creek Scenic Road to the east.

Eastern Region

The topographic character of the eastern region (Cave Creek Road to Scottsdale Road) is rather homogenous in nature. The region consists of land that gently slopes towards the southwest.

The general vegetation character consists of the lower Sonoran Desert type. Saguaro, palo verde, ironwood, and creosote occur throughout the study area. Creosote and bursage are dominant plant species due to the relatively flat and sandy physiognomy of the region. Several drainages occur throughout occupied by mainly xeroriparian species including blue paloverde, velvet mesquite, and hackberry.

Cultural and infrastructure modifications to the natural landscape setting include four clusters of rural developments (medium density residential), a golf course, and the CAP. The region also includes four substations (Cielo Grande, Desert Ridge, Jomax, and Pinnacle Peak), three 230kV transmission lines (two which cross a portion of the study area east to west), 69kV transmission lines, and 12kV distribution lines.

Scenic Quality

Scenic Quality Rating Units (SQRUs) are used to describe specific natural landscape types found within the regional landscape. The designations are categorized into three classes—A (outstanding), B (above average), and C (common). The degree of diversity and variety of visual elements (i.e., landform, vegetation, color, etc.) associated with the previously described landscape character were used to derive the SQRUs along the proposed Project.

Within the study area, Class A landscapes included mountainous areas (e.g., Union Hills) with diverse landform and vegetation. Class B landscapes included undisturbed desert foothills and minor riparian corridors (intermittent washes). Class C landscapes consisted of relatively flat terrain comprised of a generally homogenous vegetative palette (e.g., creosote).

Sensitive Viewers and Viewing Conditions

Key Observation Points (KOPs) and their associated viewers were identified through previous studies recently completed for the APS Northwest Valley Project and North Central Project, data gathered during field inventories, and aerial photograph interpretation. The sensitive viewers were organized into three categories, including residential, recreation, and transportation viewers, and are described below.

Residential Viewers

Existing residential viewers occur throughout the study area in differing concentrations. Generally, the eastern and central regions of the study area contain dispersed low density residences. Medium and high density residences occur in clusters and are generally located in the south-central and northeastern regions of the study area, along I-17, and adjacent to the existing Happy Valley utility corridor. Residential visibility of the proposed Project varied depending on the proximity of the residences to an alternative route and the availability of natural or manmade screening elements.

Recreation Viewers

There are several recreation KOPs and associated viewers that occur within the study area. The western region of the study area contains Lake Pleasant Regional Park, Pleasant Valley Raceway, and Cowtown. Due to the mountainous character of this area and the occurrence of existing transmission lines, the views of the proposed Project from Lake Pleasant and Cowtown would be partially screened. The viewers from Pleasant Valley raceway have direct views of the Westwing to Raceway transmission line corridor. Ben Avery Regional Park (campgrounds, shooting range, and trailer park), and the trail that parallels the park's western boundary, are located in the north-central portion of the study area. Users of these recreation facilities will have distant views of the proposed and alternative routes with the exception of Alternative Route #3, which will be directly viewed from the park users. Within the central region of the study area users of the Deems Hills Recreation Area would have direct views of Alternative Route #4 and distant views of the proposed and alternative routes. Cave Buttes and Reach 11 recreation areas occur in the eastern portion of the study area. Views of the proposed Project from Cave Buttes Recreation Area would be intermittent because the recreation area is set to the north and at the base of Union Hills. Cave Buttes and Cave Creek dams will further screen the views of the

proposed Project from the users. Within Reach 11, recreation users will have distant views of the proposed Project.

Transportation Views

There are six transportation corridors in which motorists would have views of the proposed and alternative routes. Lake Pleasant Road and SR 74 (Carefree Highway) occur in the western and northern region of the study area. I-17, Parkway A, and Happy Valley Road all occur in the central and southern region of the study area, while Cave Creek Road occurs in the eastern region of the study area. Five of these corridors have scenic designations including Lake Pleasant Road, SR 74, Happy Valley Road, Cave Creek Road, and I-17 (north of Cloud Road). All transportation routes will have areas of modified views of the proposed and alternative routes because of the occurrence of existing transmission lines and/or other industrial modifications (i.e., CAP).

Impact Assessment

The visual resources impact assessment evaluated the level of potential change the proposed transmission line, substations, and associated substation interconnections would have on scenic quality and resulting effects to sensitive viewers. The components of the visual assessment included a visual contrast analysis and identification of impacts.

The visual impact assessment considered the effects of new structures introduced into the landscape, access and vegetation clearing, and the influence of existing modifications (i.e., transmission lines, gas pipelines, landfills, etc.). In general, impacts to sensitive viewers and landscape scenic quality would be lower than typical 230kV transmission line impacts for the following reasons: (1) the proposed and alternative routes were sited (to the extent possible) adjacent to existing transmission lines, distribution lines, and other utility features, (2) the proposed and alternative routes would be constructed using dulled steel structures and non-specular conductors, (3) placement of structures would match the spans of the existing 230kV transmission lines that occur in the study area where practicable, and (4) a construction, mitigation, and restoration plan would be designed and applied to the Project area during pre- and post-construction activities, reducing landscape modification and incorporating revegetation to disturbed areas.

Visual Contrast Analysis

Visual contrast is a measure of the anticipated changes that may occur with the construction of the proposed Project in specific landscape settings and at varying distances from sensitive viewers. The key factor that contributes to changes in contrast levels affecting scenic quality and sensitive viewers is the introduction of a manmade element into the landscape.

Visual contrast resulting from the proposed and alternative routes would typically be reduced because: (1) existing or approved transmission lines would be paralleled or underbuilt for portions of the proposed and alternative routes, (2) existing access is available on level terrain, and (3) other modifications in the landscape are present in the vicinity of the proposed and alternative routes.

Results

The following discussion identifies specific impacts to sensitive viewers and scenic quality that would occur if the proposed or any of the alternative routes were constructed. The Proposed Route was used as a baseline to compare all other alternatives (see alternatives map, Exhibit A-5).

Proposed Route

The visual impacts associated with the Proposed Route were reduced through siting and mitigation. Over three quarters (approximately 27 out of 31 miles) of the Proposed Route would parallel existing or planned 500kV, 230kV, and 69kV transmission lines, which would reduce potential visual impacts by matching similar facilities in the landscape. Matching existing 230kV transmission line structures and spans where practicable and the use of dulled structures and conductors would further lower potential impacts. In addition, the construction, mitigation, and restoration plan will further reduce project contrast resulting in lower viewer impacts. The City of Phoenix and ASLD requested that the Proposed Route be sited on the Dove Valley Road alignment, the location of a planned 69kV transmission line alignment, 1 mile south of SR 74 (designated scenic highway) at 39th Avenue, and ½ mile off of I-17 for approximately 1½ miles. The placement of the route in these locations would reduce visibility of the proposed 230kV transmission line and future development would screen the transmission line, resulting in lower impacts to the transportation viewers. A discussion of specific impacts to residential views, recreation views, transportation views, and scenic quality follows.

Residential viewer impacts would occur intermittently along the Proposed Route. Specifically, rural residential viewers (Links 15 and 35) and a future approved master planned development would incur minimal impacts because the Proposed Route would parallel the existing Westwing utility corridor (two 500kV and one 230kV transmission line[s]), which dominates the existing views. Impacts to a rural residential viewer were identified just north of the Proposed Route along the Dove Valley Road alignment (Link 70). However, a planned 69kV transmission line will be constructed along the Dove Valley Road alignment resulting in initial visual impacts to the residential viewer. Therefore, by taking advantage of this alignment, and consolidating the planned 69kV transmission line on the proposed 230kV transmission line, visual impacts would be lower relative to an alignment that does not have any existing or planned transmission lines. Visual impacts to residential viewers were identified along the Proposed Route (Link 115) (see simulations in Exhibits G-6 to G-7). However, the present landscape and resulting views

immediately adjacent to the development are modified. These modifications include: (1) an existing 69kV transmission line on the western border of the development (for approximately ½ mile), (2) Skunk Creek Landfill to the southeast, (3) the CAP and associated berm, and (4) existing 69kV transmission lines and associated substation to the northeast. Because of these existing visual modifications, the added visual impact of the proposed Project would be lower. Additional impacts to residential viewers (existing development and approved future development) would occur on the east side of I-17. Further visual impacts documented along this route would occur to residential viewers adjacent to the eastern and southern section of the proposed Project (Links 140 and 170). These impacts would be lowered because the Proposed Route would be on the north side of the existing 230kV transmission lines.

Impacts to recreation viewers were minimized through the siting of the proposed Project. No existing recreation facilities will be crossed by the Proposed Route. Minimal impacts were identified for the Ben Avery Regional Park because the Proposed Route is located over 1 mile from the park facilities. Minimal impacts would occur to a recreation facility (ramada) located between Dynamite and Jomax roads along the east side of I-17. Additional recreation views identified are from the Phoenix Sonoran Preserve, Deems Hills Recreation Area, Cave Buttes Recreation Area, and Reach 11 Recreation Area. Impacts identified for the majority of these recreational viewers are minimized because the proposed Project would parallel an existing 230kV transmission line with matching structure type and spans where practicable. Moreover, all four recreation areas have diverse topography and vegetation, which would screen the views of the proposed Project.

Visual impacts were evaluated along all of the travel routes that occur in the study area. Specific visual impacts to motorists for each travel route are discussed below:

- Lake Pleasant Road - The proposed Project would cross perpendicular to this transportation corridor, located in the western region of the study area, and will have a planned 69kV transmission line underbuilt on the proposed 230kV transmission line, thus consolidating and lowering overall impacts.

- I-17 - Impacts were identified for viewers along I-17 because a portion of the Proposed Route would parallel I-17 (see Exhibit G-5). Impacts would be reduced because approximately 1 mile of Link 90 was located ½ mile west of I-17 (Link 90). In addition, an existing 69kV transmission line would be underbuilt and consolidated on the proposed 230kV transmission line for approximately 1½ miles.

- Carefree Highway - Minimal impacts were identified for viewers along this travel route (west of I-17 for approximately 7 miles) because views to the proposed Project would be distant (1 mile to the south) and a planned 69kV transmission line along the Dove Valley Road alignment would be underbuilt, and thus consolidated on the proposed 230kV transmission line.

- Happy Valley Road - This transportation route is located in the south-central portion of the study area approximately ¼ mile north of an existing 230kV and 69kV transmission line corridor. The proposed Project would parallel the existing 230kV and 69kV transmission lines resulting in minimal visual impacts to viewers.

- Cave Creek Road - This transportation route runs northeast to southwest and is located in the eastern region of the study area. The Proposed Route crosses Cave Creek Road at the intersection of two 230kV transmission lines. The proposed Project will parallel the north side of the two existing 230kV transmission lines minimizing visual impacts to viewers along Cave Creek Road.

Impacts to National Memorial Cemetery viewers were identified. However, the impacts would be reduced because the views of the proposed Project are distant (1 mile) and modified by two 230kV transmission lines. Moreover, the Proposed Route would be on the north side of the existing 230kV transmission lines, further lowering impacts.

Impacts to landscape scenic quality are anticipated to be minimal. Existing transmission lines, the CAP, Skunk Creek Landfill, and I-17 all modify the natural scenic quality along the Proposed Route. The Proposed Route crosses approximately 2 miles of high scenic quality landscape (Link 15). However, minimal impacts to this landscape are anticipated because this portion of the route is located in the existing West Wing utility corridor (two 500kV and one 230kV transmission lines) lowering the natural scenic quality of the landscape.

Alternative Route #1

Alternative Route #1 is located on the east side of I-17 (Link 110) resulting in impacts to existing and future approved residential viewers on the east side of I-17. Impacts to views from I-17 will increase compared to the Proposed Route because the views will include the existing 69kV transmission line (west side) as well as the proposed 230kV transmission line (east side). Viewer impacts can be attributed to the fact that there are fewer existing modifications on the east side of I-17. All other visual impacts are similar to the Proposed Route.

Alternative Route #2

The primary distinction between Alternative Route #2 (Link 150) and the Proposed Route is the utilization of the CAP as a by-pass of I-17. For this route there would be impacts to existing medium density, low density, and future approved residences adjacent to the CAP. All other impacts are similar to that of the Proposed Route.

Alternative Route #3

Alternative Route #3 utilizes the Joy Ranch Road alignment and I-17 instead of the future Dove Valley Road alignment. Residential visual impacts were identified on the east and north sides of the Joy Ranch alignment (Link 50). On the east side, impacts to residential viewers would be lower because there is an existing 69kV transmission line that would be underbuilt, thus consolidated with the proposed 230kV transmission line. Along the northern boundary of the subdivision, the recently constructed 69kV transmission line would not be replaced and underbuilt on the proposed 230kV transmission line; therefore, the impacts would be slightly higher than the east side of the subdivision. Other impacts would occur to viewers residing in Tramonto (I-17 and SR 74).

Visual impacts were identified along the northern and southeastern limits of Ben Avery Regional Park. Along the northern boundary, Alternative Route #3 would parallel existing 69kV transmission lines lowering impacts. Along the eastern boundary the proposed 230kV transmission line would have direct impacts to the park users.

Additional impacts to motorists were identified along Alternative Route #3. SR 74 (north of Cloud Road), designated a scenic highway by Maricopa County, would be crossed twice resulting in higher impacts compared to the Proposed Route. Impacts to motorists on I-17 were identified because a 69kV transmission line occurring on the east side of the highway in conjunction with the proposed 230kV transmission line on the west side would result in a tunnel effect for approximately 1 mile (between Cloud Road and Carefree Highway). Further south along I-17 the impacts would be reduced because an existing 69kV transmission line (between Cloud Road and Joy Ranch Road) would be paralleled for approximately 1 mile. There would be distant views of Alternative Route #3 from Parkway A resulting in minimal impacts. All other visual impacts are similar to the Proposed Route.

Alternative Route #4

Alternative Route #4 parallels the CAP from the Westwing transmission line corridor at the Dove Valley Road alignment to I-17 (Links 80, 100, and 15). All other route components are identical to the Proposed Route.

Additional impacts identified along Alternative Route #4 would affect the Deems Hills Recreation Area, proposed Sonoran Preserve, and medium and low density residences. However, Alternative Route #4 would parallel the recently constructed 69kV transmission line and earthen berm associated with the CAP from 59th Avenue east to I-17, resulting in lower impacts. Impacts to existing and approved future residential viewers east of I-17 along the CAP were identified. Additional impacts to high scenic quality landscapes were also identified between 51st and 43rd avenues. These impacts are anticipated to be lower because the natural scenic quality is already modified by the CAP and an existing 69kV transmission line that Alternative Route #4 will parallel. All other impacts are similar to the Proposed Route.

Substations

Visual impacts from the proposed substations and substation interconnections were reduced through site location. The substation interconnections at the existing Westwing and Pinnacle Peak substations are located in an area with numerous existing substation facilities and transmission lines. The addition of substation interconnections at these locations would cause an incremental modification to the existing setting, resulting in minimal impacts to the landscape or viewers.

The two proposed substations are located in settings adjacent to existing and proposed transmission lines. The proposed Avery Substation located at Dove Valley Road and 39th Avenue was sited south and east of the proposed 230kV transmission line. The City of Phoenix and ASLD requested this location so the site would be located 1 mile south of SR 74 and ½ mile east of I-17. The placement of the substation in this location would reduce visibility and allow screening from future development resulting in lower impacts to the viewers. The proposed Misty Willow Substation would be located at 7th Avenue and Misty Willow. The substation was sited adjacent to the proposed 230kV transmission line north of industrial land and east of quasi-public land and light industry. Mitigation for the substations could be incorporated to screen the facility from viewers. Examples of mitigation for each facility would include a block wall, solid steel gates, and landscaping. Final architectural characteristics and landscape density will be determined by the permitting jurisdiction.

CULTURAL RESOURCES

Methods

A cultural resource study was conducted to assess the nature of cultural resources that may be potentially affected by the construction of the proposed North Valley Project. This study was based on records reviewed at a number of agencies and research institutions, including the following:

- State Historic Preservation Office (SHPO)
- Arizona State Museum (ASM)
- Department of Anthropology at Arizona State University (ASU)
- State Office and Phoenix Field Office of the BLM
- Museum of Northern Arizona

The goal of the review was to identify any prior cultural resource surveys and recorded archaeological and historical sites within 1 mile of the Project area.

In addition, a field survey of approximately 1,273 acres along the Proposed Route was conducted between June 24 and July 18, 2002. The surveyed area included:

- a 250-foot-wide, 20-mile-long (606 acres) corridor
- a 500-foot-wide, 11-mile-long (667 acres) corridor

This exhibit summarizes the results of the records review and field survey of the Proposed Route, which are being documented in a report to support the state review process in compliance with the Arizona Antiquities Act (A.R.S. § 41-841 through 41-847).

Findings

The records review identified 163 cultural resource studies conducted within the overall Project area, which includes a 1-mile buffer around the Proposed Route and four alternative routes. The studies undertaken in the overall Project area were conducted to support a variety of construction projects including road realignments, communication and power lines, and development projects.

A total of 229 archaeological and historical sites are located within the overall Project area. The Proposed Route and four alternatives cross 11 previously recorded sites (Table E-1). Each of the routes and the associated cultural resources that are within the area of potential effect are discussed below.

TABLE E-1
SUMMARY OF ARCHAEOLOGICAL AND HISTORICAL SITES WITHIN THE OVERALL PROJECT AREA

Site Designation	Description	Route	Significance/ Eligibility[1]	Potential Impacts[2]
AZ T:3:1 (MNA)	sherd scatter	all routes	potentially eligible	none
AZ T:3:2 (MNA)	artifact scatter	all routes	not eligible	none
AZ T:8:104 (ASU)	pot drop	all routes	not eligible	none
AZ U:5:72 (ASU)	sherd scatter	all routes	not eligible	none
AZ U:5:73 (ASU)	artifact scatter	all routes	not eligible	none
AZ T:8:74 (ASM)	historic site	Alternative Route #1	unevaluated	none
AZ T:4:25 (ASM)	prehistoric farmstead	Alternative Route #3	eligible	none
AZ T:4:107 (ASM)	lithic scatter	Alternative Route #3	eligible	none
AZ T:8:79 (ASU)	artifact scatter with check dams, terraces, and rock rings	Alternative Route #4	not eligible	none
AZ T:8:83 (ASU)	two rock rings	Alternative Route #4	not eligible	none
Beardsley Canal	historic canal	all routes	potentially eligible	none, spanned

[1]The significance of these properties and their eligibility for the State and National Register of Historic Places continues to be assessed in compliance with Arizona Antiquities Act, and a cultural resource report to support the ASLD compliance process is being prepared.

[2]The impact analysis will be made more specific as engineering designs are completed. Any impacts will continue to be addressed in consultation with the ASLD.

Proposed Route

Five previously identified archaeological sites (AZ T:3:1 [MNA]; AZ T:3:2 [MNA]; AZ T:8:104 [ASU]; AZ U:5:72 [ASU]; and AZ U:5:73 [ASM]) and one historic property (Beardsley Canal) are identified within the Proposed Route corridor. In addition, the Proposed Route crosses portions of three areas of archaeological interest: (1) the Calderwood Butte District, (2) New River Dam Archaeological District, and (3) Cave Creek Dam Archaeological District. An archaeological district is a significant concentration of archaeological sites within a particular area. These areas represent areas of high archaeological potential that can be found in many localities across the northern margins of the Phoenix Basin. The Proposed Route crosses the edges of the archaeological districts. Within two of these districts the route follows existing transmission lines.

Site AZ T:3:1 (MNA) is a sherd scatter that had not been evaluated for National Register of Historic Places (NRHP) significance prior to the field visit. Based on the field visit it is recommended that the site is potentially eligible.

Site AZ T:3:2 (MNA) is an artifact scatter containing sherds, lithics, and ground stone. Evidence of previous site disturbance (pot holes) has been noted in the records. The site had not been evaluated for NRHP significance prior to the field visit. Based on the field visit, it is recommended that the site is not eligible.

Site AZ T:8:104 (ASU) is a pot drop within a 1-square-meter area. The site is considered not eligible for listing on the NRHP.

Site AZ U:5:72 (ASU) is a small sherd scatter within a 25-square-meter area. The site is considered not eligible for the NRHP.

Site AZ U:5:73 (ASU) is small scatter of chipped stone and ceramic artifacts within a 600-square-meter area. It is not eligible for listing on the NRHP.

The Beardsley Canal is part of the Maricopa Water District irrigation system. The 33-mile-long canal delivers surface flow from the Agua Fria River to the New Waddell Dam. The canal was constructed as part of an irrigation project in 1888 by the Agua Fria Water and Land Company (AFWLC) (Fenicle et al. 1994; Introcaso 1998). William Beardsley worked to help the AFWLC and soon took control of the company. Financial hardships and natural disasters delayed the progress of the canal and storage dam. Construction on the diversion dam, storage dam, and the canal resumed in 1926 (Fenicle et al. 1994). Major repairs were made in 1934 and 1935 and some structures were replaced with reinforced concrete structures (Introcaso 1998). The historic context of the canal was documented in the Historic American Engineering Record compiled for Waddell Dam (Bauer et al. 2001). Bauer et al. (2001) have recommended that the Beardsley Canal is eligible for the Arizona and National Registers under Criterion A for its association with agricultural development in the Salt River Valley.

The five scatters (sites AZ T:3:1 [MNA]; AZ T:3:2 [MNA]; AZ T:8:104 [ASU]; AZ U:5:72 [ASU]; AZ U:5:73 [ASU]) of prehistoric ceramic and lithic artifacts pertain to Hohokam cultural traditions. Sites AZ T:8:104 (ASU); AZ U:5:72 (ASU); and AZ U:5:73 (ASU) are considered ineligible for the NRHP; while sites AZ T:3:1 (MNA) and AZ T:3:2 (MNA) had not been previously evaluated. These sites were revisited during the field survey. As a result of the revisit, it is recommended that site AZ T:3:1 (MNA) is potentially eligible for listing on the NRHP, while site AZ T:3:2 (MNA) is recommended not eligible.

The Calderwood Butte District encompasses approximately 4,480 acres along the lower Agua Fria River and contains more than 70 archaeological sites (Rogge and Darrington 2000). Previous research along the Agua Fria River suggests that this area has been occupied since AD 300 and contains evidence of both prehistoric and historic use. One of the most interesting sites within this area is the Westwing Site, AZ T:7:27 (ASU), a classic period Hohokam village investigated by ASU in the early 1970s (Weaver 1974). The Proposed Route crosses approximately 3½ miles of the Calderwood Butte District in an area where two transmission lines already exist. No archaeological or historic sites are present within the Proposed Route corridor through Calderwood Butte District.

New River Dam Archaeological District contains approximately 9,000 acres along the middle New River drainage. A total of 43 archaeological sites have been recorded within this district. These sites range from large habitation sites to sherd and lithic scatters. The Proposed Route extends for 2 miles through the northern edge of the district. No sites are located within the area of potential effect within this portion of the district.

Cave Creek Dam Archaeological District contains approximately 8,000 acres within the Cave Creek Recreation Area. Prehistoric occupation of this area dates from AD 700. Cave Creek Dam Archaeological District contains 19 prehistoric sites and 3 historic sites. Five previously recorded sites within the Cave Creek Dam Archaeological District have been destroyed. The site types identified within the district include habitation areas, field houses, garden plots, agricultural terraces, water control features, canals, and petroglyph panels. The Proposed Route extends through 2 miles of the southern section of the district. No sites are located within the area of potential effect in this portion of the district.

Alternative Route #1

For most of its length Alternative Route #1 follows the identical corridor as the Proposed Route except along I-17 where Alternative Route #1 is situated on the eastern side of I-17 south of the CAP. Six sites, the three archaeological districts areas, and one historic property are located within this alternative. These include the five sites (AZ T:3:1 [MNA]; AZ T:3:2 [MNA]; AZ T:8:104 [ASU]; AZ U:5:72 [ASU]; and AZ U:5:73 [ASU]) that are identified within each of the routes. The sixth site, AZ T:8:74 (ASM), occurs only within Alternative Route #1's area of potential effect.

Site AZ T:8:74 (ASM) is a historic site consisting of two unpaved roads, trash scatters, well pipe and an associated rock alignment. The site also contains a small ditch, a road alignment, and a rock pile that are probably associated with the construction of the road. One diagnostic artifact was identified, a clear Owens-Illinois wine bottle base. The Owens-Illinois bottle base dates between 1929 and 1954. The site occupies approximately 13,000 square meters. The site has not been evaluated for listing on the NRHP.

Alternative Route #2

Alternative Route #2 follows the Proposed Route alignment but diverges following the CAP at the Biscuit Flat Substation to the proposed Misty Willow Substation. Alternative Route #2 then joins the Proposed Route alignment and proceeds to the Pinnacle Peak Substation. No previously recorded cultural resources were identified within the area of potential effect adjacent to the CAP. The five sites (AZ T:3:1 [MNA]; AZ T:3:2 [MNA]; AZ T:8:104 [ASU]; AZ U:5:72 [ASU]; and AZ U:5:73 [ASU]), the three archaeological districts, and the one historic property located within each route are also within Alternative Route #2.

Alternative Route #3

Alternative Route #3 follows the proposed alignment to the Raceway Substation where it proceeds northeast parallel to the existing 500kV transmission line until the Humbug Substation. Alternative Route #3 then turns east paralleling Joy Ranch Road and continues east to I-17 where it proceeds south to the Dove Valley Road alignment. At the Dove Valley Road alignment, Alternative Route #3 ties in with the Proposed Route alignment. Two previously recorded cultural resources, sites AZ T:4:25 (ASM) and AZ T:4:107 (ASM), are located solely within the Alternative Route #3 corridor. The five sites (AZ T:3:1 [MNA]; AZ T:3:2 [MNA]; AZ T:8:104 [ASU]; AZ U:5:72 [ASU]; and AZ U:5:73 [ASU]), three archaeological districts, and one historic property located within each route are also within Alternative Route #3.

Site AZ T:4:25 (ASM) is a prehistoric site consisting of a field house, two canals, rock piles, and an artifact scatter. Artifacts identified at the site include ceramics, lithics, and ground stone. The site is recommended eligible for listing on the NRHP. The site has been monitored during the construction activity associated with the Humbug Tap-Humbug Substation 69kV Rebuild.

Site AZ T:4:107 (ASM) is a lithic scatter with six to eight chipping stations. One Clovis point was collected at the site. Lithic artifacts include flakes, cores, and a hammer stone. The site is considered eligible for the NRHP.

Alternative Route #4

Alternative Route #4 follows the Proposed Route except where it diverges at the Dove Valley Road alignment to follow the CAP (for approximately 13 miles) to the proposed Misty Willow Substation. Alternative Route #4 then joins with the Proposed Route and proceeds to the Pinnacle Peak Substation. Two previously recorded sites are located only within this alternative. These sites are AZ T:8:79 (ASU) and AZ T:8:83 (ASU). The five sites (AZ T:3:1 [MNA]; AZ T:3:2 [MNA]; AZ T:8:104 [ASU]; AZ U:5:72 [ASU]; and AZ U:5:73 [ASU]), three archaeological districts, and one historic property located within each route are also within Alternative Route #4.

AZ T:8:79 (ASU) is a series of check dams, terraces, and rock rings associated with prehistoric artifacts. Artifacts identified at the site include ceramics, chipped stone, and ground stone. The site is considered not eligible for the NRHP.

Site AZ T:8:83 (ASU) consists of two rock rings with no associated artifacts. The site is considered not eligible for the NRHP.

A Class III cultural resource survey is being conducted for the Proposed Route. In addition to the previously recorded sites and structures identified in the Class I cultural resource survey, nine newly recorded sites have been identified during the Class III survey and will be evaluated for NRHP significance during the preparation of the Class III survey report.

Potential Impacts

No archaeological or historic properties located within the affected area that are recommended eligible for NRHP listing appear to be threatened by ground-disturbing activities associated with the proposed Project. However, if some of the archaeological sites cannot be avoided, important information would be recovered and preserved prior to the start of construction and such mitigation is likely to be considered satisfactory by the applicable authorities. The Proposed Route must cross the historic Beardsley Canal and peripheral portions of three archaeological districts. This historic canal would be spanned by the Proposed Route and would not be directly impacted by construction activities. The Proposed Route crosses portions of the three archaeological districts in areas that have a low density of previously existing archaeological sites. In addition, the installation of the line is not anticipated to have any indirect effects on the eligible properties within the Project area. Auditory and atmospheric effects associated with construction activities would be minimal and of limited duration. The setting of these properties and portions of archaeological districts have been previously altered by the existing transmission line; therefore, the selected crossings of the districts for the new line would result in minimal visual intrusions.

The proposed Project would also not directly affect any of the NRHP eligible or listed properties located beyond the area of potential effect. Because of the proximity of the Proposed Route to an

existing transmission line, there would also not be any indirect (visual, atmospheric, or auditory) affects to properties beyond the area of potential effect.

There is a low potential for encountering human remains or funerary objects at any of the sites within the Project area; however, if such remains were found on state land they would be reported to the director of the Arizona State Museum in accordance with A.R.S. § 41-865.

It is most likely that register eligible sites identified within the Project area of potential effect will be avoided during construction activity. Standard operating procedures for avoidance of register eligible sites include the following measures: (1) sites will be clearly marked on the construction, mitigation, and restoration plans, (2) prior to ground disturbing activities, archaeologists would barricade the sites and post clearly visible signs denoting such areas as "environmental sensitive areas: do not disturb," (3) prior to ground disturbing activities, the archaeologist would instruct the construction company in the location of the sites, (4) during construction activities, an archaeologist would monitor all ground disturbing activities within the vicinity of all barricaded sites. In the past, these mitigation measures have been considered satisfactory by the responsible authorities, and included in a construction, mitigation, and restoration plan.

In the unlikely event that archaeological sites can not be avoided, APS would prepare a treatment plan to address the mitigation of those eligible sites that could not be avoided during construction activities. The treatment plan would be prepared in consultation with SHPO and other interested land management agencies.

REFERENCES CITED

Bauer, Sharon, A.E. Rogge, Kirsten Winter, and Laura Rames. 2001. *Cultural Resource Inventory for the White Tanks Flood Retarding Structure #3 Project, Maricopa County, Arizona.* URS Corporation, Phoenix.

Fenicle, Diane, J.E. Ayres, E.J. Bassett, C.L. Myers, A.E. Rogge, M. Keane, and D.L. Douglas. 1994. *The Historical Archaeology of Dam Construction Camps in Central Arizona.* Vol. 2B: Sites in the New Waddell Dam Area. Intermountain Cultural Resource Services Research Paper No. 12. Dames & Moore, Phoenix.

Introcaso, David M. 1998. *Waddell Dam, Agua Fria River, Maricopa County, Arizona.* Historic American Engineering Record No. AZ-11. Salt River Project, Phoenix, and National Park Service, Western Region, San Francisco.

Rogge, A.E. and Glenn P. Darrington. 2000. *Phoenix Sonoran Desert Preserve Cultural Resource Database, Maricopa County, Arizona.* URS Dames & Moore, Phoenix.

Weaver, Donald E. 1974. *Archaeological Investigations at the Westwing Site, AZ T:7:27 (ASU), Agua Fria River Valley, Arizona.* Arizona State University Anthropological Research Paper No. 7, Tempe.

EXHIBIT F
RECREATIONAL PURPOSES AND ASPECTS

EXHIBIT F
RECREATIONAL PURPOSES AND ASPECTS

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"*State the extent, if any, the proposed site or route will be available to the public for recreational purposes, consistent with safety considerations and regulations and attach any plans the applicant may have concerning the development of the recreational aspects of the proposed site or route.*"

As the transmission corridor passes through the affected incorporated communities, unincorporated Maricopa County and Arizona State Trust Land, the Applicant shall offer to work with these communities and agencies to assist in establishing future recreation plans.

EXHIBIT G
CONCEPTS OF PROPOSED FACILITIES

EXHIBIT G
CONCEPTS OF PROPOSED FACILITIES

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Attach any artist's or architect's conception of the proposed plant or transmission line structures and switchyards, which applicant believes may be informative to the committee."

Exhibit G-1 to G-4	Typical 230kV Structures
Exhibit G-5	Typical 230/69kV Substation
Exhibit G-6 to G-7	Simulations

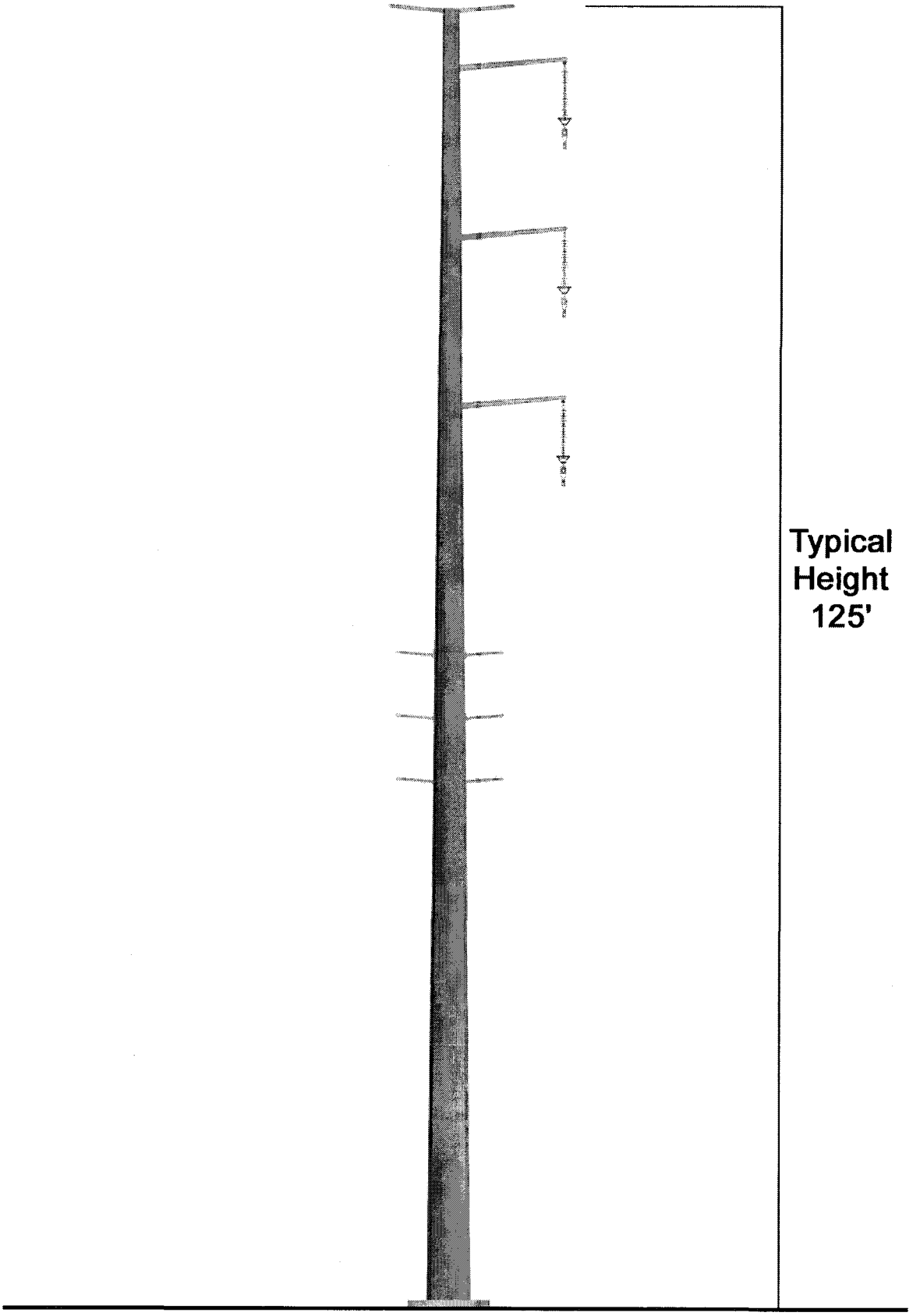


EXHIBIT G-1

Typical 230kV Single-Circuit Tangent Steel Pole with Double-Circuit 69kV Underbuild

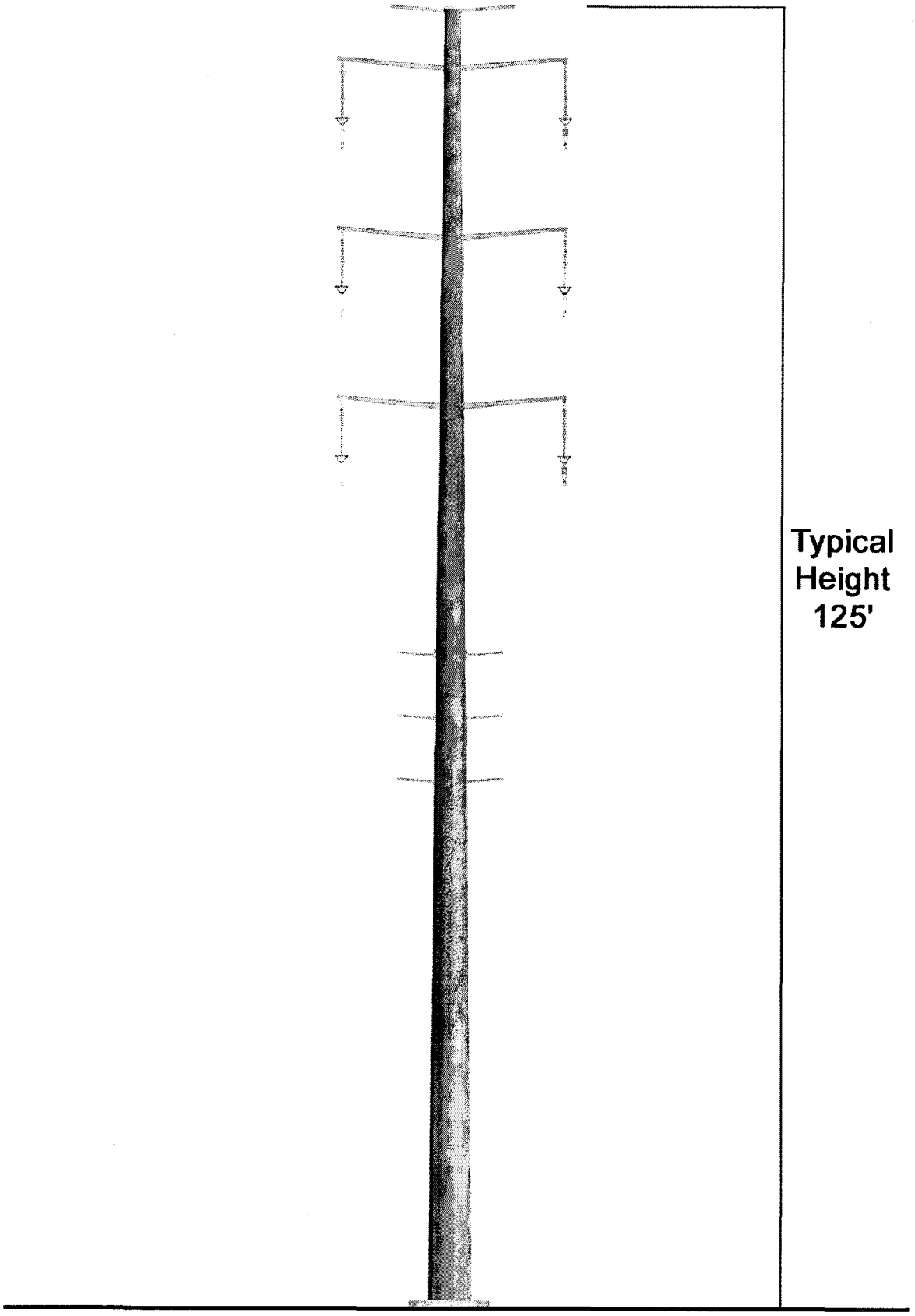


EXHIBIT G-2

Typical 230kV Double-Circuit Tangent Steel Pole with Double-Circuit 69kV Underbuild

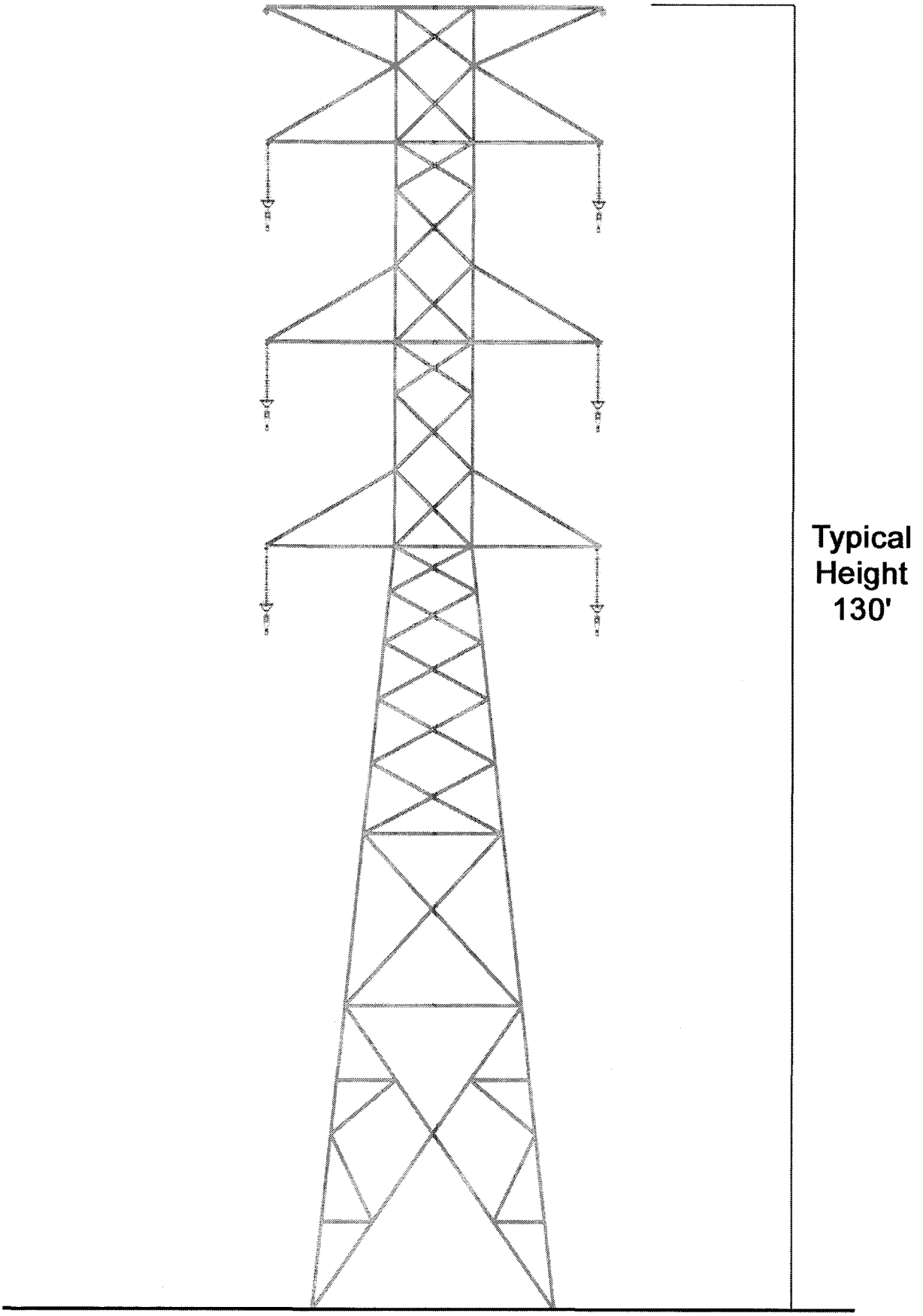


EXHIBIT G-3

Typical 230kV Double-Circuit Tangent Steel Lattice Structure

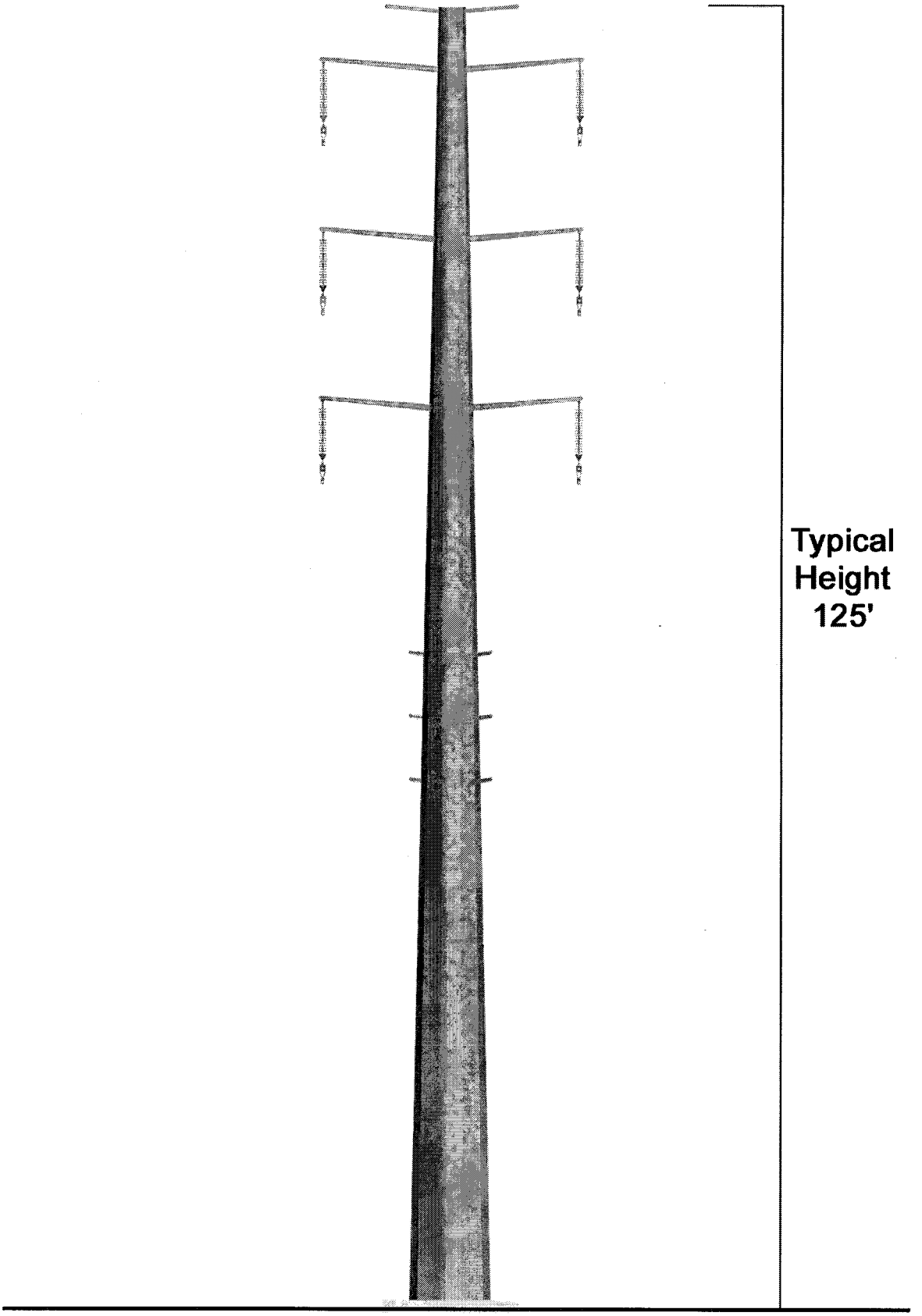
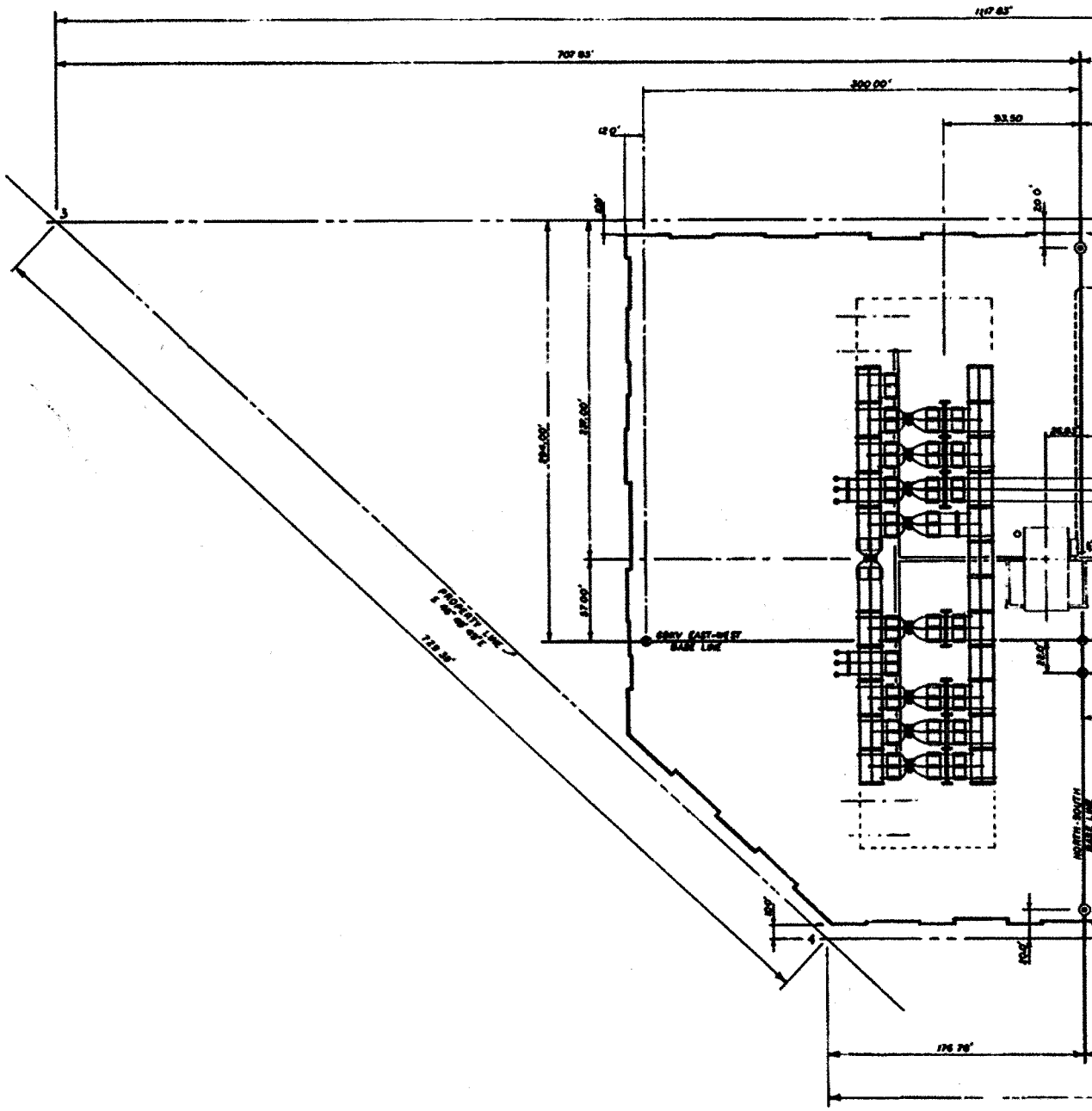


EXHIBIT G-4

Typical 230kV Double-Circuit Steel Pole Turning Structure with Double-Circuit 69kV Underbuild


1107.83'
707.83'
300.00'
93.50
12.0'
20.0'
PROPERTY LINE
719.36'
176.76'
NORTH-SOUTH
BASE LINE

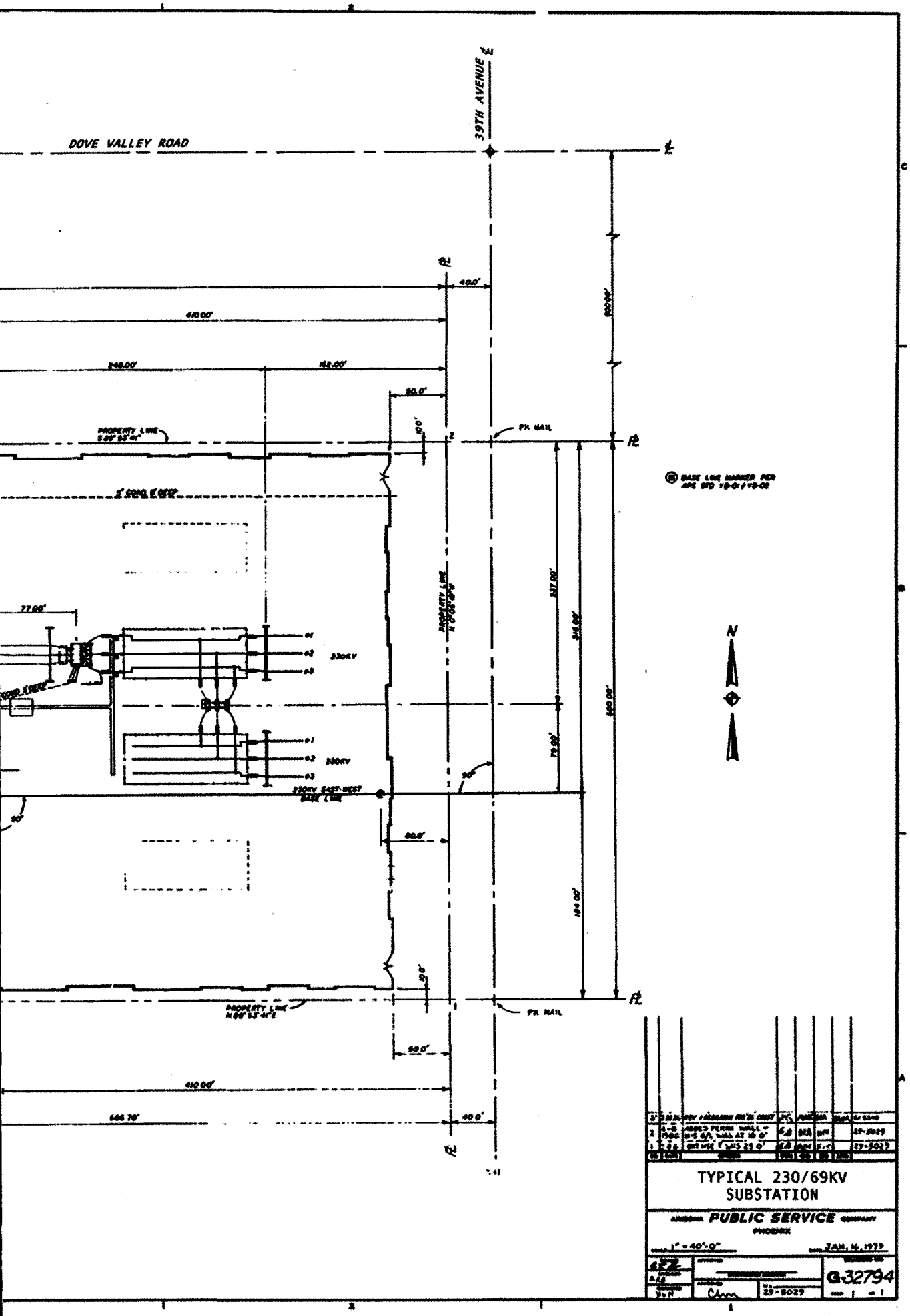

DOVE VALLEY ROAD
39TH AVENUE
PROPERTY LINE
PK NAIL
BASE LINE MARKER PER APS STD
230KV
69KV
230KV EAST-WEST BASE LINE
PROPERTY LINE N 89°53'41"E
N
TYPICAL 230/69KV SUBSTATION
PUBLIC SERVICE COMPANY
PHOENIX
1" = 40'-0"
JAN. 16, 1979
G-32794
29-5029

EXHIBIT G-5

Existing Conditions - Single-Circuit 69kV Transmission Line

Simulation of Proposed Route - 230kV Double-Circuit Steel Pole with Double-Circuit 69kV Underbuilc

Viewpoint from I-17 (looking northwest toward Arizona Westwood at I-17 and Dynamite subdivision)

SIMULATION DATA

Date: 5-31-2002
Time: 1:05 pm
Weather: Clear
Simulated Focal Length: 16.24 mm
Simulated Field of View : 95 degrees

NORTH VALLEY

230kV FACILITY SITING PROJECT

APS

EXHIBIT G-6

Existing Conditions - Single-Circuit 69kV Transmission Line

Simulation of Proposed Route - 230kV Double-Circuit Steel Pole with Double-Circuit 69kV Underbuil

Viewpoint from inside Arizona Westwood at I-17 and Dynamite subdivision (looking north towards SR 74)

d (located on the west side of I-17)

SIMULATION DATA

Date: 05-09-2002
Time: 2:17 pm
Weather: Clear
Simulated Focal Length: 21.66 mm
Simulated Field of View : 79.43 degrees

NORTH VALLEY

230kV FACILITY SITING PROJECT

APS

EXHIBIT G-7

EXHIBIT H
EXISTING PLANS

EXHIBIT H
EXISTING PLANS

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"To the extent applicant is able to determine, state the existing plan of the state, local government, and private entities for other developments at or in the vicinity of the proposed site or route."

Existing and future land uses are mapped in Exhibits A-3 and A-4, respectively, and discussed in Exhibit B. As part of the land use study, general and specific plans were gathered for the Project area from the jurisdictions and private developers. Representatives from planning departments, agencies, and developers were included on advisory CWGs for the siting projects through which the Proposed Route was determined. The purpose of this representation was to ensure consistency with plans as well as to identify potential issues throughout the planning and route selection process.

Throughout the siting studies, the Project team also met with representatives from the planning departments from the cities of Phoenix, Peoria, Surprise, town of Cave Creek, Maricopa County, and ASLD. In July 2002, letters were sent to entities (listed in Table H-1, next page) to provide Project information, announce the Proposed Route and alternative routes, and request new or additional information on planned developments. Exhibit H-1 provides a copy of the July 2002 letter, written responses, and other correspondence from relevant jurisdictions.

TABLE H-1 LETTER RECIPIENTS	
Contact Name and Title	**Jurisdiction/Agency**
Cindy Lester, Chief, Arizona Section Regulatory Branch	U.S. Army Corps of Engineers
David Harlow	U.S. Fish and Wildlife Service
Bruce Ellis, Chief, Environmental Planning Division	Bureau of Reclamation, Phoenix Area Office
Melissa Chiechi, Public Affairs	Western Area Power Administration
John Kennedy	Arizona Game & Fish Department
Matthew Bilsbarrow, Compliance Specialist	Arizona State Historic Preservation Office
Sheila McCafferty, Rights-of-Way Manager	Arizona State Lands Department, Planning and Disposition Division
Gordon Taylor, Planner	Arizona State Land Department
Mary Lynn Tischer	Arizona Department of Transportation, Transportation Planning Division
Gary Ijams, Power Program Manager	Central Arizona Project
Matt Holm	Maricopa County Planning & Development Department
Michael Ellegood, Chief Engineer	Maricopa County Flood Control District
Tom Buick, Director	Maricopa County Department of Transportation
William Scalzo, Director	Maricopa County Parks and Recreation Department
Dennis Smith, Associate Director	Maricopa Association of Governments
Charles Fitzhugh, Planner II	City of Phoenix Planning Department
Debra Stark, Director	City of Peoria Planning Division, Community Development Department
Skip Brown, Associate Superintendent for Support Services	Paradise Valley School District
Sandra Kube, Planning Analyst	Deer Valley School District
Ed Gillam, P.E., Director	Peoria Unified School District No. 11, Planning and Construction
Harrison Merrill	Vanguard Properties, Dynamite Mountain Ranch
E.R. and Lila Schneider	Schneider Trust Property
Gary Torjeom	Lake Pleasant Heights
Roger Pryor	Continental Homes
Heidi Kimball	Sunbelt Holdings, Sonoran Foothills
Rick West	Carefree Partners, Canyon Crossroads
Steve Pritulsky	Communities Southwest, Tramonto
S. Wayne Peacock, Senior Vice President, Corporate Real Estate	USAA
Mark Hammonds	Lakeland Village
Peggy Grunewald, Engineer – Land	KB Homes

EXHIBIT H-1
CORRESPONDENCE

environmental planning group

July 12, 2002

Charles Fitzhugh, Planner II
City of Phoenix Planning Department
200 W. Washington, 6th Floor
Phoenix, Arizona 85003-1611

Dear Mr. Fitzhugh:

Arizona Public Service Company (APS) is proposing to construct a 230 kilovolt (kV) transmission line and two 230/69kV substations in north-central Maricopa County, as illustrated on the enclosed map. The purpose of constructing this line is to address current demand and reliability issues, and to plan for continued reliability as planned development occurs. The transmission line may be constructed in sections between 2005 and 2011.

The selection of the proposed route and substation locations is the result of two siting studies that were completed between 1997 and 2001. Environmental Planning Group, Inc., an environmental consulting firm, conducted the studies and currently is assisting APS in compiling information for an application for a Certificate of Environmental Compatibility (CEC) to be submitted to the Arizona Power Plant and Transmission Line Siting Committee and the Arizona Corporation Commission in compliance with Arizona Revised Statutes § 40-360.

The proposed transmission line is approximately 30 miles long and crosses land under the jurisdiction of the city of Phoenix, city of Peoria, and Maricopa County. The proposed route and alternative routes originate at the Westwing Substation in Section 12, Township 4 North, Range 1 West and terminate at the Pinnacle Peak Substation in Section 10, Township 4 North, Range 4 East (see enclosed map).

The proposed Avery Substation is located in Section 15, Township 5 North, Range 2 East, and the Misty Willow Substation is located in Section 8, Township 4 North, Range 3 East. Each of the substations will require approximately 10 acres. The determination of the final sites will be based on land acquisition, site-specific considerations, and CEC requirements.

We request your response as to whether you are aware of potential issues related to the proposed project or existing plans in the project area. Comments will be received until August 2nd for inclusion in the CEC. Thank you in advance for your reply. Please call if you have questions or require additional information on the project.

Sincerely,

Paul Trenter
Project Manager

Enclosure

4350 E. Camelback Rd. • Suite G-200 • Phoenix, Arizona 85018
602-956-4370 • 602-956-4374 fax • www.epgaz.com

United States Department of the Interior

BUREAU OF RECLAMATION
Phoenix Area Office
PO Box 81169
Phoenix, Arizona 85069-1169

received
8-8-02

IN REPLY REFER TO
PXAO-1500
ENV-1.10

AUG 7 2002

Mr. Paul Trenter
Project Manager
Environmental Planning Group
4350 East Camelback Road, Suite G-200
Phoenix, Arizona 85018

Subject: Your Correspondence Dated July 12, 2002

Dear Mr. Trenter:

This is in response to the above-referenced correspondence regarding the proposed Arizona Public Service (APS) North Valley 230kV Facility Siting Project. The map enclosed with your correspondence indicates features associated with the proposed project, and alternatives would be located either on or adjacent to, or would cross, Reclamation property. Depending upon the final siting of these features, Reclamation may have significant issues that would need to be resolved.

It has been Reclamation's policy to disallow lateral encroachments along its right-of-way. Any need for encroachment upon Central Arizona Project (CAP) land needs to be requested through the managing entity's land department. Requests can be sent to the attention of Ms. Sharon Hood, Land Administrator, Central Arizona Project, P.O. Box 43020, Phoenix, Arizona 85080-3020.

Notwithstanding the above, should Reclamation approve use of its land for the proposed project, we would be responsible for ensuring compliance with the National Environmental Policy Act and other applicable environmental regulations, prior to Reclamation's approval of any permanent easement.

Thank you for providing us with the opportunity to provide our input. Should you have any questions regarding this matter, please contact Mr. Peter Castaneda, Chief of the Water and Lands Division, at the above address. His telephone number is 602-216-3928.

Sincerely,

Bruce D. Ellis

Bruce D. Ellis
Chief, Environmental Resource
Management Division

Enclosure

cc: Ms. Sharon Hood, Land Administrator, Central Arizona Project, P.O. Box 43020, Phoenix, Arizona 85080-3020 (w/ cpy of incoming)

Jane Dee Hull
Governor

Michael E. Anable
State Land
Commissioner

Arizona
State Land Department

1616 West Adams Street Phoenix, AZ 85007 www.land.state.az.us

August 6, 2002

Mr. Paul Trenter, Project Manager
epg, inc.
4350 E. Camelback Road #G-200
Phoenix, Az. 85018

re: Proposed 230 KV Transmission line

Dear Mr. Trenter

Thank you for your recent letter regarding the above referenced issue since its location will impact the block of Trust land that it will bisect.

As you know the Department has a long history associated with the alignments proposed for the area west of the I-17 and between the CAP canal and the Carefree Highway. We have supported the Dove Valley Road alignment based upon the recommendations of the siting committee and Cities of Phoenix and Peoria. Your enclosure of July 12 showed other possible alignments for the proposed 230 KV facility and solicited our comments regarding these options.

We still maintain our previous position supporting the Dove Valley Road alignment. But we also believe that there are other options you may want to consider as part of the review process. The one corridor that is not shown is the Lone Mountain Road alignment. Lone Mountain Road is currently shown as a major arterial street on the Phoenix General Plan and will serve as a primary connection between Peoria and Phoenix. ADOT is currently studying the Loop 303 alignment connecting the west valley to the north Phoenix area and Lone Mountain Road is one of the corridors under consideration for the Loop 303 . The 230 KV corridor could follow this alignment whether it remains a major arterial or it is selected as the corridor for the Loop 303 by ADOT. Visually this alternative would allow the Department to cohesively plan the block of Trust land north of the Lone Mountain/303 corridor as a single planning unit. While we feel there are advantages to the Lone Mountain Road alignment we also accept the findings of the siting committee which included State Land representation and therefore maintain our support for Dove Valley Road.

Thank you for allowing us to comment on the issue. Call me 602-542-2647 if you have any additional concerns.

Sincerely

Gordon Taylor, Planning Manager

c:Greg Novac

F:\WPDOCS\G.T. COP 230 APS ltr 080502.wpd

City of Phoenix

August 2, 2002

Mr. Larry Krueger
APS
Mail Station 4030
P.O. Box 53933
Phoenix, Arizona 85072-3933

Dear Mr. Krueger:

RE: LOCATION FOR PROPOSED 230 KV ELECTRICAL TRANSMISSION LINES

Thank you for recently involving Mark Steele and Charles Fitzhugh of my North Team staff to review the APS North Valley recommendation on the route for the proposed 230 Kv electrical transmission lines. We are in agreement with the location of these electrical lines (as shown on the map mailed with your consultant's 7/12/02 letter) on the west side of Interstate 17 throughout the North Black Canyon Corridor. We are of the understanding that the proposed 230kv location will also include the underhanging of 69kv lines which currently are located along the east side of I-17, between Carefree Highway and the Central Arizona Project Canal. Additionally, the proposed route takes into consideration City staff's initial concerns regarding the visual quality of development in the North Black Canyon Corridor, as well as future land usage as mandated by the Phoenix General Plan.

The North Team Planning Staff looks forward to continuing their work with you to conclude the North Valley Facilities Siting Study in the near future. Staff has been instructed to attend the CEC (Certificate of Environmental Compatibility) hearings through the Arizona Corporation Commission this fall and provide support for this study and the (proposed) location of the electrical transmission line route. Please have your staff provide them with information on where and when these meetings are to be held. They also are anticipating further meetings with your staff and consultants (EPG) to discuss the possible undergrounding of 69Kv lines throughout the North Black Canyon Corridor once funding or financing mechanisms have been fully explored and approved at the City level.

Please feel free to contact Charles Fitzhugh at (602)-261-8802 should you have any questions or concerns regarding the City's recommendation regarding proposed electrical transmission line routes in North Phoenix.

Sincerely,

David E. Richert
Planning Director

DER:CF\c:\data\2 d\2002\dh0808a.doc

Arizona Department of Transportation

Transportation Planning Division

206 South Seventeenth Avenue Phoenix, Arizona 85007

ADOT

Jane Dee Hull
Governor

Victor M. Mendez
Director

Mary Lynn Tischer
Division Director

August 1, 2002

To: Paul Trenter
Project Manager
Environmental Planning Group
4350 E. Camelback Rd. Suite G-200
Phoenix, Arizona 85018

Re: Arizona Public Service (APS) proposed 230 Kilovolt Line

Dear Mr. Trenter:

This letter is in response to the request for information on the proposed 230 kV line that APS would like to construct. I have forwarded your request to the Arizona Department of Transportation's State Engineer and Phoenix District Maintenance Engineers. They will be better able to reply to your request for information on the proposed transmission line.

If there are other comments or concerns please do not hesitate to contact me at (602) 7121-7431.

Sincerely,

Mary Lynn Tischer

MLT/ags

Cc: Dick Wright – State Engineer
Dan Lance – Assistant State Engineer
John Hauskins – Maintenance Engineer
Al Field - Utilities

Attachment

Arizona Governor's Award for Quality
2001 Award Recipient

Continental

July 31, 2002

VIA FACSIMILE & MAIL
FAX # 602-956-4374

Mr. Paul Trenter
Environmental Planning Group
4350 East Camelback Road
Suite G-200
Phoenix, Arizona 85018

Re: North Valley 230 kV Facility Siting

Dear Mr. Trenter:

Continental Homes, Inc. (CHI) has reviewed your letter and associated exhibit dated July 12, 2002, concerning the proposed routing for the North Valley 230kV transmission line. CHI is in favor of the proposed alignment along Happy Valley Road from the Pinnacle Peak substation west to Interstate 17. We would also favor the routing west of Interstate 17 north of Happy Valley Road as shown on your siting exhibit.

CHI is currently developing a residential development north and south of the CAP on the Dynamite Boulevard alignment and strongly objects to Alternative Route #1 and #3 along the CAP canal from the proposed Misty Willow substation to Interstate 17. These lines will be highly visible from the residential component of this unique desert setting known as the North Black Canyon Corridor. Additionally, the City of Phoenix is working closely with APS and the stake holders in the North Black Canyon Corridor area to underground the proposed 69kV transmission lines to serve the North Black Canyon Corridor. Alternative route #1 and #3 would defeat this objective.

Thank you for the opportunity to evaluate the proposed alternatives. Please feel free to call should you have any questions.

Sincerely,

CONTINENTAL HOMES, INC.

Roger D. Pryor, P.E.
Director of Entitlements
Land Acquisition

RP/ah

Welcome Home

CONTINENTAL HOMES, INC.
7001 NORTH SCOTTSDALE ROAD
SUITE 2050
SCOTTSDALE, ARIZONA 85253
480.483.0006
a D•R•HORTON Company

City of Peoria

8401 West Monroe Street, Peoria, Arizona 85345

July 19, 2002

Mike DeWitt, BSCE
Project Manager
Transmission & Facility Siting
P.O. Box 53933
Phoenix, AZ 85072-3933

Dear Mr. DeWitt:

I want to thank you again for inviting me to the meeting on the Northwest Valley Siting Project. It helps my department to have your information. When we meet with the public and development community, we are better informed. In any future projects, I hope you continue to work closely with us.

I appreciate your efforts! And please let Larry Krueger know that we appreciate his efforts as well!

Sincerely,

Debra Stark
Community Development Director

communities southwest
Neighborhoods With Lasting Value

July 17, 2002

Paul Trenter
Environmental Planning Group
4350 E. Camelback Road, Suite G-200
Phoenix, Arizona 85018

Re: Future Transmission Line and Substations

Dear Mr. Trenter:

In response to your letter dated July 12, 2002, and attached proposed route map exhibit for the above referenced project, I offer the following comments:

The proposed route of the 230kV, which appears to run along the west side of Interstate 17, does not appear to impact our Tramonto project, located at the northeast corner of Interstate 17 and Carefree Highway, nor do the proposed alternate routes. The existing 69kV transmission line, however, clips the corner of our commercial property. We are currently dealing with Tom Brennan, Senior Design Project Leader with APS, on this issue. Feel free to contact Mr. Brennan at 602-493-4466 or myself at 602-328-5228 should you have any questions or require any additional information.

Sincerely,

TRAMONTO DEVELOPMENT, LLC
an Arizona limited liability company

George Cannon

By: George Cannon, Vice President, Land Development
of CSW Management Co (FN), the authorized agent
of Tramonto Development, LLC

GEC/nb

20 North 16th Street, Suite 310
oenix, Arizona 85020
2.265.1952
2.265.7740 Fax

communities-southwest.com

181 Old Springs Road
Anaheim, California 92808
714.279.6555
Fax 714.279.6556

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
ARIZONA-NEVADA AREA OFFICE
3636 NORTH CENTRAL AVENUE, SUITE 760
PHOENIX, ARIZONA 85012-1936

July 16, 2002

REPLY TO

Office of the Chief
Regulatory Branch

Mr. Paul Trenter
Project Manager
Environmental Planning Group
4350 E. Camelback Rd., Ste. G-200
Phoenix, Arizona 85018

received
7.17.02

File Number: 2002-01220-EHB

Dear Mr. Trenter:

It has come to our attention that you plan to construct a 230 kilovolt transmission line and two 230/69kV substations in north-central Maricopa County in the various waters at (Section 15, T5N, R2E and Section 8, T4N, R3E), Maricopa County, Arizona.

This activity may require a Department of the Army permit issued under Section 404 of the Clean Water Act. A Section 404 permit is required for the discharge of dredged or fill material into the "waters of the United States," including adjacent wetlands. Examples of activities requiring a permit are placing bank protection, temporary or permanent stock-piling of excavated material, grading roads, grading (including vegetative clearing operations) that involves the filling of low areas or leveling the land, constructing weirs or diversion dikes, constructing approach fills, and discharging dredged or fill material as part of any other activity.

Enclosed you will find a permit application form and a pamphlet that describes our regulatory program. If you have questions, please contact Elizabeth H. Brooks at (602) 640-5385 x 223. Please refer to file number 2002-01220-EHB in your reply.

Sincerely,

Sallie McGuire
Cindy Lester
for Chief, Arizona Section
Regulatory Branch

Enclosure(s)

City of Phoenix

OFFICE OF THE CITY COUNCIL
Councilwoman Peggy Neely
District 2

May 3, 2002

Michael DeWitt
Transmission & Facility Siting project Manager
APS
Mail Station 4030
PO Box 53933
Phoenix Arizona 85072

Dear Michael,

Thank you for coming in to meet with me regarding planned APS sites and the possibility of undergrounding lines in District 2. I enjoyed our discussion and will keep your ideas and concerns in mind. As you may know, availability of development services such as power and water is an important issue to the constituents in District 2. I believe that by working together we can help make Phoenix a better place to live, work and play.

Again, I enjoyed meeting you and look forward to working with you in the future. If I can be of any assistance to you, please do not hesitate to call me.

Sincerely,

Peggy Neely
Councilwoman
District 2

Tel (602) 252-7445 • 200 West Washington Street, Phoenix, Arizona 85003 • FAX 602 495 6527

Recycled Paper

City of Phoenix
PLANNING DEPARTMENT

May 3, 2002

Mr. Mike DeWitt, Project Manager
Transmission and Facilities Siting Department
APS
P.O. Box 53933, Mail Station 4030
Phoenix, AZ 85072-3933

Dear Mr. DeWitt:

Please find enclosed a map of the electrical transmission line alignments (both 230 and 69 kV lines) that affect the North Black Canyon Corridor, and, as previously discussed, the City of Phoenix recommendation regarding the undergrounding of these 69KV lines. The underground (69KV) lines as represented on the attached map are in excess of 19 total miles. This map, to the best of our knowledge, shows the APS recommended locations for existing and proposed substations and the agreed upon route(s) for the soon to be constructed 230 kV line (west of Interstate 17). Please let us know if there are any inconsistencies shown on this map based on our previous discussions.

The City of Phoenix is aware of the immediate need for several of these lines and will be involved in scheduling a property owner(s) meeting in the next few weeks to discuss the feasibility of utilizing a special improvement district for the partial funding of these underground facilities. It is an important issue to the City of Phoenix to underground these proposed lines in this particular part of North Phoenix because of the emphasis placed and high visibility of the surrounding mountain views and also the proximity of proposed Sonoran Preserve located on both sides of Interstate 17, south of Carefree Highway.

Thank you for the opportunity to be involved in the overall electrical transmission line siting process and in considering the City of Phoenix recommendation(s) on how these electrical transmission lines are located and ultimately constructed. We will keep you informed of our progress with the public (property owner) meetings and any additional changes we foresee regarding the information shown on the attached transmission line location map.

Please feel free to contact Mr. Charles Fitzhugh of this office at 602-261-8802, should you have any further questions or concerns regarding this issue.

Sincerely,

David E. Richert
Planning Director

DER:CF
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200 West Washington Street, Phoenix Arizona 85003 602-262-7131 FAX: 602-495-3793

Recycled Paper

Jane Dee Hull
Governor

Michael E. Anable
State Land
Commissioner

Arizona State Land Department

1616 West Adams Street Phoenix, AZ 85007 www.land.state.az.us

October 2, 2001

Mr. Larry Krueger
Arizona Public Service Company
Mail Station 4030
P.O. Box 53933
Phoenix, Az 85072-3933

Re: Location for Proposed 230 KV Transmission Lines

The Arizona State Land Department, as a major landowner in the North Phoenix area concurs with the alignment of the proposed 230 KV transmission line alignment as discussed in the April 19, 2001 letter you received from the City of Phoenix Planning Department. We appreciate being involved the alignment selection of these lines as they cross State Trust Lands.

If the Department can be of further assistance to you in this matter please contact Gordon Taylor in our planning section at 602-542-2647 or myself at 602-542-2648.

Sincerely,

Sheila McCafferty
Rights of Way Manager

USAA

June 7, 2001

Mr. Paul Trenter
Environmental Planning Group
4350 E. Camelback Rd. Suite G-200
Phoenix, AZ 85018

Dear Paul:

I'm writing to express concern over the potential location of a new set of 230 kV transmission lines proposed to run parallel to I-17 between the Pioneer and Adobe substations in North Phoenix.

As you may know, our new Phoenix Campus is planned to house all of our expected growth in the coming years. In our master plan, we anticipate building six million square feet of office space that could in the long term accommodate up to 30,000 employees. Governor Hull has called this the single largest employment center development in Arizona's history. We want to continue to work closely with the community in order to bring this important development to fruition.

We have met on several occasions with your Phoenix based North Central Substation Site Study Team led by Larry Krueger Brad Larson and Mike Dewitt. We have also had conversations with City of Phoenix staff members and the State Land Department to learn all that we can about the options that are available to APS for locating these facilities. To the extent possible, we have provided our input and encouraged the thorough evaluation of alternative alignments that would keep the overhead lines on the west side of I-17 (where the existing 69 kV overhead power lines are located, or as recommended by the City of Phoenix, which is also west of I-17). It is evident that the APS Engineers are doing everything they can to incorporate the input of everyone that might be impacted by the final decision.

One of the options currently being considered is for the lines to be placed on the east side of I-17. If these lines were to be placed on the east of the highway then they would adversely impact our immediate and future development plans for our newly acquired campus site.

The APS project managers say they will rely on the recommendations of their consultant (the Environmental Planning Group) for developing the final recommendations. These are scheduled to be presented to the State Corporation Commission in May. We understand that EPG is to include the input of the public with the submittal. We would appreciate your consideration of our input.

9800 Fredericksburg Road San Antonio, TX 78288-7607

We ask that you will consider all the merits of locating these lines located on the west side of I-17 near the location of the existing lines or in the western alignment being proposed by the City of Phoenix Planning Staff.

If I can shed more light on this matter or if you would like to discuss it with me, please feel free to contact me at (210) 498-5384. I am looking forward to meeting you soon.

Sincerely,

Wayne Peacock

S. Wayne Peacock
Senior Vice President
Corporate Real Estate

City of Phoenix
PLANNING DEPARTMENT

April 19, 2001

Mr. Larry Krueger
APS
Mail Station 4030
P.O. Box 53933
Phoenix, AZ 85072-3933

Dear Mr. Krueger:

RE: LOCATION FOR PROPOSED 230 KV ELECTRICAL TRANSMISSION LINES

Thank you for scheduling a meeting earlier this week with the Arizona State Land Department and your staff for the purpose of determining a final recommendation on the route for the proposed 230 Kv lines to be located west of Interstate 17 (between the Central Arizona Project Canal and Carefree Highway). The Arizona State Land Department, as a major landowner in the area, has decided upon a primary north/south alignment for the electrical transmission lines at 39th Avenue between Dove Valley and Lone Mountain Road(s). We are in agreement with the location of these electrical lines as proposed by the Arizona State Land Department, since their proposal takes into consideration City staff's initial concerns regarding the visual quality of development in the North Black Canyon Corridor, as well as future land usage as mandated by the Phoenix General Plan.

The North Team Planning Staff looks forward to continuing their work with you to conclude the North Central Facilities Siting Study in the near future. They are anticipating further meetings with your staff and consultants (EPG) to discuss the possible undergrounding of 69Kv lines throughout the North Black Canyon Corridor once your final site determinations and cost estimates have been made.

Please feel free to contact Charles Fitzhugh at (602)-261-8802 should you have any questions or concerns regarding the City's recommendation regarding proposed electrical transmission line routes in North Phoenix.

Sincerely,

David E. Richert
Planning Director

DER:CF
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200 West Washington Street, Phoenix, Arizona 85003 602-262-7131 FAX: 602-495-3793

Recycled Paper

TOWN OF CAREFREE
100 EASY STREET
P.O. BOX 740
CAREFREE, ARIZONA 85377
(480) 488-3686 • FAX (480) 488-3845

April 5, 2001

Mr. Michael L. DeWitt, Project Manager
Transmission & Facility Siting
Arizona Public Service
Mail Station: 4030
P. O. Box 53933
Phoenix, AZ 85072-3933

RE: North Central Facility Siting Project Final Routes

Dear Mr. DeWitt:

On behalf of the Town of Carefree, I commend you and APS for your thoroughness and public involvement in selecting the overhead routes for 69KV and 230 KV transmission lines. We are especially appreciative of the decision not to locate the transmission lines along Carefree Highway. As we previously indicated, the lines would have had a very serious negative impact to the Carefree Highway scenic corridor.

Thank you again for including the Town of Carefree in your public participation process. If we can be of assistance, please contact me or Jonathan Pearson at 480-488-3686.

Sincerely,

Edward C. Morgan
Mayor

JHP/EM:al

Cc: Siting Committee for Power and Transmission, AZ Corporation Commission
Carefree Town Council

EXHIBIT I
ANTICIPATED NOISE AND INTERFERENCE WITH COMMUNICATION SIGNALS

EXHIBIT I
ANTICIPATED NOISE AND INTERFERENCE WITH COMMUNICATION SIGNALS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Describe the anticipated noise emission levels and any interference with communication signals which will emanate from the proposed facilities."

Certain electromagnetic effects are inherently associated with overhead transmission of electrical power at extra high voltage (EHV). These effects are produced by the electric and magnetic fields of the transmission line with one of the primary effects being corona discharge. Corona effects manifest as audible noise, radio interference, and television interference. These particular effects will be minimized by line location, line design, and construction practices.

CORONA

Corona is a luminous discharge due to ionization of the air surrounding a conductor and is caused by a voltage gradient, which exceeds the breakdown strength of air. Corona is a function of the voltage gradient at the conductor surface. This voltage gradient is controlled by engineering design and is a function of voltage, phase spacing, height of conductors above ground, phase geometry, and meteorological conditions. In particular, irregularities on the surface of the conductor such as nicks, scratches, contamination, insects, and water droplets, increase the amount of corona discharge. Consequently, during periods of rain and foul weather, corona discharges increase. For the various transmission design configurations considered for this Project, the average calculated voltage gradient at the conductor surface was 11.6kVrms/cm. The maximum calculated voltage gradient at the conductor surface is 12.9kVrms/cm. For comparison purposes, the breakdown strength of air is 21.1kVrms/cm at 25 degrees Celsius (°C) and 76 millimeter (mm) barometric pressure.

Corona represents power loss on the transmission line and creates transmission line noise. Successful operation of 230kV lines with similar gradients indicates that this transmission line will not create adverse corona effects.

TRANSMISSION LINE AUDIBLE NOISE

Audible noise is created by corona discharge along the transmission line. As a result, the amount of audible noise is directly related to the amount of corona, which is in turn affected by meteorological conditions (most notably rain). Transmission line audible noise is categorized

into broadband high frequency sounds, which can be described as hissing or sputtering, and low frequency tones, which are best described as humming sounds.

The highest calculated audible noise levels generated by this transmission line design during foul weather (rain) may reach 39.7 dB measured on an "A" weighted scale at the edge of the right-of-way. This noise level will occur only during very heavy rain conditions, which will serve to mask the noise. During light rain, or wet conductor conditions, the maximum expected audible noise is in the range of 24.8 dB(A) at the edge of the right-of-way. During fair weather the audible noise generated by this line as heard at the edge of the right-of-way is significantly reduced with a maximum value of 12.4 dB(A). For the locations where the transmission line parallels existing EHV lines, no audible increase in noise at the edge of the right-of-way is caused by addition of the new transmission line.

Study work of transmission line noise has categorized noise levels by the probability of complaints being generated. The noise generated by this transmission line is well below this value and no noise problems due to this line are expected.

SUBSTATION AUDIBLE NOISE

The audible noise from a substation is generally intermittent and is the result of operation of equipment in the substation such as circuit breakers and disconnect switches. The transformers in the substation do emit a sound that can be characterized as a hum within the frequency range of the human ear. Sound levels are specified at the time of purchase of the equipment, and design of the substation will be such that the hum generated by the transformers will be in compliance with the sound level required by industry standards, governing regulations, or local ordinances.

RADIO INTERFERENCE

Radio interference is the reception of spurious energy not generated by the transmitting station. This energy affects the amplitude modulated (AM) radio band, but not the frequency modulated (FM) radio band. Transmission line radio interference is caused by corona and by gap discharges. Gap discharges are electrical discharges across a small gap with the most common cause being loose hardware. Gap discharges comprise a large percentage of all interference problems and are easily remedied. Experience shows that gap discharges are not a problem with steel structures, but are more prevalent with wood structures due to the expansion and contraction of the wood causing hardware to loosen.

Corona caused radio interference is dependent on various factors including distance from the line to the receiver, radio signal strength, ambient radio noise level, receiving antenna orientation, and weather conditions. A common practice of determining the expected level of radio interference is to calculate the transmission line radio interference at a frequency of 1 MHz.

Comparison of the calculated radio noise levels for the transmission line design shows fair weather radio noise levels generated by this transmission line in the range of 20 to 24 dB (above 1 μV/meter) at a distance of 100 feet from the outside phase. This compares favorably with the maximum suggested noise level of 40 dB, above 1 μV/meter (IEEE 1980). During inclement weather, transmission line noise levels increase to levels in the range of 45 dB, above 1 μV/meter 100 meters from the outside phase. Even though radio reception quality is reduced during periods of rainy weather, the impact is expected to be minimal due to the low frequency of inclement weather. In addition to these comparisons of calculated and recommended interference values, transmission line experience for lines of similar design traversing similar terrain has shown radio interference to be insignificant. Should radio interference caused by the transmission line become unacceptable in a given situation, mitigating techniques can be applied on an as needed basis between the utility and the complainant.

TELEVISION INTERFERENCE

Traditional television broadcasts occur in three ranges:

54 - 88 MHz (Channels 2 - 6)
174 - 216 MHz (Channels 7 - 13)
470 - 890 MHz (Channels 14 - 83)

Transmission line interference reduces with increasing frequency above 100 MHz. Consequently, television interference only affects the lower VHF band (Channels 2 through 6) and no interference will be experienced in the upper VHF (Channels 7 - 13) and UHF bands (Channels 14 - 83) even during foul weather. Television interference noise levels can potentially affect AM signals; therefore the picture quality, which is AM, can be affected, but not the sound quality as these signals are FM.

Comparison of expected television interference levels at the edge of the right-of-way show levels consistent with values calculated for other 230kV lines, which traverse similar terrain (APS 1981). Calculated foul weather television interference at the edge of the right-of-way generated by a typical span of this line is calculated at 1.1 dB above 1 μV/m. Consequently, no transmission line generated television interference is expected along the line, even during periods of inclement weather.

Where transmission line generated television interference has been found to be a problem, it is generally the result of induced voltage on fences, conductors, and hardware, which are adjacent to the right-of-way. In these situations, the interference can be easily corrected by grounding the objects, or by realigning, relocating, or providing higher gain television antennas. APS is prepared to assist affected parties in resolving television interference problems resulting from the operation of the proposed facilities. However, with the increasing popularity of newer

technologies such as cable, satellite, and digital television, transmission line television interference problems warranting any sort of corrective action are even more unlikely.

ELECTRIC AND MAGNETIC FIELD EFFECTS

Electric and magnetic field (EMF) effects are primarily electric and magnetic induction effects whereby voltages and currents are induced in nearby conductive objects by the voltage and current on the line.

Electrostatic induction is the capacitive coupling of a voltage onto insulated objects near the transmission line. The induced voltage is a function of the electric field associated with the line, which is a function of the line voltage. Other factors, which affect the level of induced voltage include insulation, object orientation and dimensions, and line height. When a person reaches to touch a conducting object which has been charged by electrostatic induction, a spark discharge will occur similar to that experienced by a person reaching for a doorknob after walking on a nylon carpet with the difference that sparking will continue to occur as long as the person's hand remains close enough to the object for the sparks to occur. Based on computer modeling the electric fields associated with the proposed transmission lines will be consistent with the electric field values of other similarly configured 230kV transmission lines in the state. Based on this, it is anticipated that any electrostatic induction problems that occur can be easily corrected by grounding the conductive objects.

The magnetic fields associated with transmission lines can also induce voltages and currents in conductive objects (e.g. fences, communication lines, railroads, pipelines, etc.), which are close to and run parallel to the transmission line. The magnetic field level is a function of the current level in the transmission line, which in turn is a function of the line loading. The transmission line will be designed to limit the value of short-circuit current from a conductive object to 5 mA or below, which is the maximum design limit permitted by the National Electrical Safety Code.

In addition to the EMF induction issues described above, public interest regarding potential health effects of human exposure to 60 hertz EMF has led to extensive study for more than 20 years. One recent example of such research was a 5-year study program completed in 1999, which was jointly coordinated by the National Institute of Environmental Health Sciences (NIEHS) and the Department of Energy. In its May 1999 report to Congress, the NIEHS concluded that there was insufficient evidence of any health risk associated with EMF that would warrant new regulatory action (NIEHS 1999). An additional review of this 5-year research program conducted by the National Research Council of the National Academy of Sciences in 1999 concluded "the results of the EMF Rapid program do not support the contention that the use of electricity poses a major unrecognized public-health danger." (National Academy of Sciences 1999).

The actual EMF associated with these power lines will depend on the construction type, the amount of current in the lines, height of the conductors, and other nearby sources of fields. Based on computer modeling of various construction options and operating conditions, the EMF associated with these lines is comparable to other already existing lines of this voltage in the state. Further, where there are multiple transmission lines in the same corridor, phase management of the subject line, where feasible, will minimize the resulting magnetic fields.

There is current carrying equipment operating at high voltages within a substation. EMFs are generated during the operation of a substation. The substation design provides for adequate separation of this equipment from the fence line of the property to control the fields generated by the substation equipment to levels nearing background levels. The strongest EMFs around the substation will come from the EHV lines entering and leaving the substation.

In conclusion, potential EMF effects from the Project are insignificant. Any voltage or current induction effects can be mitigated appropriately through coordination and planning between the Applicants and those experiencing the problem. The fields expected from these lines will be similar to other transmission lines of this voltage, and there are currently no known adverse health effects associated with EMF exposures at levels typically found near such transmission lines.

REFERENCES

Arizona Public Service Company. 1981. APS/SDG&E Interconnection Project-Application for Certificate of Environmental Compatibility, April 27, 1981.

IEEE. 1980. "Review of Technical Considerations on Limits to Interference from Power Lines and Stations", IEEE Radio Noise and Corona Subcommittee Report, RI Limits Task Force, Working Group #3, IEEE Transactions on Power Apparatus and Systems, Vol. PAS-99, No. 1, Jan./Feb. 1980, pages 365-388.

National Institute of Environmental Health Sciences, National Institutes of Health. 1999. NIEHS Report on Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields. NIH Publication No. 99-4493, May 1999.

National Research Council, National Academy of Sciences. 1999. "Research on Power Frequency Fields Completed Under the Energy Policy Act of 1992." ISBN: 0-309-06543-7, 1999.

EXHIBIT J
SPECIAL FACTORS

EXHIBIT J
SPECIAL FACTORS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Describe any special factors not previously covered herein, which Applicant believes to be relevant to an informed decision on its application."

INTRODUCTION

This exhibit includes information on the public involvement program that has been conducted for the North Valley Project. This public involvement program consisted of three separate segments. The most recent occurred in 2002 to inform the public of the upcoming filing of an application for a CEC and to explain how the two previous siting studies that were conducted between September 1997 and March 2001 had resulted in the route alternatives identified as part of the North Valley Project. Each of these siting studies, known as the Northwest Valley Project and North Central Project, also included a separate public involvement program. All three public involvement efforts included the same components discussed below, with the exception of the open houses, which were held during the two previous siting studies.

PUBLIC INVOLVEMENT PROGRAM

Public involvement is a vital component of the environmental planning process. Components of the public involvement programs conducted for the North Valley Project included Project newsletters and mailing list, website, telephone information line, CWG, public open houses, media contacts, and local official briefings and small group meetings. The public involvement program was designed to allow the Project team to establish and maintain open communication with the public. Through this communication the team was able to educate the public about the Project as well as gather public input, identify issues, and respond to those issues through the planning process.

Project Newsletters and Mailing List

A total of 11 newsletters containing updates on Project developments and route selections were distributed to the public. Six newsletters were distributed as part of the Northwest Valley Project and four were distributed during the North Central Project. Recipients of the newsletters included people who had provided comments, as well as APS customers within the study area and property owners near the route alternatives. The Northwest Valley mailing list included more than 5,000 names, and the Applicant endeavored to include all parties within ½-mile of any route alternatives. The North Central Project mailing list included over 23,000 names and targeted parties located in the study area. The introductory newsletter for each project contained a

comment form allowing the public to mail in comments, requests to be added to the mailing list, or questions for response by appropriate team members. Subsequent newsletters provided updates on the planning process, including alternatives selection, open house announcements, and issue summaries.

A final newsletter was mailed in July 2002 to provide an update on the status of the two studies, the proposed 230kV route, and the upcoming filing of the CEC application. This final newsletter was mailed to over 65,000 area residents, property owners, business owners, and local officials, and included parties within 1 mile of all route alternatives. The North Valley Project mailing list also incorporated the mailing lists from the two previous siting studies. Copies of all newsletters can be found in Exhibit J-1.

Website

A website, http://siting.apsc.com, was established and maintained to provide access to Project information and electronic versions of distributed materials. Through the website, viewers could obtain meeting dates, view current and past newsletters, routing maps, submit written comments or requests, and be added to the mailing list. The website address was advertised in newsletters, paid advertisements, and on the telephone information line. In July 2002 the North Valley Project was added to the website to coincide with the distribution of the newsletter. This website also included links to both the Northwest Valley Project and North Central Project websites.

Telephone Information Line

For both the Northwest Valley Project and North Central Project, telephone numbers were made available to the public to obtain information and speak to team members. The phone lines provided general Project information or open house dates and allowed callers to leave a message requesting information, a return call, or to submit a comment on the Project. The phone lines were advertised in newsletters, paid advertisements, and on the Project website. The July 2002 newsletter also provided a number to a Project team member for the North Valley Project.

Community Working Group

Two CWGs were assembled for both the Northwest Valley Project and North Central Project after interviewing about 55 local residents and community leaders and contacting a total of almost 70 people. CWG members were selected based on their knowledge of the area and their willingness to participate in the group and review materials impartially. The members represented a wide range of interests including business, education, landowners, residents, developers, and various levels of government. The two groups, composed of 13 and 19 members for the Northwest Valley Project and North Central Project respectively, met a total of 14 times throughout the Project (seven CWG meetings for the Northwest Valley Project, and six meetings

and one field trip for the North Central Project). Through these meetings, APS was able to share information and obtain community feedback in a small, informal setting. The CWGs helped to identify potential issues, provide feedback, and ultimately supported the final location of the Proposed Route and alternative routes. As part of the communication effort for the North Valley Project, the groups were reassembled in July 2002 for a final meeting to discuss the 230kV alternatives to be included in the application for a CEC, and to provide an update on the construction status of the 69kV components of the studies. Membership rosters and meeting summaries for both CWGs are included in Exhibit J-2.

Public Open Houses

Public open houses were held during both the Northwest Valley Project and North Central Project. These meetings were held at key milestones in the planning process to present the most current information and to solicit comments from the public. Each meeting was announced through newspaper articles, paid advertisements, newsletters, telephone information line and website. The open houses were organized in an informal format, allowing community members to attend at their convenience, review displays, and speak with Project team members. General information was presented on need, description, and routing alternatives. Comment forms were provided to solicit public comment on the Project and the information that was presented. A total of 13 open house meetings were held, seven for Northwest Valley Project and six for North Central Project. About 274 people attended the open houses for the Northwest Valley Project and 523 attended the North Central Project meetings, for a total of almost 800 attendees.

Media Contacts

APS conducted a media relations program that was initiated early and continued throughout the planning process. To keep the public informed, APS periodically met with local newspaper reporters. Several articles on the Project were published in local papers, and prior to each public open house paid display advertisements announcing the meetings were placed in local papers. Copies of newspaper articles on the Project are included in Exhibit J-3. Copies of the paid display advertisements are contained in Exhibit J-4.

Local Official Briefings and Small Group Meetings

APS met with specific individuals, groups, and village planning committees to enable the Project team to better understand the public's concerns, and to assist specific groups and individuals in understanding the Project. In addition, APS conducted briefings with local city and area officials to ensure that jurisdictions were informed about the Project and updated on new developments. This enabled APS to identify and respond to any potential concerns or suggestions held on a municipal level. APS again met with local officials and interested parties in 2002 as part of the North Valley Project communication efforts. The following people were briefed:

Maricopa County

- Supervisor Andy Kunasek

City of Phoenix

- Frank Fairbanks, City Manager
- Dave Richert, Planning Manager
- Alton Washington, Assistant City Manager
- Peggy Neely, Councilwoman
- Dave Siebert, Councilman

City of Peoria

- Debra Stark, Community Development Director
- Ken Forgia, Councilman

Other entities contacted included SRP, Western Area Power Administration, CAP, and ADOT.

ISSUES IDENTIFICATION

Throughout the public process comments and concerns were expressed primarily on the location of facilities, aesthetic considerations and scenic quality of the study area, need for the projects, property values, and health and safety. Issues identified through these comments were incorporated into the criteria for evaluating alternatives, where possible. The impact assessment of the routes emphasized avoidance of existing residential areas and Carefree Highway to the extent possible, in part to respond to visual and other concerns raised by the public. In addition, project information and personnel were available at public meetings to answer questions about other recurrent public issues (e.g., need, health, safety). A summary of the primary issues identified during the planning process is provided below.

Location of Facilities – Rather than constructing the proposed transmission line in residential areas, people expressed the preference that it be built in undeveloped areas, along existing transmission lines, main roads, freeways, future roads, riverbeds, and the CAP. However, concern was also expressed about the impact of the new facilities to open spaces and recreational areas. People felt that these open spaces should be preserved and maintained as natural habitat for various wildlife.

Although comments did express the preference for following existing linear features, many people felt that the Carefree Highway should be the exception due to its designation as a scenic highway. In addition, residents, developers and municipalities stated that the route should follow I-17, rather than going through preserve lands or the on the Carefree Highway.

Aesthetics/Scenic Quality – As stated above, the public had great concern for impacting the existing recreation areas (Cave Creek Dam, Cave Buttes Recreation Area) and proposed City of Phoenix preservation lands. Also, generally the public preferred the proposed facilities would not be located on roads with scenic designations (county or city) including Carefree Highway, Cave Creek Road, Lake Pleasant Road, and I-17 (north of Cloud Road).

Project Need – Overall, comments indicated that the public recognizes the growth occurring in the north valley and, therefore, understands the need for the Project. However, some residents in the study area disputed the need for additional electrical facilities.

Property Values – Although property values would be addressed during right-of-way negotiations, questions on the potential impacts from the proposed Project to property values were received from both developers and local homeowners.

Health and Safety – Some people questioned the safety of siting electric facilities near populated areas due to the perceived potential effects of electric magnetic fields on health.

EXHIBIT J-1
NEWSLETTERS

NORTH VALLEY

APS

newsletter

JULY 2002

230kV FACILITY SITING PROJECT

Introduction

The north valley has experienced rapid growth in the past few years. To meet the electrical demands associated with this growth, APS plans to construct a 230kV transmission line and two new substations in the north valley. This newsletter is being distributed to the local community to provide an update on previous siting studies and the next steps in the permitting process.

APS has identified a proposed route and several alternative routes for the transmission line. In addition, APS has identified two new 230kV substation sites needed for this project. They are shown on the map on page 2.

The proposed route for the 230kV transmission line was identified as a result of two previous studies, known as the Northwest Valley and North Central facility siting projects. A summary of both studies is provided in the sidebar on page 3.

The Proposed 230kV Transmission Line Route

The map on page 2 of this newsletter shows the proposed 230kV transmission line route, as well as route alternatives. APS has selected the proposed route because it best meets the siting considerations, which include environmental compatibility, public input, electrical system requirements, cost, and constructibility.

The proposed route originates at the Westwing Substation and follows the east side of an existing 500/230kV transmission line corridor northeast for about 6 miles, then east following the proposed Dove Valley Road alignment for 9 miles to the proposed Avery Substation (also being sited as part of this project). From there, the route goes south on the 39th Avenue alignment for 1 mile, then southeast for another mile to Interstate 17 (I-17). The route follows the west side of I-17 for 3 1/2 miles to an existing 230kV transmission corridor just south of Happy Valley Road. The line then goes east, following the north side of the existing corridor for about 3 miles to the other proposed substation (Misty Willow), and continues for 7 1/2 miles, terminating at the Pinnacle Peak Substation.

Example of existing 230kV corridor (Happy Valley Road at 24th Street)

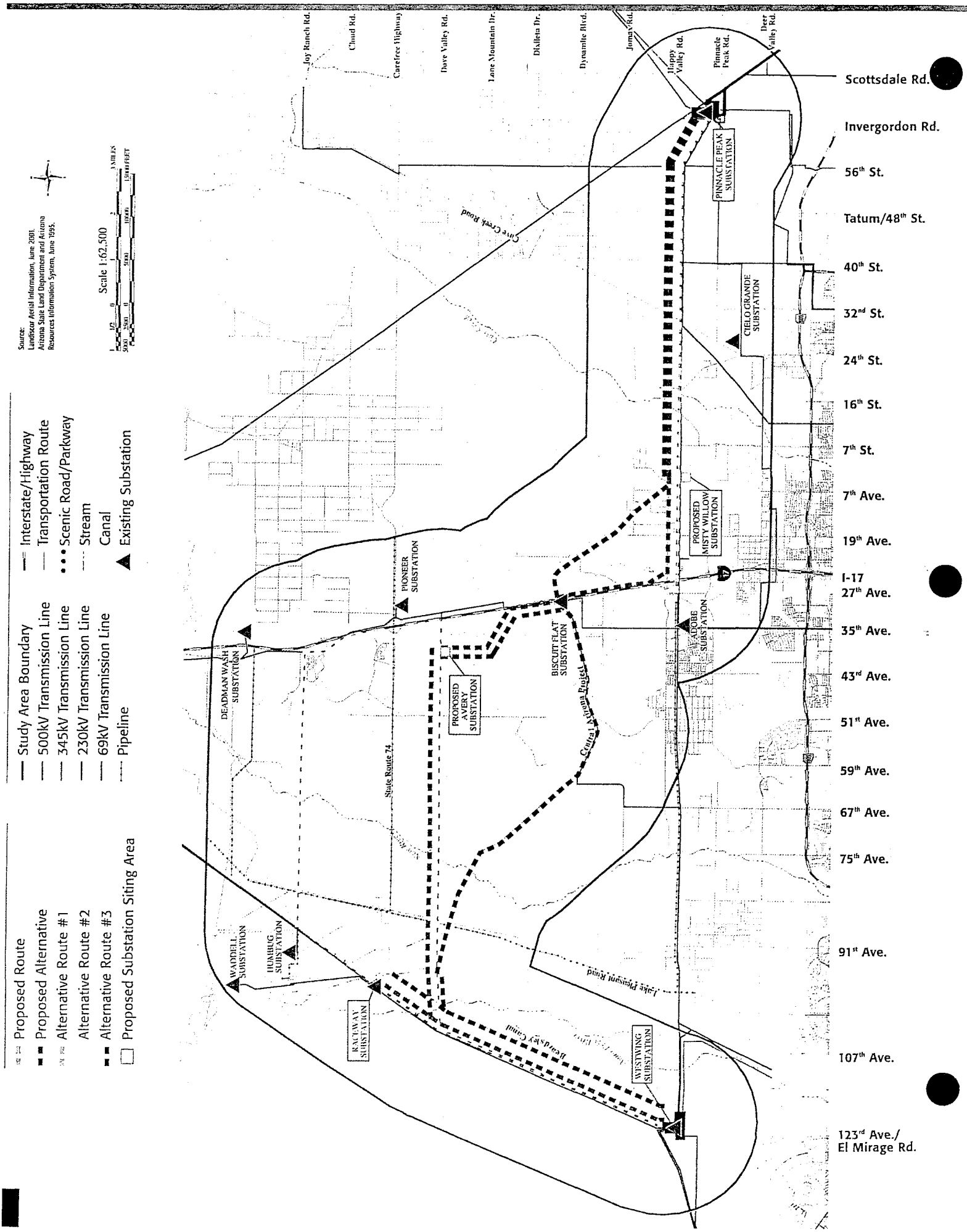
For More Information

If you would like more information, or would like to speak with a project team member, please visit the project website or call the number listed below.

http://siting.apsc.com

(602) 956-4370 ext. 120

North Valley 230kV Facility Siting Project Proposed Route Map



Common Questions

APS wants to update the local community on the North Valley Project and the electrical needs in the area. The sidebar (right) gives a few basic facts about how the North Valley Project started. Answers to other commonly asked questions are provided below.

Why is This Project Needed?

The north valley is experiencing tremendous growth. You have probably noticed that on almost every corner there are new homes, stores, or restaurants. In fact, the population of Phoenix grew 34% between 1990 and 2000, and the population of Peoria grew by 113%! (Data obtained from the U.S. Census Bureau website, 1990 and 2000 population counts.) More people means there is a need for more electricity.

What is the Project History?

The siting studies for these projects were completed over the past several years as part of a regional planning effort. For regulatory purposes, the Northwest Valley Project and North Central Project are being combined. See the sidebar for detailed project histories.

What Does the Permitting Process Involve?

A Certificate of Environmental Compatibility (CEC) for the project will be filed in summer of 2002. The 230kV transmission line will be constructed in sections between 2005 and 2011. APS' response to growth will be timely, ensuring a reliable source of power to residents and businesses.

The CEC is a document prepared to show that the proposed and alternative routes and substation sites are environmentally compatible. State approval of the CEC is required before construction can begin. After the document is filed, the Arizona Power Plant and Transmission Line Siting Committee (siting committee) will hold hearings on the project.

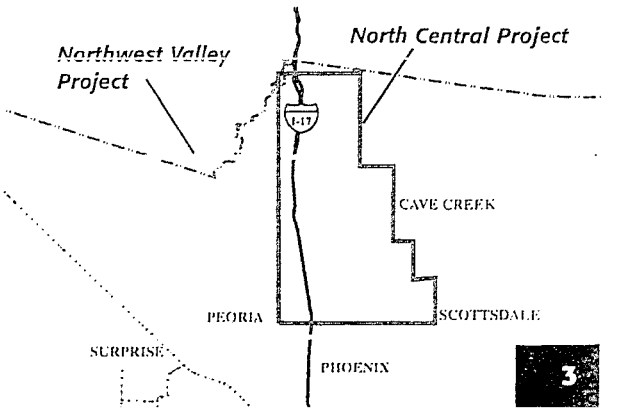
After the siting committee votes to approve or deny the CEC, their decision is forwarded as a recommendation to the Arizona Corporation Commission, or ACC. The ACC holds a public open meeting, and votes to approve or deny the CEC.

Northwest Valley Project

- Initiated in September 1997, formally known as the Northwest Valley Energy Enhancement Siting Project
- Proposed transmission line routes announced in November 1998
- Study area extended between I-17 and 163rd Avenue, and between Pinnacle Peak and Honda Bow roads, and included parts of Peoria, Phoenix, Surprise, and Maricopa County (see map below)
- APS anticipated that the 230kV facilities would be needed in 5-10 years
- Public involvement activities included open houses, community presentations, newsletters, advertisements, and a community working group

North Central Project

- Initiated in July 1999, formally known as the North Central Facilities Siting Project
- Proposed transmission line routes announced in March 2001
- Study area extended between 27th Avenue and Scottsdale Road, and between Deer Valley and Photo View roads, and included parts of Phoenix, Carefree, Cave Creek, Scottsdale, and Maricopa County (see map below)
- APS anticipated that the 230kV facilities would be needed between 2005 and 2011, depending on area growth
- Public involvement activities included open houses, community presentations, newsletters, advertisements, and a community working group



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NORTH VALLEY

230KV FACILITY SITING PROJECT

official notice

NORTH CENTRAL
FACILITIES SITING PROJECT

NEWSLETTER #1
OCTOBER 1999

INTRODUCTION

APS is developing a plan to build new electrical facilities to better serve the rapidly growing population in the north-central metropolitan Phoenix area. The facilities proposed by APS are expected to be needed within the next 15 years, some of which will be needed within the next few years.

Environmental Planning Group (EPG), an environmental consulting firm, has been retained by APS to assist with siting the facilities by conducting environmental planning studies and public participation activities. This newsletter is the first in a series of project information materials designed to inform and involve the community throughout the project.

DESCRIPTION OF PROJECT

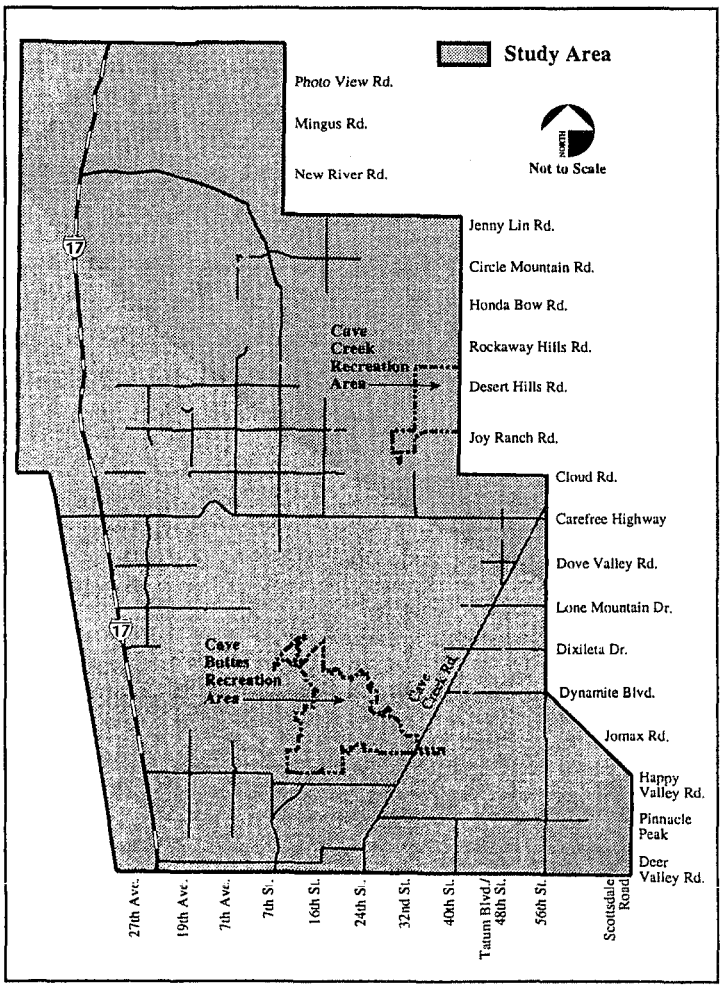
APS needs to supplement its electrical system in the north-central metropolitan Phoenix area due to continued growth. There also is a need to enhance the reliability of the existing system. The study area is bounded generally by Photo View Road to the north, City of Phoenix boundaries and portions of Cave Creek and Carefree to the east, Deer Valley Road to the south, and Interstate 17 to the west (refer to map).

APS will study options for locating the following proposed facilities:

- 230 kilovolt (kV) transmission lines (see diagram on pg. 2)
- 69kV subtransmission lines (see diagram on page 2)
- 230kV substations
- 69kV substations

Please attend one of the upcoming
PUBLIC INFORMATION OPEN HOUSES
to introduce the
NORTH CENTRAL FACILITIES SITING PROJECT

Tuesday, October 26, 1999 6:00 pm – 8:00 pm
New River Elementary School
48827 N. Black Canyon Hwy.
(I-17 New River exit, north on frontage road)
and
Wednesday, October 27, 1999 7:00 pm – 9:00 pm
Esperanza Elementary School Cafeteria
251 W. Mohawk Lane • Phoenix
(Take 7th Avenue, south of Deer Valley Road)



APS

APS

APS is the state's largest energy services provider, meeting the electricity needs of more than 805,000 residential, commercial, and industrial customers in 11 of Arizona's 15 counties. APS has long been involved with the communities it serves. Last year APS shared more than $5.3 million with community-based agencies and organizations in communities throughout Arizona and the Southwest, offering its large employee volunteer task force to help boost local charities.

APS' core business and commitment is to deliver energy and superior customer service. To this end, APS is committed to working with, and involving the community in planning the location of its major electrical facilities.

Environmental Planning Group (EPG)

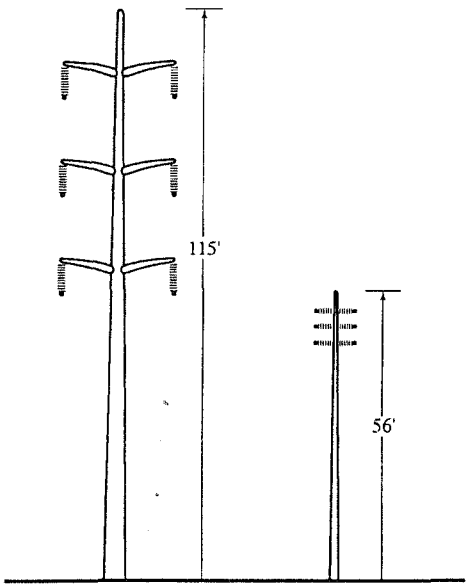
EPG staff has provided environmental consulting services in the Phoenix area for more than 25 years. In the western United States, their professional staff has participated in siting and licensing more than 100 transmission lines. An important objective of their approach is to integrate community input with the environmental planning process.

Need for Project

The north-central metropolitan Phoenix area continues to expand rapidly in population. APS expects residential, commercial, and industrial development to continue in Phoenix, New River, and in the Cave Creek area.

Increased development translates into increased demand for electricity, and soon demand in the north-central metropolitan communities will exceed APS' ability to deliver reliable power. If unaddressed, existing and future customers could be faced with difficulty in obtaining reliable and quality power, potentially resulting in outages, surges, and "brown-outs." In addition, customers could have problems in the operation of sensitive electronic equipment (computers, medical equipment, etc.) and other applications requiring quality power or precise voltage controls.

In summary, APS is planning today for tomorrow's electrical needs. The APS North Central Facilities Siting Project is needed to accommodate APS customers' increasing electrical power demand and to ensure a reliable, high-quality power source to this area in the future.



Typical Double-Circuit 230kV Steel Pole Structure

Typical Double Circuit 69kV Steel or Wood Pole Structure

Community Involvement

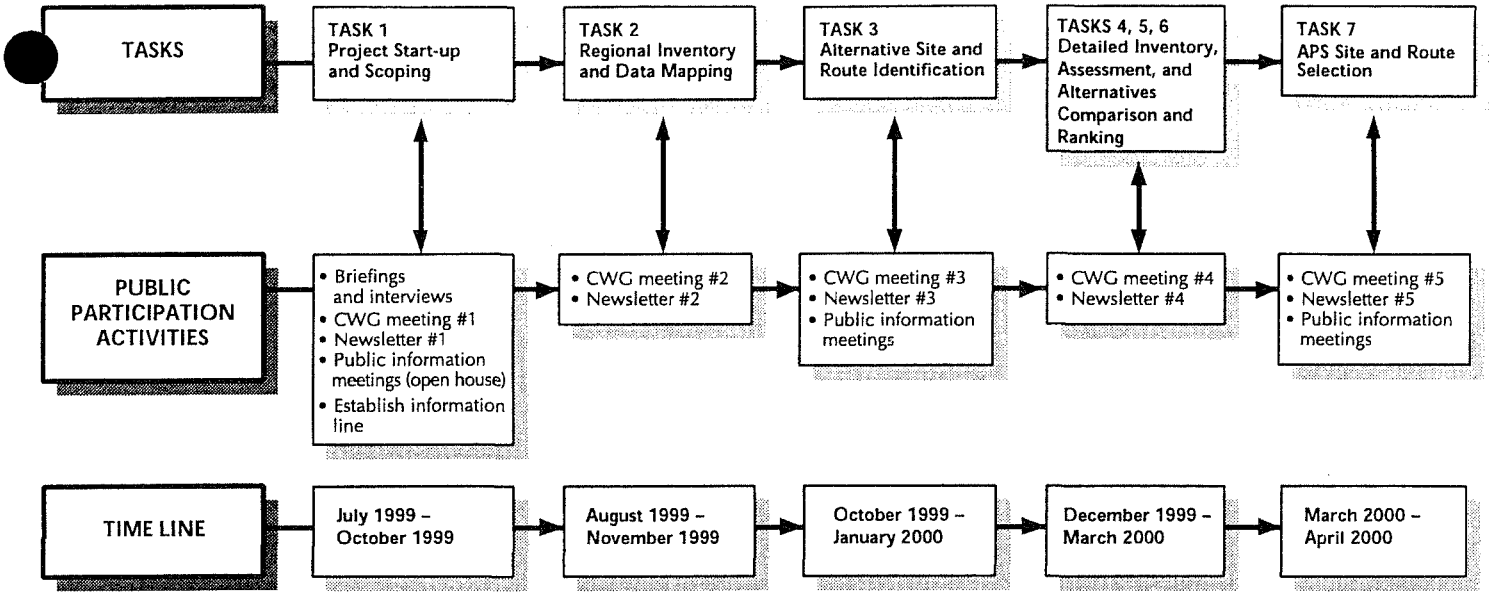
APS and EPG have created a Community Working Group (CWG) by conducting interviews with the public and other interested parties. The CWG represents a cross-section of people who are familiar with issues in the community and who represent a wide range of views. Members include a broad base of interested residents, property owners, developers, relevant agencies, and local officials. The CWG will meet with EPG and APS five times to provide feedback at key milestones of the planning process. Public information open houses also will be held to review the CWG recommendations. The CWG will eventually recommend power line routes and substation locations to APS, with the help of EPG's expertise.

The CWG is an important element of the planning process and public participation program and serves as a "sounding board" throughout the facility siting process. The group will provide information and comment on the environmental planning process that will be used in the decision making.

Planning Process

There are seven primary tasks to be conducted during the environmental planning process. A general sequence of the tasks is shown on the flow diagram on the next page.

The process of identifying issues associated with the study area and the proposed facilities has begun (Task 1). Initial data gathering has also begun in order to compile a regional environmental inventory representing the natural resources,



land uses, visual/aesthetics, biological, and cultural resources (Task 2). The project team will then analyze the issues and data to identify the constraints and opportunities for locating the substation sites and transmission line routes. Based on this analysis, alternative routes and locations for facilities will be identified (Task 3). Following that effort, the project team will conduct a more detailed analysis resulting in a comparison and environmental ranking of the alternative sites and routes (Task 4, 5, 6). Selection criteria will then be finalized, including engineering and system data, environmental ranking of alternatives, and public input. Combined, this information will be the basis for APS to select the preferred and alternative routes and sites (Task 7).

As shown in the flow diagram, each task includes public participation by either the CWG and/or through newsletters and public open houses.

SCHEDULE

The planning process began in July 1999 and is tentatively scheduled for completion in 10–12 months. APS plans to construct facilities in phases—facilities will be built first where they are needed most. Currently, APS expects that the first of the facilities will need to be in service by the end of year 2001.

PUBLIC PARTICIPATION

Besides the close coordination with the CWG previously mentioned, there will be several opportunities for the public to be informed and/or participate in this project including the following:

- ***Public Information Open Houses***
  There will be three sets of informative public meetings throughout the course of the project. These meetings will follow an informal open house format to allow individual discussion with project team members. Details for the open houses will be announced through paid advertisements, news releases, direct mail, and updates on the APS web site.

- ***Voice Message Line***
  A telephone voice message line has also been established for the public to ask questions, request information, or to be added to the mailing list. Please call (602) 381-1769.

- ***Project Mailing List and Newsletters***
  A mailing list will be updated throughout the project. Newsletters will be distributed to those on the mailing list at key milestones of the project. Comment forms will be included in the newsletters to allow opportunities for the public to comment on the project.

- ***Web Site – http://siting.apsc.com***
  An internet web site has been established that will provide updated project information and the opportunity to provide comments by e-mail. The public also may request to be added to the project mailing list by registering on the web site.

Victoria Komadina
EPG
4350 E. Camelback Road
Suite G-200
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NORTH CENTRAL
FACILITIES SITING PROJECT

APS

OFFICIAL NOTICE

The community is invited to attend a

PUBLIC INFORMATION OPEN HOUSE

to introduce

APS' NORTH CENTRAL FACILITIES SITING PROJECT

Please attend one of the two meetings!

Tuesday, October 26, 1999 6:00 pm – 8:00 pm
New River Elementary School – Cafeteria
48827 N. Black Canyon Hwy.
(I-17 New River exit, north on frontage road)
AND
Wednesday, October 27, 1999 7:00 pm – 9:00 pm
Esperanza Elementary School Cafeteria
251 W. Mohawk Lane • Phoenix
(Take 7th Avenue, south of Deer Valley Road)

Your input is important to us!

NORTH CENTRAL

FACILITIES SITING PROJECT

NEWSLETTER #1

OCTOBER 1999

At this early stage of the APS North Central Facilities Siting Project, we want to hear your initial views on the project. Your comments are important to help develop and enhance the studies that are beginning. Please take a few minutes to consider the information provided and complete and return this comment form.

COMMENTS: _____

_____

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MAILING LIST

The project mailing list will be supplemented as needed throughout the project. If you would like to be included on the mailing list, you can either call (602) 381-1769, provide your name and address below, or submit your name through our web site, http://siting.apsc.com. Also, if you know of additional people you believe should be included on the mailing list, please provide their names and addresses as well.

Name: _____

Address: _____

City, State: _____

Zip Code: _____

E-Mail: _____ Phone Number (optional): _____

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FACILITIES SITING PROJECT

Victoria Komadina
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4350 E. Camelback Road
Suite G-200
Phoenix, Arizona 85018

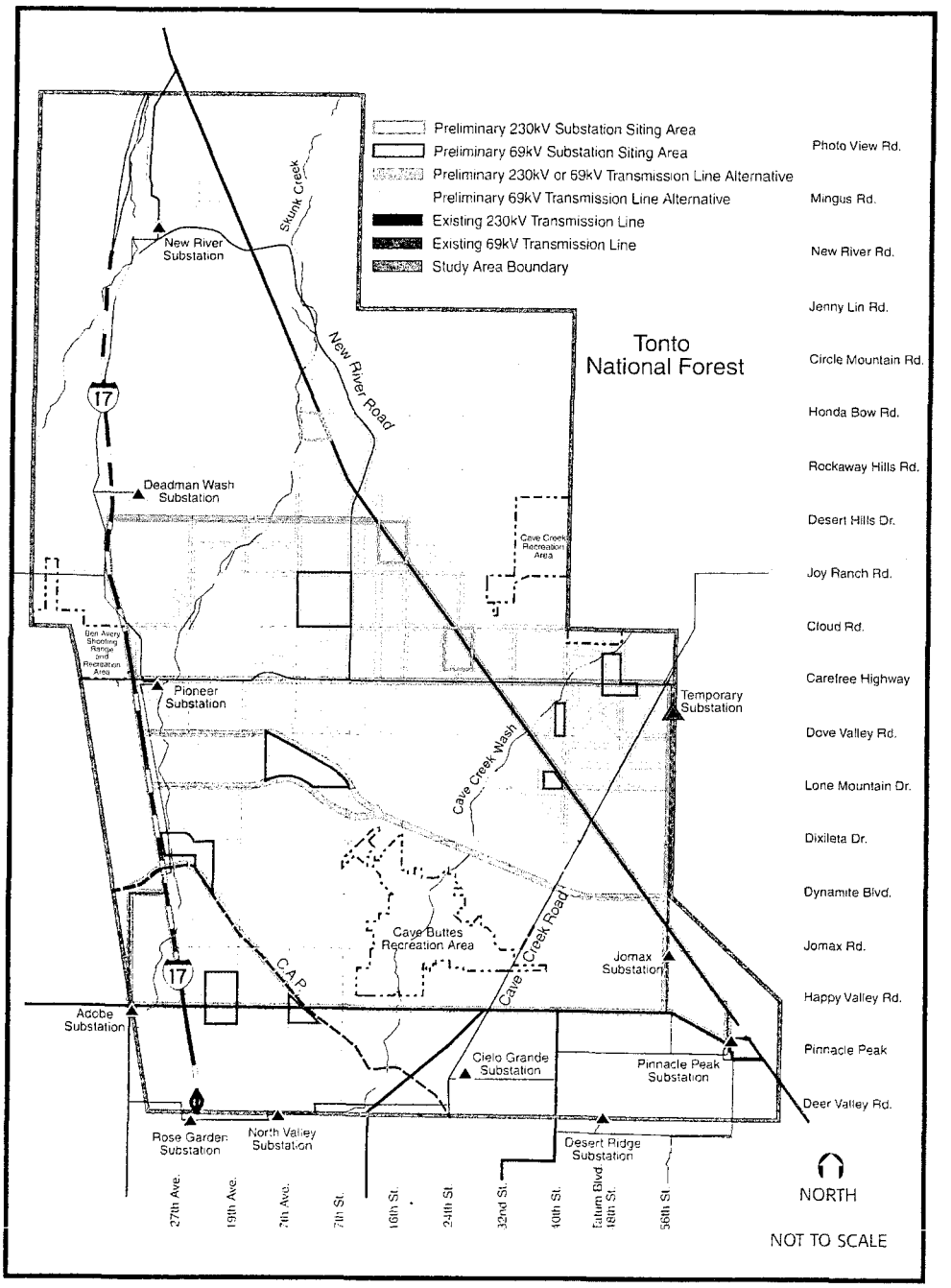
FACILITIES SITING PROJECT

NEWSLETTER #2 • JANUARY 2000

INTRODUCTION

This is the second in a series of newsletters designed to keep you informed about APS' North Central Facilities Siting Project. APS and the Environmental Planning Group Inc. (EPG), an environmental consulting firm, are working with the communities of the north-central valley to develop a plan to provide additional power to meet this area's rapidly growing needs. Based on anticipated demand, electrical facilities such as a 230 kilovolt (kV) substation, 69kV substations, and 230kV and 69kV transmission lines will need to be built. The proposed facilities are expected to be needed within the next 15 years, however, some will be needed within the next few years.

The purpose of this newsletter is to summarize the project work that has occurred to date, particularly work with the community and progress on identifying preliminary transmission line routes and substation locations, and describe upcoming activities, including a set of public open houses to be held in January.



PRELIMINARY TRANSMISSION LINE ALTERNATIVES AND SUBSTATION SITING AREAS

COMMUNITY WORKING GROUP FORMED

After contacting more than 40 individuals representing a cross-section of the community, EPG formed a 19-member Community Working Group (CWG) to assist the study team throughout the project. The CWG will provide information about community concerns and values which will be integrated with the technical information to help APS develop their plans.

The first meeting of the CWG was held in August 1999. Members met with APS and EPG to become familiar with the project and define the roles and responsibilities of project participants. The second CWG meeting was held in mid-November. At that time, the team reviewed and discussed the public comments received to date, examined regional inventory data (existing and future land use), reviewed engineering system information, and discussed the siting criteria to be used to identify alternative locations for substations and transmission lines. Throughout the project, the CWG will be presented with detailed information about the project and asked for input. The community at large will be presented with the same information at public open houses and asked for their comments.

FIRST ROUND OF PUBLIC OPEN HOUSES HELD

APS hosted two public open houses in late October 1999 to introduce the project to the community and gather initial public comments. A total of 84 people attended the two open houses - 62 on October 26, at the New River Elementary School; and 22 on October 27, at the Esperanza Elementary School.

Maps, graphics, and other information about the project were displayed at the open houses. Personnel from APS and EPG answered questions, explained the need for the project, described how APS plans for future facilities, and discussed the environmental planning process and public participation program.

Those who attended the open houses were encouraged to provide written comments when possible. Approximately 150 responses have been received to date via mail, e-mail, telephone, and comment forms received at the October open houses. The comments have been condensed into two main categories and summarized below.

Project Need and Location

Many respondents acknowledge the growth within the study area and recognize the need for the project. Others asked whether conservation of electricity had been examined as an alternative to construction of new facilities. Several, though, expressed concern that facilities might be placed within existing developed areas to serve new growth in other parts of the study area. Several suggestions were made to locate facilities away from the mountain areas, preferring that they be located in previously developed areas. Questions were raised concerning cost, particularly whether electric rates will be affected and whether existing customers will be paying to provide service for new customers.

Project Description and Potential Impacts

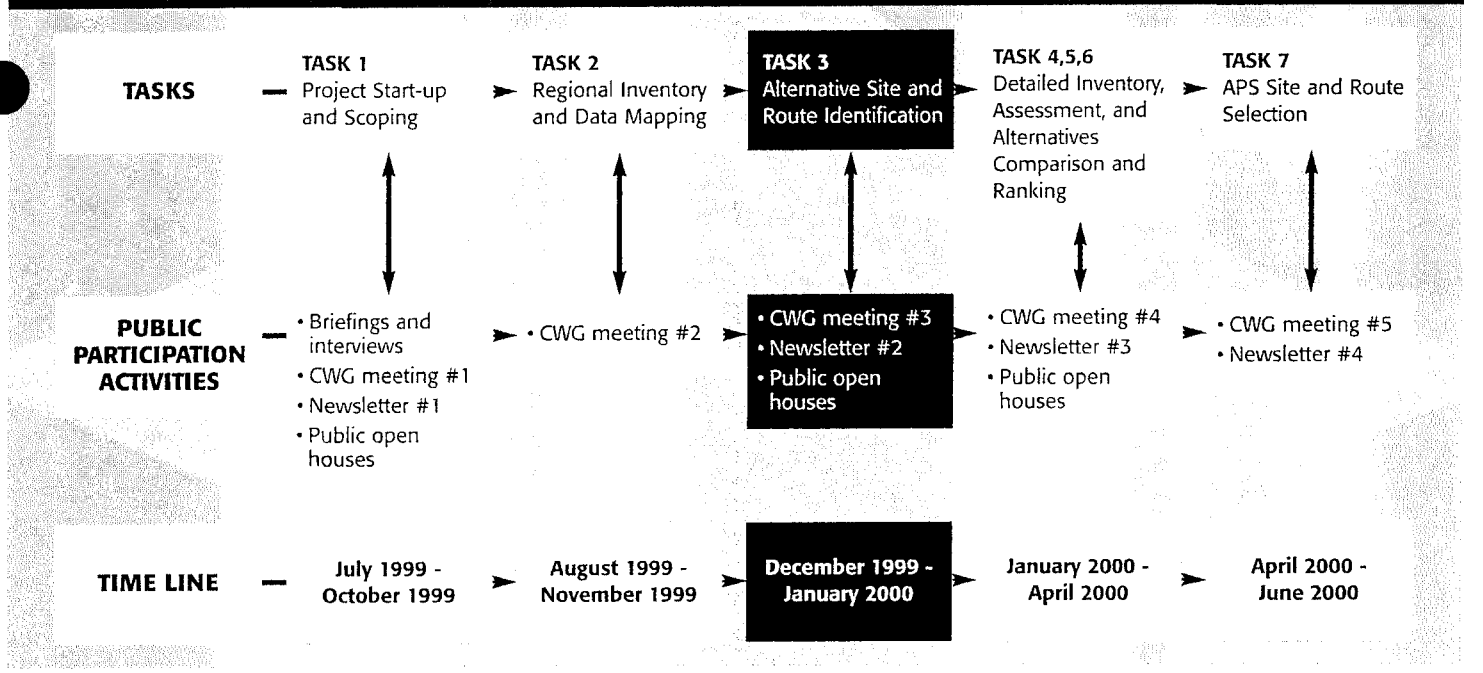
Some respondents asked questions about the potential health effects of living near electric facilities, and members of the community expressed concern that their property may be devalued should transmission lines be placed adjacent to their property. Respondents also expressed concern for aesthetics (e.g., appearance of facilities, views from residences, compatibility with rural environment). Several individuals were interested in the feasibility and cost of burying transmission lines underground. Questions were also raised regarding the process used to form the CWG.

These and additional issues and questions raised by the community will be addressed through newsletters and open houses as the project progresses.

ENVIRONMENTAL STUDIES UNDERWAY

Currently, EPG is nearing completion of *Task 3 - Alternative Site and Route Identification,* a description of which is shaded in the planning process chart provided on the top of page 3. Task 3 will be completed after the public has had the opportunity to review and comment on the proposed substation sites and transmission line routes at the upcoming public open houses. Prior to Task 3, EPG planners conducted a regional inventory to identify the human, natural, and cultural resources within the study area. One component of the inventory is to identify existing land uses (e.g., residential areas, commercial areas, preservation areas, infrastructure) as well as plans for future development. To collect this information, the planners are studying aerial photographs; reviewing plans

PLANNING PROCESS



and reports; verifying information in the field; and coordinating with the state, county, and municipal agencies as well as others, such as land developers.

In addition to the land use studies, the area is being inventoried for plants and wildlife that may be protected or have other special status, and for cultural resources (e.g., historical, archaeological) that may be important in the area.

Also, the planners began preliminary work on visual studies to determine how proposed electrical facilities may affect the scenic quality or aesthetics of the area from various viewpoints (e.g., residences, recreation areas).

Data gathered during the regional inventory have been mapped. EPG planners in conjunction with the CWG have identified land uses and lineal features, such as existing transmission lines, roads, and canals that may be more compatible with the project facilities. From this siting criteria, the planners have identified opportunities and constraints which will assist in the determination of preliminary substation sites and transmission line routes (see map on front page).

THE NEXT STEPS

Up to this point, the information gathered and mapped has addressed the overall project area. To complete the next steps, *Tasks 4, 5, 6 - Detailed Inventory, Assessment, and Alternatives Comparison and Ranking,* the study team will need to review and evaluate each of the alternative transmission line routes and substation siting areas in detail. The route inventory will focus on the human environment (i.e., existing and future land use, visual/aesthetic characteristics, recreation, etc.) and natural and cultural resources.

After the detailed inventory is completed, the study team will conduct alternatives assessment and mitigation planning (Tasks 5 and 6). During this time, the study team will evaluate potential impacts that the proposed facilities could have on the environment and develop plans to reduce (i.e., mitigate) those impacts when possible.

OPPORTUNITIES FOR PUBLIC PARTICIPATION CONTINUE

Public open houses will be held on January 25 and 26 (see page 4 for location and times). The purpose of the open houses is to present the preliminary substation sites and transmission line alternatives that have been identified for the project facilities and give the public the opportunity to review and comment on them. The open house format provides an informal atmosphere to allow the community to review project displays and talk individually with project team members. Your comments are important and will assist in refining the alternatives - so please plan to attend one of the open houses.

In the meantime, a telephone voice mail information line and web site have been established for the community to ask questions, request information, or be added to the mailing list. Please call **(602) 381-1769** or visit **http://siting.apsc.com.**

Environmental Planning Group
4350 East Camelback Road
Suite G200
Phoenix, Arizona 85018

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FACILITIES SITING PROJECT

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APS OFFICIAL NOTICE

Please attend one of the upcoming

PUBLIC INFORMATION OPEN HOUSES

to introduce the

NORTH CENTRAL FACILITIES SITING PROJECT

Tuesday, January 25, 2000 6:00 p.m. - 8:00 p.m.
New River Elementary School Cafeteria
48827 N. Black Canyon Highway
(I-17 east off New River exit, north on frontage road)

Wednesday, January 26, 2000 5:30 p.m. - 7:30 p.m.
Desert Willow Elementary School Multi-purpose room
4322 E. Desert Willow Parkway
(West of Cave Creek Rd. between Lone Mountain Rd. and Dynamite Rd.)

NORTH CENTRAL FACILITIES SITING PROJECT

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NEWSLETTER #3 • JULY 2000

INTRODUCTION

This newsletter has been designed as an update to keep you informed of the ongoing North Central Facilities Siting Project. APS has plans to build new electrical facilities to better serve the rapidly growing population in north-central Phoenix and Maricopa County. The proposed new transmission lines and substations are expected to be needed within the next 15 years and some will be required as soon as 2001/2002.

APS and the Environmental Planning Group, Inc. (EPG), an environmental consulting firm, are working with communities within the study area as part of a planning process to site the needed electrical facilities in the area (see map page 2). Based on anticipated demand, electrical facilities are expected to include a 230 kilovolt (kV) substation, 69kV substations, and 230kV and 69kV transmission lines.

Please attend one of the upcoming

PUBLIC INFORMATION OPEN HOUSES

for the

NORTH CENTRAL FACILITIES SITING PROJECT

Tuesday, July 18, 2000
6:00 p.m. - 8:00 p.m.
Desert Willow Elementary School
4322 E. Desert Willow Parkway
Multi-purpose Room

Thursday, July 20, 2000
6:00 p.m. - 8:00 p.m.
Desert Mountain Middle School
35959 N. 7th Avenue
Multi-purpose Room

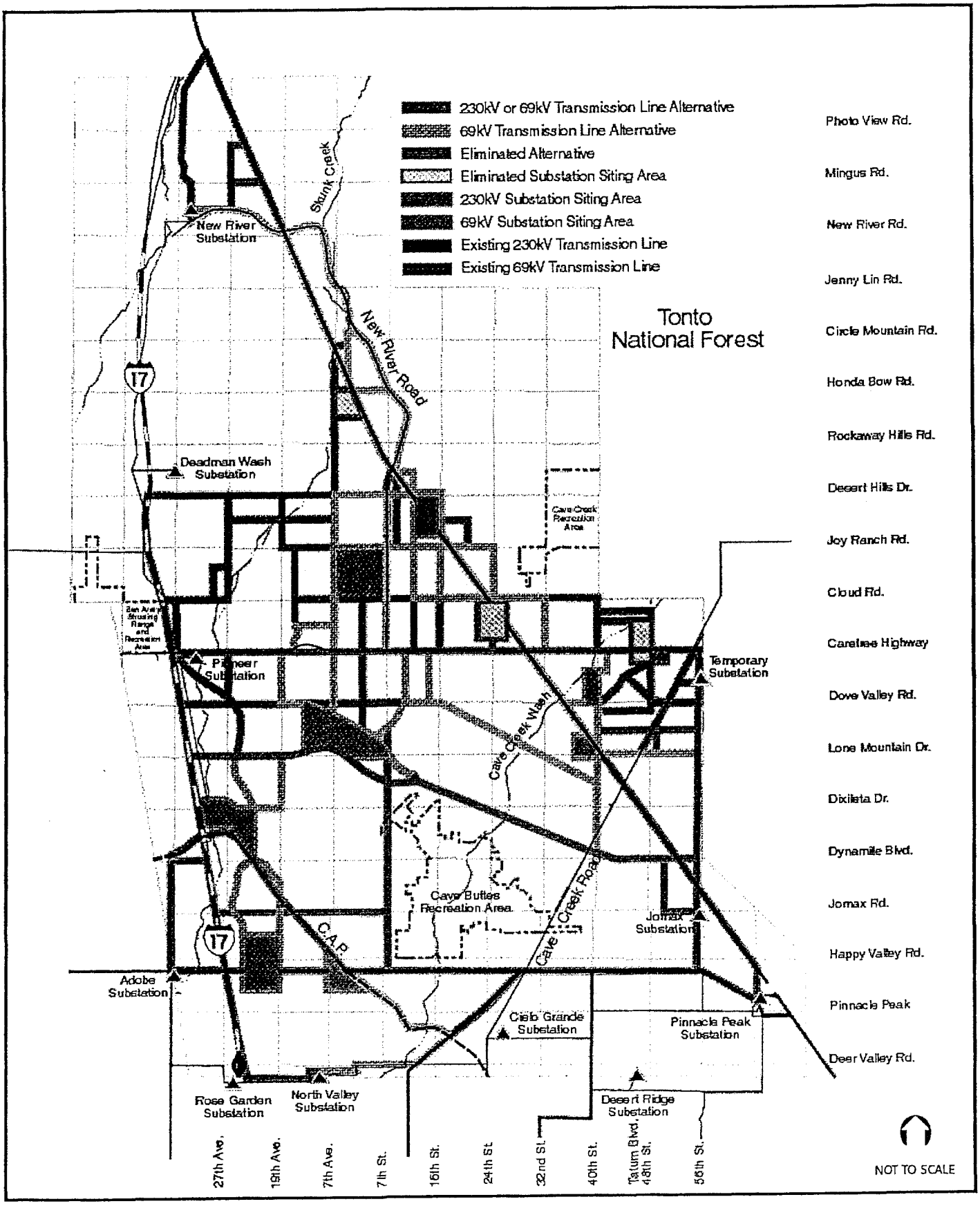
UPDATES AS OF SECOND ROUND OF OPEN HOUSES

APS hosted two public open houses in January 2000 to update the community on the environmental studies being conducted and to display the preliminary alternative routes and substation sites that had been identified. Public comments were encouraged and have been entered into the project record to assist the project team in refining the initial alternatives.

A total of 168 people attended the two open houses—65 on January 25 at the New River Elementary School, and 103 on January 26 at the Desert Willow Elementary School. Those who attended the open houses were encouraged to submit written comments. A total of 470 comments have been received as of May 31, with 290 of those being submitted since the last open house through mail, e-mail, telephone, and comment forms.

Public input has focused on several alternative routes. Comments were received suggesting that the route that runs along I-17 (north/south) and just south of Happy Valley Road (east/west) be utilized for the 230kV line to connect the Pioneer and Pinnacle Peak substations. The east/west portion of this route would follow an existing 230kV corridor. Alternative routes that have been suggested for elimination have been the 230kV alternatives along Desert Hills Road and Carefree Highway. *(cont. page 3)*

TRANSMISSION LINE ALTERNATIVES AND SUBSTATION SITING AREAS

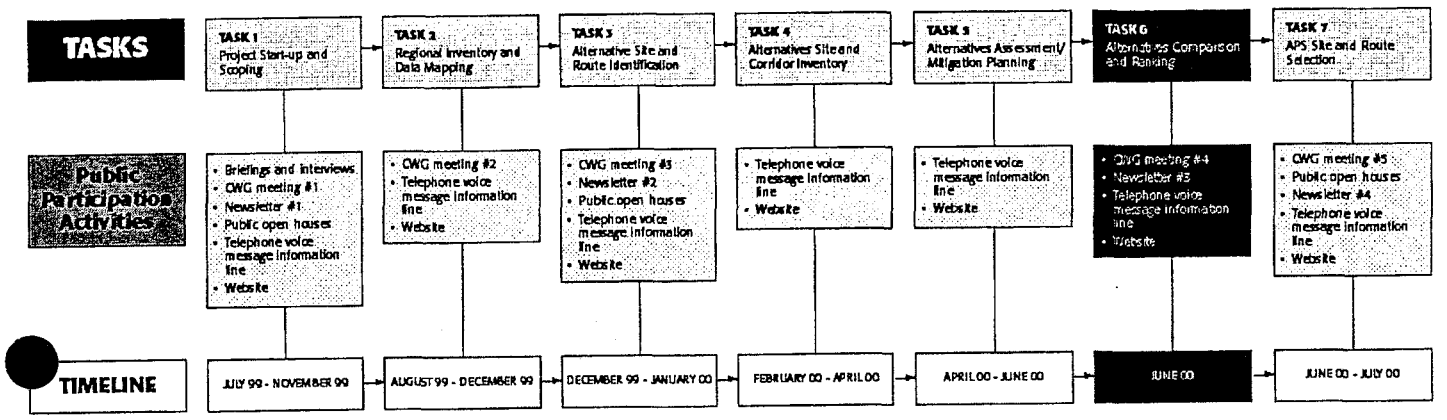


Some have noted Carefree Highway's scenic designation, believing that the aesthetic impact would be too great along this route. The alternative routes that have been included in the assessment and route comparison are displayed on the updated alternatives map (page 2).

ENVIRONMENTAL STUDIES CONTINUE

Currently, EPG is conducting an impact assessment to evaluate the potential effects to land use and visual resources from the construction of the proposed facilities. The results of the assessment will help to narrow the alternatives and ultimately lead to a ranking of alternatives based on environmental factors. The results of these studies will be provided at the next public open houses scheduled for July 18 and 20.

PLANNING PROCESS



THE NEXT STEPS

A set of public open houses is scheduled for July 18 and 20 from 6:00 to 8:00 pm, at the locations listed on page 1. Please plan on attending one of the open houses to review updated project information and to speak individually with project team members. After this set of open houses and a following comment period, APS will select the final routes and sites. This decision will be based on environmental factors, public input, and engineering and system requirements. Please submit your comments by August 4, 2000 for them to be considered in the final selections.

Comments and requests to be added to the mailing list may be submitted through the following methods:

- **comment forms (available at the open house)**
- **telephone voice message information line (602) 381-1769**
- **project website - http://siting.apsc.com**

Once the decision-making process has been completed, a final newsletter will be mailed to APS customers within the study area and to those who have requested to be on the project mailing list. This newsletter will announce the selection of locations for new facilities. Shortly after this announcement, land, easements, and right-of-way acquisitions will begin. Construction on early phases of the project will begin next year.

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4350 East Camelback Road
Suite G200
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Newsletter #3

APS OFFICIAL NOTICE

Please attend one of the upcoming

PUBLIC INFORMATION OPEN HOUSES

for the

NORTH CENTRAL FACILITIES SITING PROJECT

Tuesday, July 18, 2000 6:00 p.m. - 8:00 p.m.
Desert Willow Elementary School • Multi-purpose Room
4322 E. Desert Willow Parkway
(west of Cave Creek Rd. between Lone Mountain Rd. and Dynamite Blvd.)

Thursday, July 20, 2000 6:00 p.m. - 8:00 p.m.
Desert Mountain Middle School • Multi-purpose Room
35959 N. 7th Avenue
(north of Carefree Highway on 7th Avenue)

NORTH CENTRAL
FACILITIES SITING PROJECT
APS
NEWSLETTER #4 • MARCH 2001

TRANSMISSION LINE ROUTES AND SUBSTATION SITES SELECTED

PROJECT UPDATE

This is the fourth newsletter in a series designed to inform the public about the North Central Facilities Siting Project, a comprehensive planning project which began in July 1999.

To better serve the rapidly growing population in north-central Phoenix and Maricopa County, APS plans to construct electrical facilities that include a 230 kilovolt (kV) substation, 69kV substations, and 230kV and 69kV transmission lines. The planning process, which is now complete, included detailed environmental studies and extensive public involvement activities to assist in the determination of the most appropriate placement of the proposed facilities.

Public open houses were held in October 1999, January 2000, and July 2000. The July set of open houses was held to gather community input regarding the preliminary alternative routes and substation sites that had been identified. A total of 271 people attended the July meetings and more than 400 comments were submitted from July to September 30, 2000.

FINAL ROUTES

APS has selected overhead routes for 69kV and 230kV transmission lines, seven 69kV substation siting areas, and one 230kV substation siting area. The primary comments heard from the public throughout the planning process were to parallel existing transmission lines (when possible) and to avoid Carefree Highway. Through the planning process, both of these primary requests from the public were accommodated. Refer to the map on page 2 and the explanation that follows for route and site locations.

230kV FACILITIES

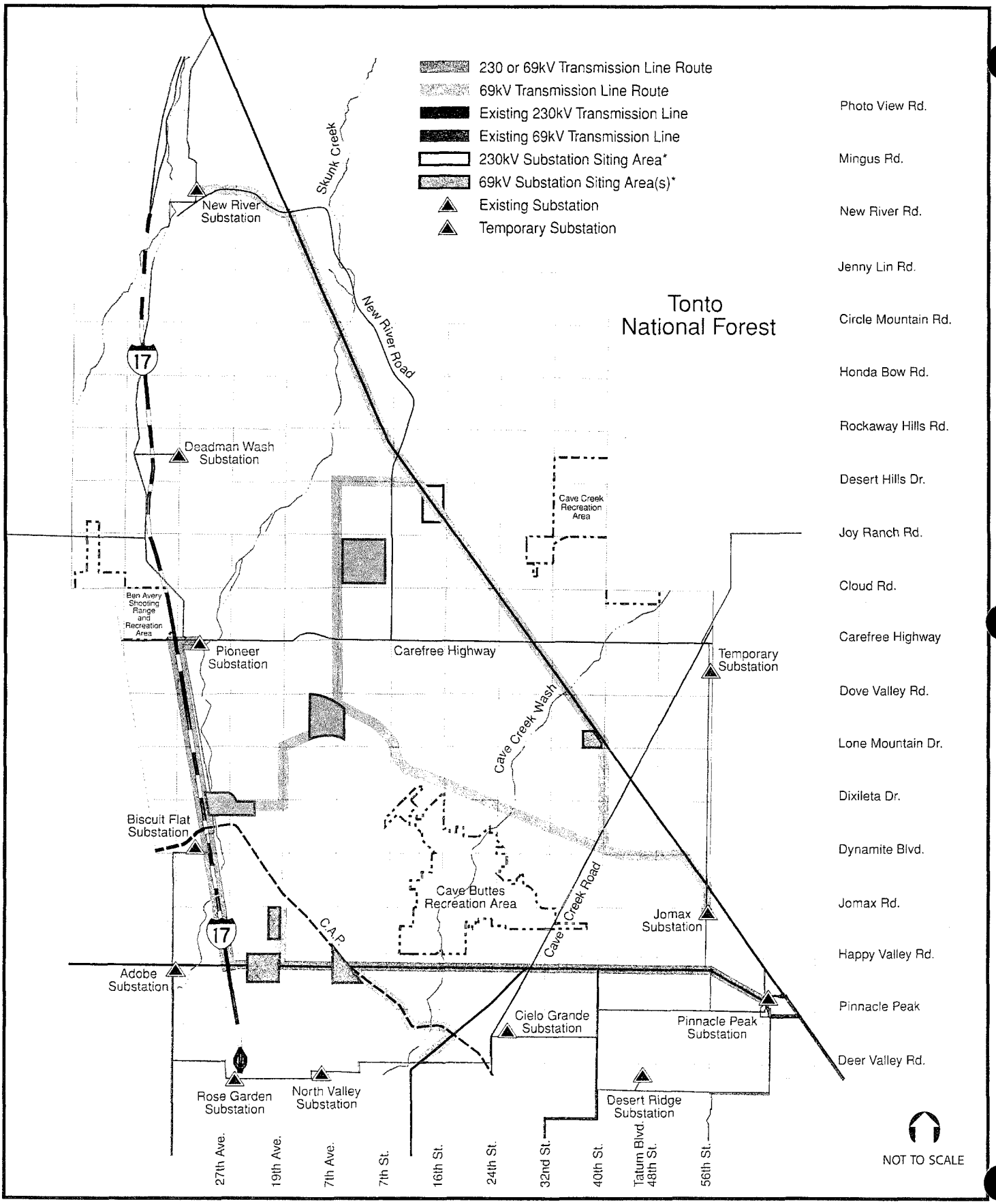
The purpose of the 230kV transmission line is to connect the Pioneer Substation near Carefree Highway and Interstate 17 (I-17) with the Pinnacle Peak Substation near 64th Street and Pinnacle Peak Road. The preferred route, which had the least amount of environmental impacts coupled with the largest public support, follows I-17 south from Pioneer Substation, turning east just south of Happy Valley Road. It then follows an existing 230kV transmission line corridor to the Pinnacle Peak Substation. The final alignment for the 230kV transmission line will be determined through the state certificate of environmental compatibility process. A 230kV substation siting area was selected south of Desert Hills Drive and east of 16th Street. This siting area met engineering requirements, while minimizing environmental impacts.

69kV FACILITIES

The lower voltage 69kV transmission routes and sites had the fewest environmental impacts and largest public support, while still meeting the engineering and economic requirements for the project. These routes generally follow direct paths to connect existing and planned substations located throughout the study area.

From the New River Substation south, a 69kV line will parallel the existing Western Area Power Administration 230kV transmission line, connecting with a planned 230kV substation located near

APS' FINAL ROUTES AND SUBSTATION SITING AREAS



Please note that less than 2 acres of land are required to construct a 69kV substation, and 10 acres are required for a 230kV substation; therefore, the entire shaded area on the map would generally not be utilized.

Desert Hills Drive and 16th Street. The route will continue southwest to a 69kV substation located near 40th Street and Lone Mountain Drive. The 69kV line will continue south along 40th Street to Dynamite Blvd., then head east to the existing Jomax Substation located at Jomax Road and 56th Street. Other 69kV transmission line routes include:

- connecting the 230kV substation near Desert Hills Drive and 16th Street to a 69kV substation along 7th Avenue between Joy Ranch Road and Cloud Road, and to a 69kV substation located near 7th Avenue and Dove Valley Road
- connecting the 69kV substation near 7th Avenue and Dove Valley Road to the existing Jomax Substation by following the proposed Sonoran Preserve Freeway, and to a planned 69kV substation east of I-17 at Dixileta Drive
- connecting two planned 69kV substations south of Happy Valley Road and west of the Central Arizona Project Canal (CAP) along the existing transmission line corridor
- connecting a planned 69kV substation north of Happy Valley Road along 19th Avenue
- connecting a planned substation at the CAP and 7th Avenue south of Happy Valley Road along the CAP
- placing the 69kV transmission line underneath the 230kV transmission line on the same structure where possible

For a complete layout of the preferred 69kV transmission line routes and sites, refer to the map on page 2.

SELECTION CRITERIA

Numerous transmission line routes and substation site alternatives were evaluated and ranked considering environmental criteria (e.g., land use and visual resources) and input from the public and Community Working Group.

Public participation was a key component of the planning process and included three newsletters, website updates, telephone information line, three sets of public open house meetings, comment forms, and a Community Working Group comprised of area citizens and agency representatives. Comments received assisted in the refinement of alternatives as the project evolved.

After extensive review and consideration, the APS final routes and substations sites were selected based on a combination of the environmental evaluation results, engineering and system requirements, economics of each alternative, and public input.

WHAT'S NEXT?

APS will begin acquiring right-of-way for the 69kV transmission line routes and property for the 69kV and 230kV substation sites immediately. The construction of the 69kV facilities will be determined over the next 10 years as electricity demands increase.

Before construction on the 230kV transmission lines can begin, a certificate of environmental compatibility (CEC) must be granted by the Arizona Corporation Commission. Environmental studies data and recommended routes from a prior siting study in the Northwest Valley will be combined with information from the North Central Facilities Siting Project to complete the CEC application. The project team expects the application to be submitted to the Arizona Power Plant and Transmission Line Siting Committee, a group appointed by the Corporation Commission, in early 2001. A hearing for the CEC will be held by the Committee after the application is submitted.

With the selection of the APS final routes, the environmental planning and public process is complete. APS and EPG are very appreciative of all the input and participation from the community throughout the project, and would like to express thanks to the Community Working Group as well for their efforts and commitment.

Please visit the website, http://siting.apsc.com, or call the voice message information line at (602) 381-1769 if you have further questions.

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NORTH CENTRAL
FACILITIES SITING PROJECT

Newsletter #4

APS OFFICIAL NOTICE

NORTH CENTRAL FACILITIES SITING PROJECT UPDATE

APS announces transmission line routes and substation sites

NEWSLETTER 1

V·A·L·L·E·Y ENERGY ENHANCEMENT SITING PROJECT

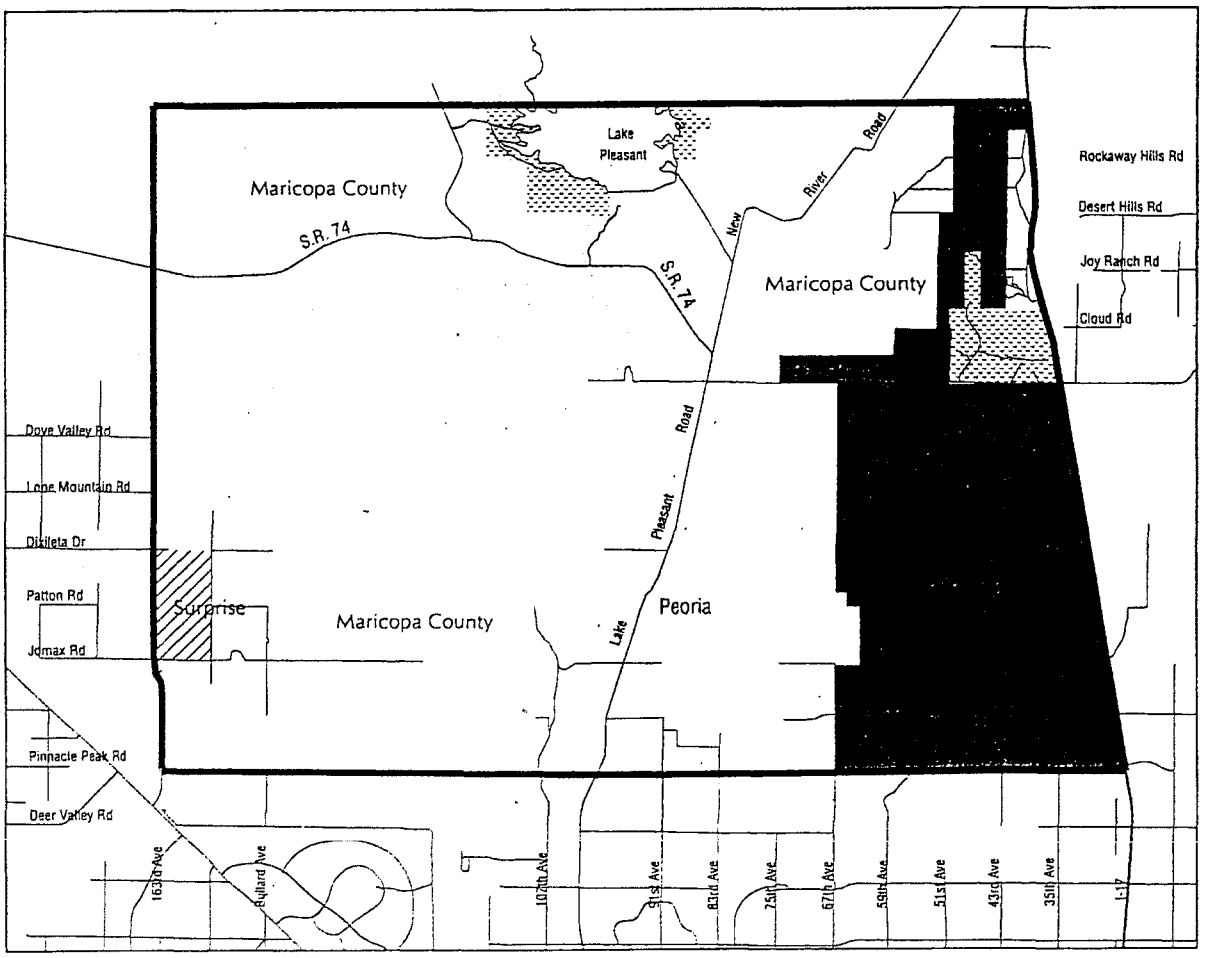
Introduction

APS is in the initial phases of developing a plan to build new energy facilities to better serve the rapidly growing population in the northwest valley. The facilities that APS is proposing are expected to be needed within the next 10 years. However, some facilities will be needed within the next few years.

Dames & Moore, an environmental consulting firm, is being retained by APS to assist with siting the facilities by conducting the environmental planning studies and public participation activities. This fact sheet provides preliminary information about the overall project.

What is the APS NW Valley Energy Enhancement Siting Project?

Considering the continuing growth in the northwest valley, APS recognizes and understands the need to supplement and enhance its electrical system. To comprehensively study the needs of the area, a large portion of APS' northwest valley service territory will be studied. The study area is bounded generally by the Maricopa County line to the north, Interstate 17 to the east, Pinnacle Peak Road to the south, and 163rd Avenue to the west (refer to map).

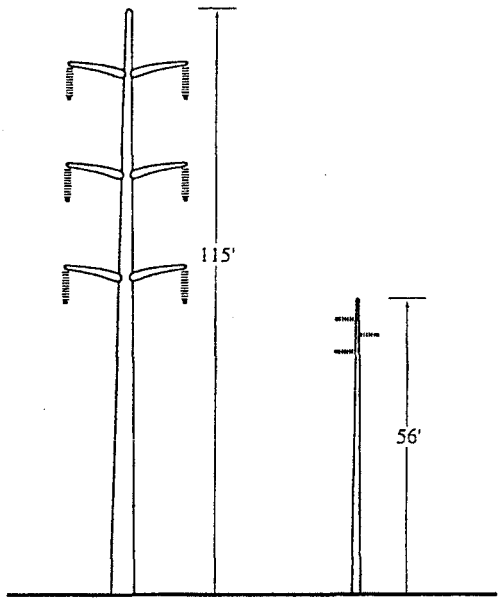


Peoria | Surprise | Recreation Area
Phoenix | Maricopa County Lands | Study Area Boundary

NOVEMBER 1997

The facilities that APS will study include planning for the following:

- 10 to 20 miles of 230 kilovolt (kV) transmission lines
- 40 to 60 miles of 69kV subtransmission lines
- 2 to 4 transmission substations
- 6 to 10 distribution substations



Typical Double-Circuit 230kV Steel Pole Structure

Typical Single Circuit 69kV Steel or Wood Pole Structure

Who is APS?

APS is the state's largest energy services provider, meeting the electricity needs of more than 740,000 residential, commercial, and industrial customers in 11 of Arizona's 15 counties.

APS has long been involved with the communities it serves, whether it's sharing more than $2.7 million with community-based organizations, as it did in 1996, or offering its large employee volunteer task force to help boost a local charity.

However, APS' core business and commitment is to provide energy and superior customer service. To this end, APS is committed to working with, and involving, the community in planning the location of its major electrical facilities.

Who is Dames & Moore?

Dames & Moore has provided environmental consulting and engineering services in the Phoenix area for more than 20 years. In the western United States, our professional staff has been responsible for siting and licensing more than 100 transmission lines. An important objective of our approach is to accurately reflect and integrate the community's values with the environmental planning process.

Why is this project needed?

The northwest valley, especially north Peoria and northwest Phoenix, continues to expand rapidly. For example, from 1980 to the present, Peoria has grown tremendously from 12,171 to 78,310 residents. This growth is expected to continue, including residential development and commercial and industrial expansion.

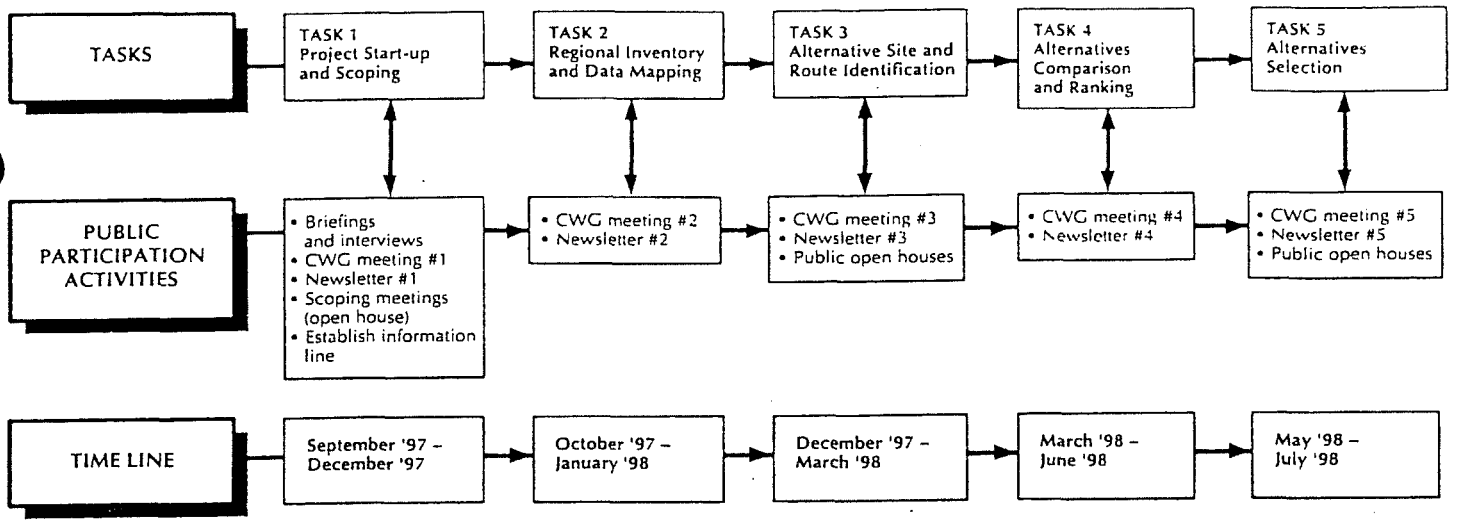
This development translates into increased demand for electricity that will soon exceed APS' capacity to deliver reliable power to the northwest valley service area. If unaddressed, existing or future customers could be faced with difficulty in obtaining reliable and quality power, potentially resulting in outages, surges, and "brown-outs." In addition, customers could have problems in the operation of sensitive electronic equipment (computers, medical equipment, etc.) and other applications requiring quality power or precise voltage controls. Infrastructure (water, power, sewers, communications, roads) to support this development must be planned in advance. APS is planning today for tomorrow's electrical needs.

In summary, the APS NW Energy Enhancement Siting Project is needed to accommodate APS customers' increasing electrical power demand and to ensure a reliable, high-quality power source to this area in the future.

What are the steps in the planning process?

Dames & Moore has identified five primary tasks to be conducted during the environmental planning process. A general sequence of the tasks is shown in the flow diagram on page 3.

Early in the project, issues associated with the study area and the proposed facilities are being identified through interviews for potential community working group (CWG) members and public scoping meetings (Task 1). The study team is gathering data representing the natural resources, land uses, visual/aesthetics, biological, and cultural resources to compile a regional environmental inventory (Task 2). The team will analyze the issues and data to identify the constraints to and opportunities for siting the substation sites and transmission line routes, which will result in



identifying alternative locations for the sites and routes (Task 3). The team will conduct more detailed inventory, assessment, mitigation planning, and comparison and environmental ranking for the alternative sites and routes identified in Task 3 (Task 4). Then APS will establish selection criteria, which will include engineering and system data, environmental ranking of alternatives, and public input. Combined, this information will be the basis for APS to select the preferred and alternative routes (Task 5).

As shown in the flow diagram, each task includes public participation activities. An important element of the planning process and public participation program is a CWG that serves as a "sounding board" throughout the facility siting process. The CWG will provide information and comment on the environmental planning process that will be integrated with decision making. The CWG represents a cross-section of people who are familiar with issues in the community, and who represent a wide range of views. Members were selected based on informal interviews with residents, property owners, developers, representatives of industry and agriculture, relevant agencies, local officials, and other various interests. The CWG will meet with Dames & Moore and APS approximately five times to provide feedback at key milestones of the planning process.

What is the schedule for completing the project?

APS plans to complete the facilities in phases–to build facilities where they are most needed first. The project began in September and is tentatively scheduled for completion in nine to twelve months. Currently, APS expects that the first of the facilities will have to be in service by 1998.

How can the public participate in the project?

Aside from the close coordination with the CWG mentioned above, there will be several opportunities for the public to be informed and/or participate in this project, including the following:

- ***Public Open Houses:***
  There will be three sets of informative open houses throughout the course of the project. See the back of this newsletter for the locations of the upcoming open house on December 10, 11, and 13. These open houses will be informal so the public can talk individually with project team members. Details for the open houses will be announced through advertisements, press releases, and direct mail.

- ***Information Line:***
  A telephone line has been established for the public to ask questions, request information, or to be added to the mailing list. Call Dames & Moore at 861-7471 for more information.

- ***Project Mailing List and Newsletters:***
  A mailing list will be updated throughout the project. Newsletters will be distributed to those on the mailing list at key milestones of the project. Comment forms will be included in the newsletters to allow opportunities for the interested public to comment on the project. Interested parties should call the telephone number above to be added to the mailing list.

PUBLIC OPEN HOUSE

PLEASE ATTEND!!

Wednesday, December 10, 1997, 6:00–8:00pm
(presentation from 6:30–7:00)
Las Brisas Elementary School Cafeteria
5805 West Alameda, Phoenix
(east of 59th Avenue north
of Pinnacle Peak Road)

Thursday, December 11, 1997, 6:00–8:00pm
(presentation from 6:30–7:00)
Lake Pleasant Regional Park
Headquarters Conference Room
41835 North Castle Hot Springs Road
(State Route 74 and Castle Hot Springs Road)

Saturday, December 13, 1997, 10:00am–12:00 noon
(presentation from 10:30–11:00)
Las Brisas Elementary School Cafeteria
5805 West Alameda, Phoenix
(east of 59th Avenue north
of Pinnacle Peak Road)

Cindy L. Smith
Dames & Moore
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V·A·L·L·E·Y ENERGY ENHANCEMENT SITING PROJECT

NEWSLETTER 2

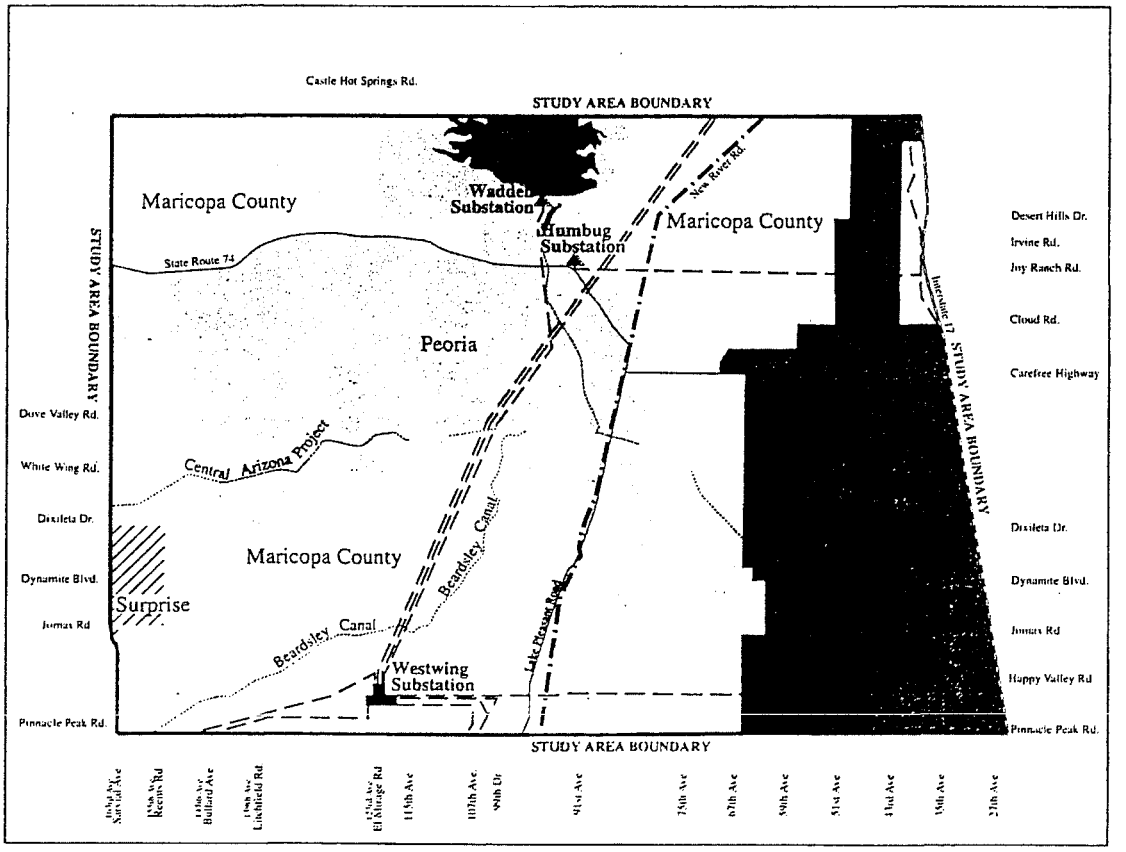
V·A·L·L·E·Y ENERGY ENHANCEMENT SITING PROJECT

Project Update

This is the second in a series of newsletters designed to keep you informed about APS' Northwest Valley Energy Enhancement Siting Project. APS and the environmental consulting firm, Dames & Moore, are working with the community in the area outlined on the map below to develop a plan to provide enough energy to serve the northwest valley over the next 10 years. Based on anticipated demand, facilities such as 230 kilovolt (kV) transmission lines, 69kV transmission lines, and transmission and distribution substations will need to be built, some even within the next few years. The purpose of this newsletter is to summarize what project work has occurred to date, particularly work with the community, and to identify activities coming up in the next few months.

Community Working Group Formed

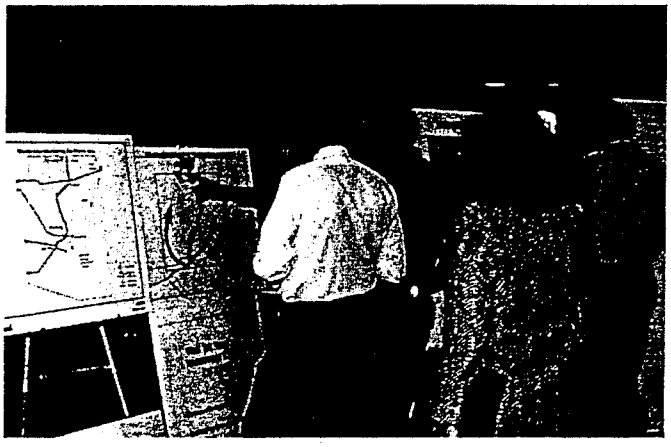
After meeting with and interviewing about 30 individuals representing a cross-section of the study area, Dames & Moore formed a 13-member Community Working Group (CWG), who will work with the study team throughout the project. The CWG will provide information about community concerns and values, which will be integrated with technical information to develop APS' plan. Members of the CWG include agency representatives that have administrative jurisdiction within the project area such as the Bureau of Land Management; State of Arizona; Maricopa County; and the cities of Peoria, Phoenix, and Surprise; as well as school district, agriculture, real estate, and land development representatives. Citizens serving on



FEBRUARY 1998

behalf of their communities also are on the CWG. Members were selected based on their knowledge of the project area, capability to commit the time required to participate in the CWG throughout the project, and willingness to be impartial.

The first meeting of the CWG was held in December 1997. Members met with the APS and Dames & Moore project team to become familiar with the project, and define roles and responsibilities of the participants. The second meeting of the CWG was held in early February 1998 to review and discuss the issues identified from public participation activities since the beginning of the project, examine the resource information that has been mapped to date, and discuss the planning criteria to be used to identify alternative locations for substations and transmission lines. Comments from the CWG members assisted in refining the information and criteria. As the project progresses, the project team will continue to present information to the CWG about the results of different studies and analyses.



First Round of Public Open Houses Held

APS hosted a series of public open houses in December 1997 to introduce the project to the community and gather initial public comments. A total of 75 people attended the meetings. Forty people attended the meeting Wednesday evening, December 10; 11 attended the meeting Thursday evening, December 11; and 24 people attended the meeting Saturday morning, December 13.

Four stations of graphic displays were manned by project team members to explain and answer questions about the need for the project and how APS plans for future facilities, environmental planning process, and public participation program.

At this early stage of the project, the majority of the comments and questions were general and are summarized below. The issues that were raised by the public will be addressed during the planning studies.

Need

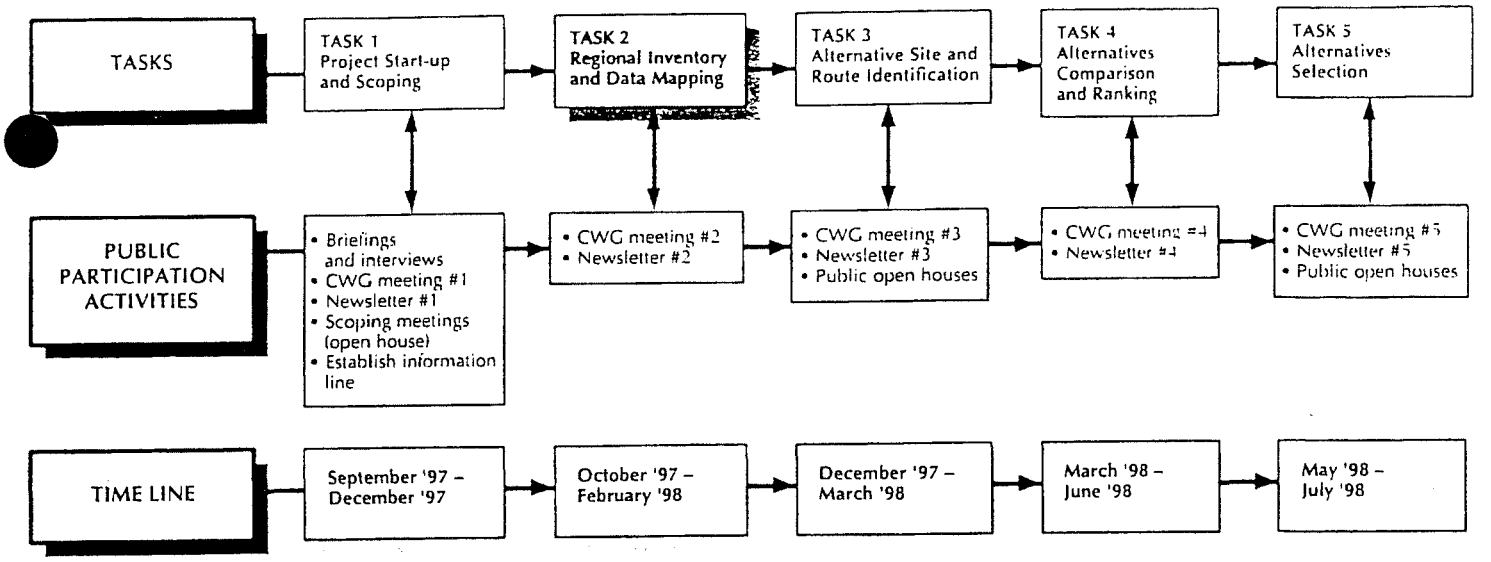
Most of the people commenting did not question the need for the project, but did want to understand how APS determines where and when there is a need for additional electrical facilities and the types of electrical facilities that may be needed.

Facility Siting

Several people provided their opinions regarding the potential locations of the facilities. Members of the CWG offered specific ideas that support compatibility of the project facilities with adjacent land uses. The public generally suggested areas to avoid and areas to consider for siting the facilities. A number of people suggested paralleling existing linear features such as transmission lines; however, several people in the neighborhoods adjacent to the utility corridor south of Happy Valley Road prefer that another transmission line not be placed parallel to the existing 230kV transmission line in that corridor.

Underground Placement

Several people asked about the feasibility of burying the transmission lines underground. This question was prompted by the public's concerns and perceptions about visibility, effects on property values, and safety of overhead lines.



Health and Safety

A few people expressed their concerns regarding the safety of overhead transmission lines. Also, a number of people requested an explanation about electric and magnetic fields and the public's general perception regarding potential effects of the fields.

Right-of-way

Individuals asked that landowners' property and ranching operations be respected during construction. One individual asked whether unwarranted access by the public onto existing rights-of-way can be curtailed to reduce disturbance to adjacent private properties.

Environmental Studies Underway

Dames & Moore is working on Task 2 of the planning process, the regional inventory to identify the human, natural, and cultural resources in the project area. One component of the inventory is to identify existing land uses (e.g., residential areas, commercial areas, parks and recreation areas, and infrastructure) as well as plans for future development. To accomplish this inventory, environmental planners reviewed data in the field, analyzed aerial photos, and contacted area developers, as well as the following agencies to determine their plans for development:

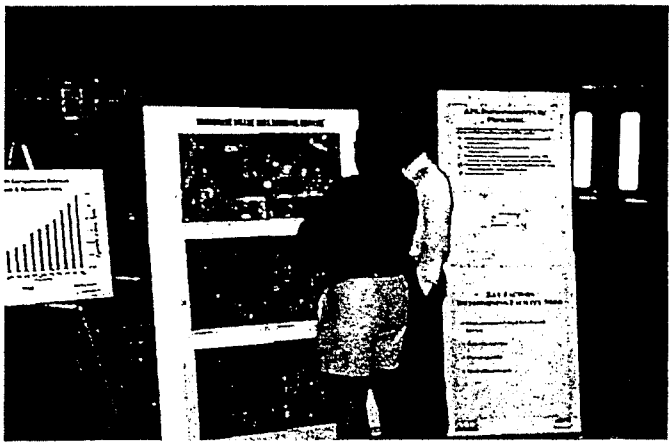
- Bureau of Land Management (U.S. Department of the Interior)
- Arizona State Lands Department
- Arizona Department of Transportation
- Maricopa Association of Governments
- Maricopa County
- Maricopa County Department of Transportation
- City of Peoria
- City of Phoenix
- City of Surprise

In addition to the land use studies, the area was inventoried for plants and wildlife that may be protected or have special status and for cultural resources that may be important in the area. Also, the planners began preliminary work on visual studies to determine how planned facilities may affect the scenic quality or aesthetics of the area from various viewpoints (e.g., residences, recreation areas).

Data gathered during the regional inventory have been mapped. The planners in conjunction with the CWG currently are in the process of identifying which land uses and other resources may be compatible with the project facilities. From this information, the planners will be developing a map illustrating areas that are opportunities for and constraints to siting project facilities.

Opportunities for Public Participation Continue

The next round of public open houses will be held this spring when various preliminary alternative sites and routes for the electrical facilities have been identified. The public will be encouraged to attend and review and comment on the planning process, regional inventory information, as well as the preliminary alternatives. A third newsletter will be sent to announce those meetings. In the meantime, a telephone line has been established for you to ask questions, request information, or be added to the mailing list. Call Dames & Moore at 861-7471 for more information.



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V·A·L·L·E·Y ENERGY ENHANCEMENT SITING PROJECT

NEWSLETTER 3

V·A·L·L·E·Y ENERGY ENHANCEMENT SITING PROJECT

Project Update

This is the third in a series of newsletters designed to keep you informed about APS' Northwest Valley Energy Enhancement Siting Project. APS and the environmental consulting firm, Dames & Moore, are working with the community in the area outlined on the map below to develop a plan to provide enough energy to serve the northwest valley over the next 10 years.

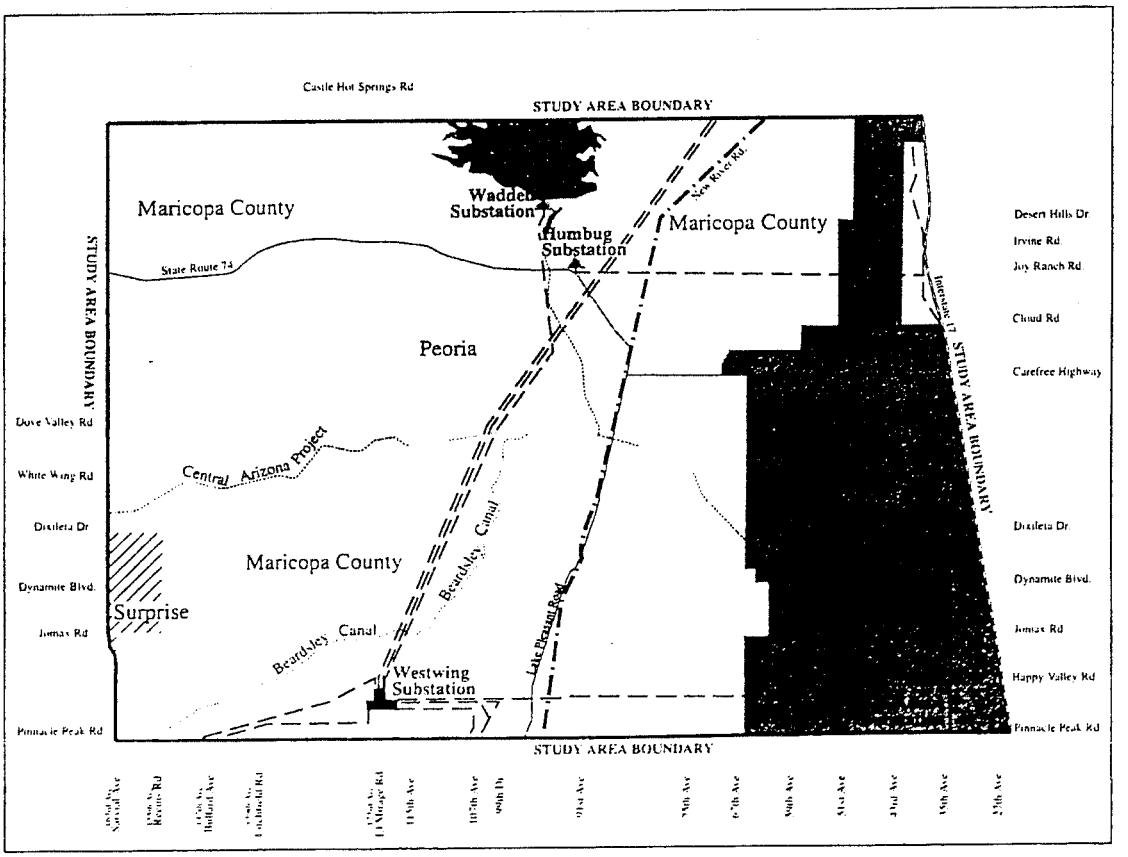
Open Houses to be Held

Open houses will be held on April 1 and 4 at the Las Brisas Elementary School Cafeteria (see reverse side of this newsletter.) The upcoming open houses are the second of three sets of meetings to update the public about the ongoing comprehensive siting study and involve the public in the planning process. The purpose of the open house is to present the alternatives locations for you to review and provide comments.

Since the last open houses in December, the study team has gathered and analyzed information about the existing and planned land uses, and natural and cultural resources. The team and the Community Working Group (CWG) have worked together to analyze the data and issues, and to identify alternative locations for 69kV and 230kV transmission lines and substation siting areas. The open houses will be informal for the public to review project displays and discuss the project individually with project team members. Your comments are important to us so please plan to attend!

The Next Steps

Once comments have been received and reviewed, and the alternative locations are refined, the team will conduct more detailed studies of the alternative locations, identify the potential impacts of the locations on the environment and land uses, and plan measures to mitigate the impacts. Then the team, in conjunction with the CWG, will compare the alternative locations and recommend locations for the public to review.



Maricopa County | Phoenix | Existing Transmission Line | Not To Scale

Peoria | Surprise | Existing Pipeline

MARCH 1998

PUBLIC OPEN HOUSE

PLEASE ATTEND!!

Open house dates and times:

Wednesday, April 1, 1998, 6:30–8:30 pm

Saturday, April 4, 1998, 10:00 am–12:00 noon

Both open houses will be held at:

Las Brisas Elementary School Cafeteria
5805 West Alameda, Phoenix
(west of 55th Avenue north
of Pinnacle Peak Road)

Cindy L. Smith
Dames & Moore
7500 N. Dreamy Draw Dr., Ste. 145
Phoenix, AZ 85020

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V·A·L·L·E·Y ENERGY ENHANCEMENT SITING PROJECT

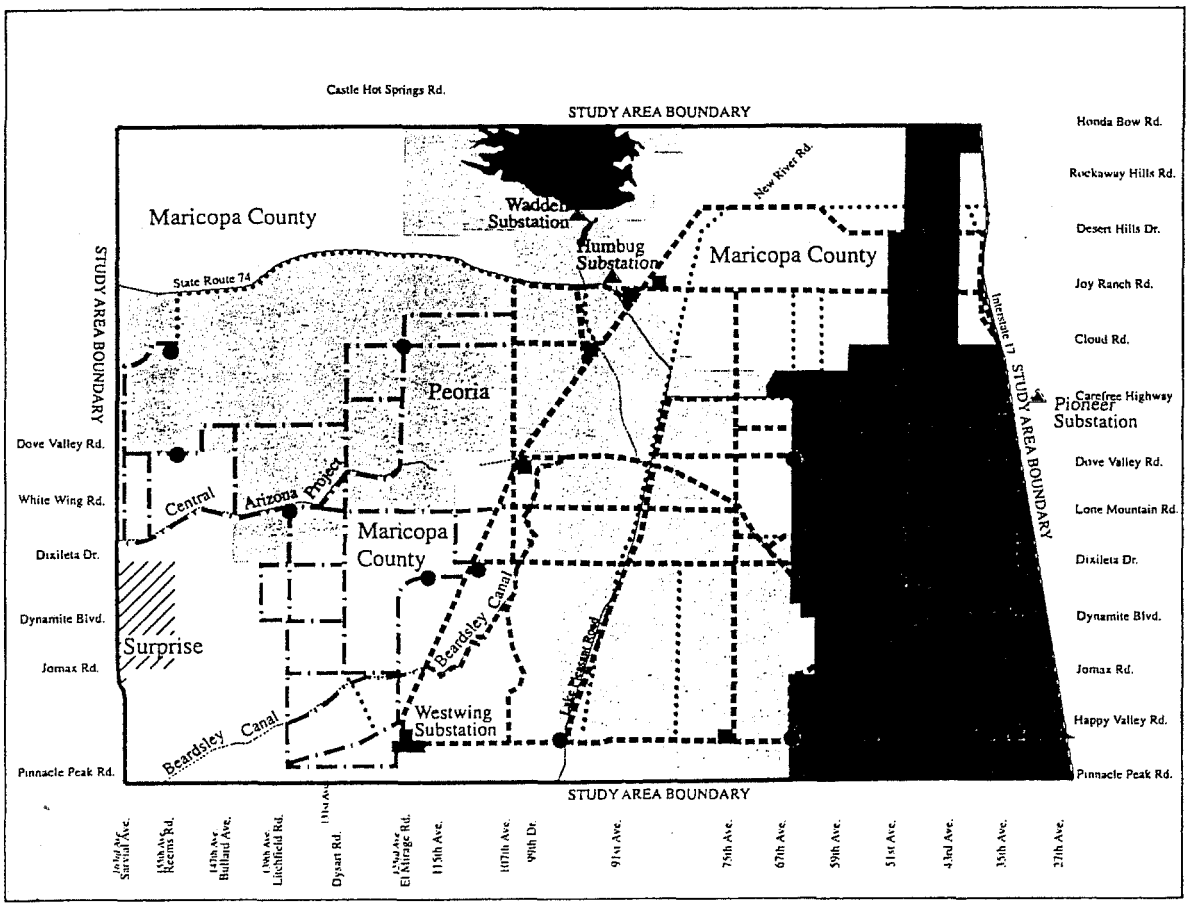
NEWSLETTER 4

NW VALLEY

ENERGY ENHANCEMENT SITING PROJECT

Introduction

This is the fourth in a series of newsletters designed to keep you informed about the APS Northwest Valley Energy Enhancement Siting Project. The continued growth in the northwest valley translates into increased demand for electricity, which will soon exceed APS' capacity to deliver reliable power to the northwest valley. Considering this continued growth, APS recognizes and understands the need to supplement and enhance its electrical system. APS and the environmental consulting firm of Dames & Moore have been working with the community since September 1997 to develop a plan to provide enough energy to serve the area (see map) for the next 10 years.



Maricopa County

Peoria

Phoenix

Surprise

Preliminary 230kV and/or 69kV Transmission Line Alternatives

Preliminary 69kV Transmission Line Alternatives

Preliminary Transmission Line Alternative Recommended for Elimination

Preliminary 230kV/69kV Substation Siting Area

Preliminary 69kV Substation Siting Area

NORTH

Not To Scale

JUNE 1998

Public Review of Preliminary Alternatives

The 13-member Community Working Group (CWG), representing a wide range of views and interests in the project area, met in March to review each of the preliminary alternative transmission line routes and substation sites according to siting criteria established specifically for the project. CWG members provided input and comments helpful to suggest changes to the alternative routes and sites for presentation to the public.

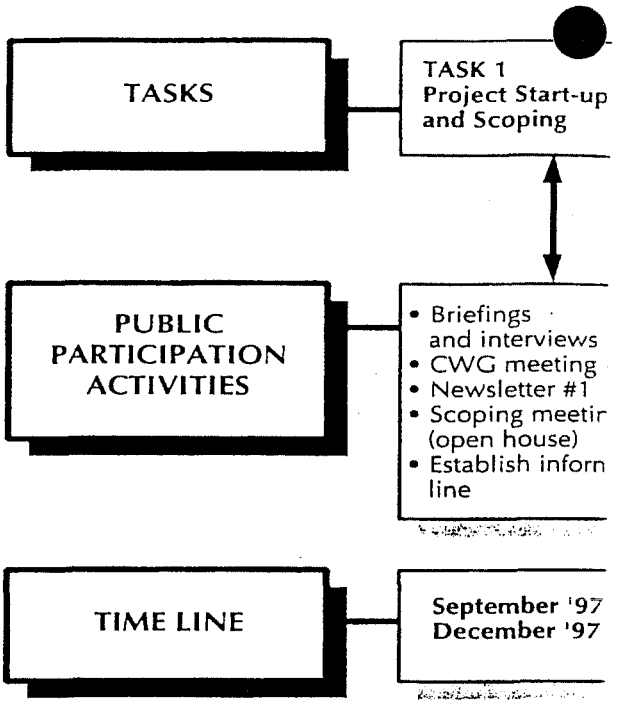
APS hosted public open houses on April 1 and 4, 1998 to provide an update of the project to the community and present the preliminary alternative routes and sites for public input. A total of 72 people attended the two open houses (36 people at each). Graphics on display helped explain the project, the environmental planning process including the siting criteria, and preliminary alternative transmission line routes and substation sites. Representatives of APS and Dames & Moore explained the project and answered questions.

Numerous opinions were expressed at the open houses and 35 people provided written comments. Several commentors supported co-locating facilities (e.g., paralleling existing transmission lines, roads, canals). However, others preferred that the facilities be located in areas that are least developed (e.g., away from residential areas).

Review of Preliminary Alternatives Continues

Following the open houses, each preliminary alternative transmission line route and substation site was reviewed considering the input from the CWG and public, and the environmental and engineering siting criteria. As a result, alternatives were modified or eliminated. The map shows the preliminary alternatives that will be carried forward to study in detail. *Note that not all of these alternatives will be constructed.*

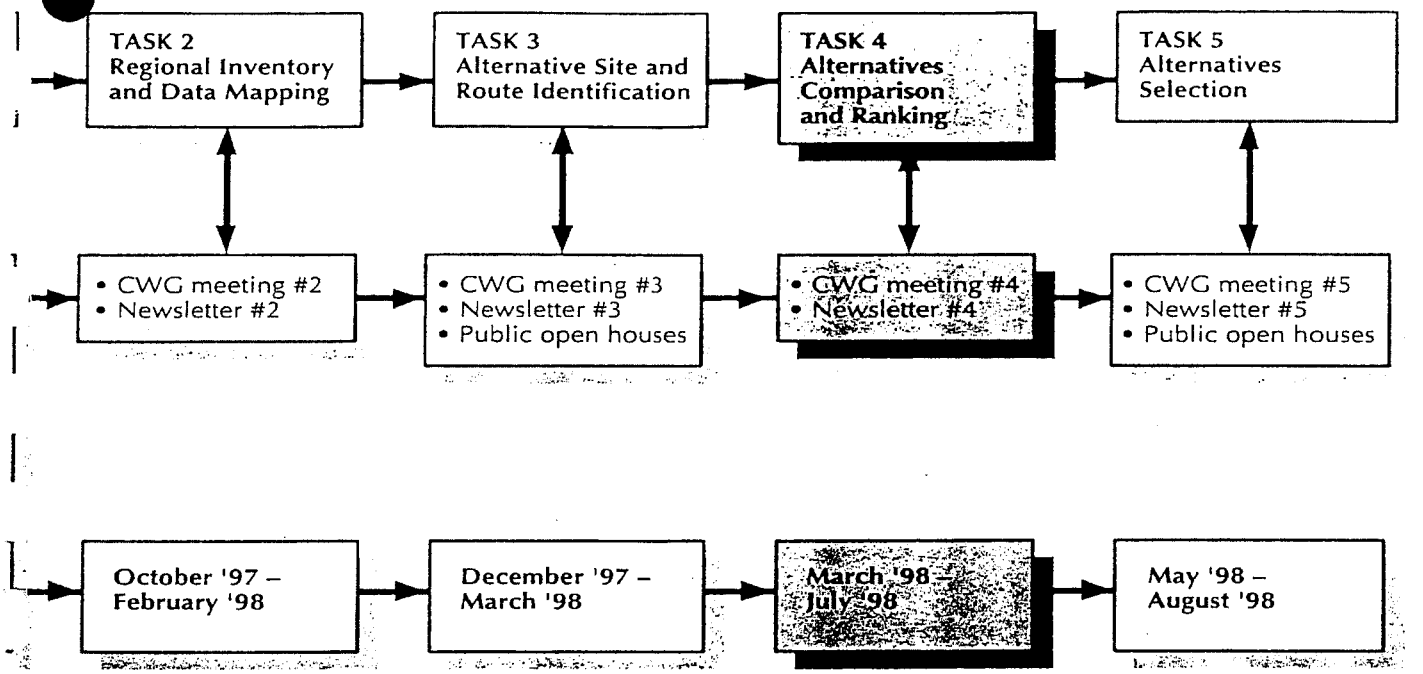
PLANNING ACTIVIT



Next Steps

Up to this time, the information gathered and mapped has addressed the regional project area. Now the study team will review and evaluate each of the remaining alternative routes and substation sites in detail (see flow chart). The information has been collected from a variety of sources including published and unpublished planning or environmental reports, maps, aerial photography, and knowledge of agency personnel. Fieldwork is being conducted to verify information and collect original data where existing information may be limited. The purpose of these activities is to comprehensively describe the environment as it currently exists and use this information for analysis. The information will focus on the human environment (e.g., existing and future land use, visual/aesthetic characteristics, recreation). Natural and cultural resources also will be addressed as needed.

S AND SCHEDULE



Using the information gathered, the study team will evaluate the potential impacts that project activities could have on the environment, specifically within and near the alternative routes and sites. Once the potential impacts have been determined, the study team will determine measures that would reduce and minimize the impacts on the environment.

The alternative routes and substations sites will be evaluated and ranked to identify those that are preferred. In addition to the environmental considerations, APS must evaluate the electrical performance, engineering constraints, system reliability, and costs of each alternative. The preferred and final alternative routes and sites will be selected based on a combination and balance of the environmental evaluation, engineering criteria, and public input.

Public Participation Opportunities

The next round of public open houses will be held later this summer (tentatively August) once the detailed studies, impact evaluation, and comparison of alternative routes and sites have been conducted. The public will be asked to comment on the results and the remaining alternative routes and sites. A fifth newsletter will be sent to announce those meetings. In the meantime, if you have questions, want additional information, or want to be added to the mailing list, call the telephone information line at 861-7471.

V·A·L·L·E·Y

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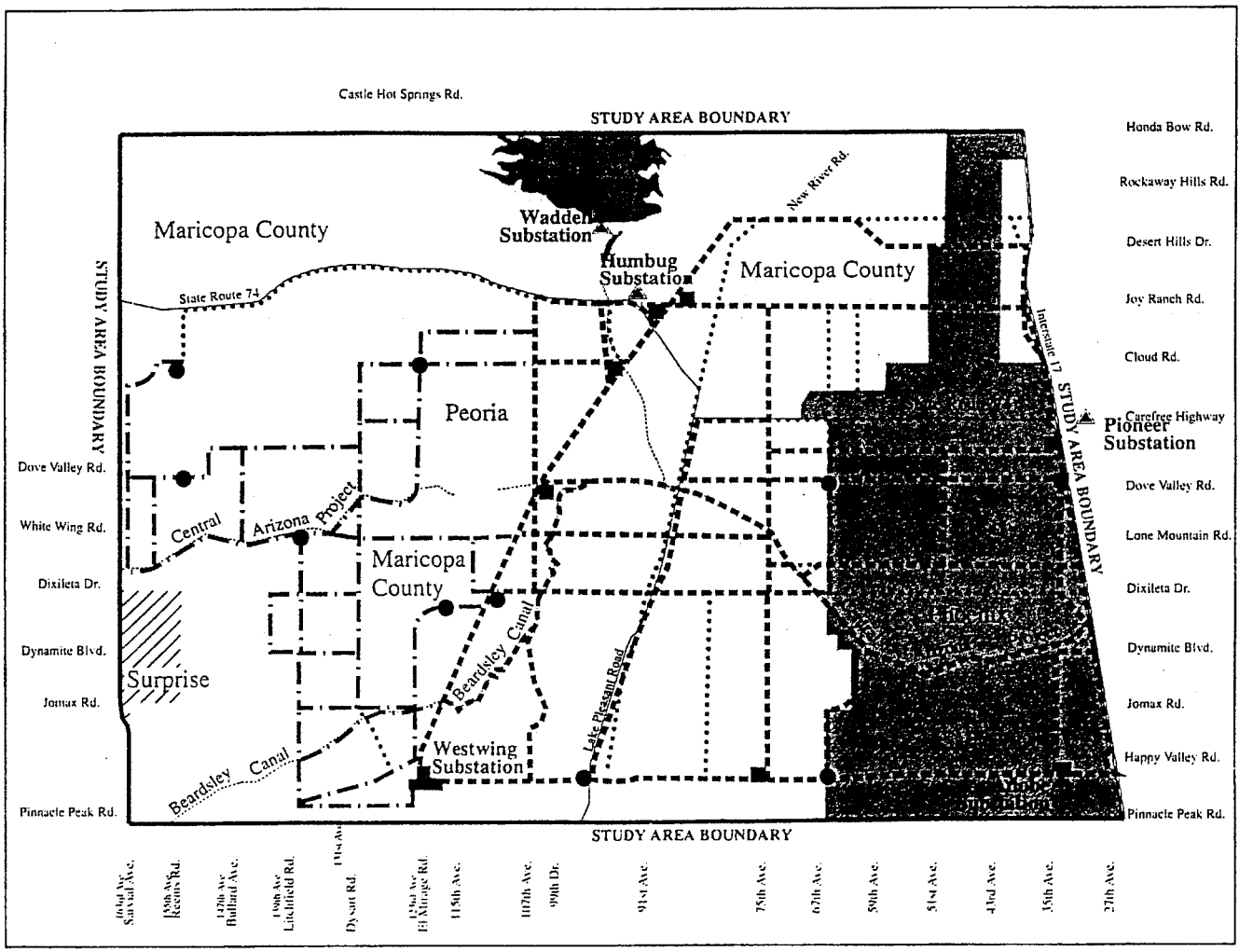
NEWSLETTER 5

V·A·L·L·E·Y ENERGY ENHANCEMENT SITING PROJECT

Introduction

This is the fifth in a series of six newsletters designed to keep you informed about the APS Northwest Valley Energy Enhancement Siting Project. APS and the environmental consulting firm of Dames & Moore continue to work on a plan to build new energy facilities to better serve the rapidly growing population in the northwest valley. These facilities will enable APS to continue delivering reliable, high-quality power for the next 10 years.



- Maricopa County
- Peoria
- Phoenix
- Surprise

- Preliminary 230kV and/or 69kV Transmission Line Alternatives
- Preliminary 69kV Transmission Line Alternatives
- Preliminary Transmission Line Alternatives Recommended for Elimination
- Preliminary 230kV/69kV Substation Siting Area
- Preliminary 69kV Substation Siting Area

NORTH

Not To Scale

AUGUST 1998

Alternatives Selection

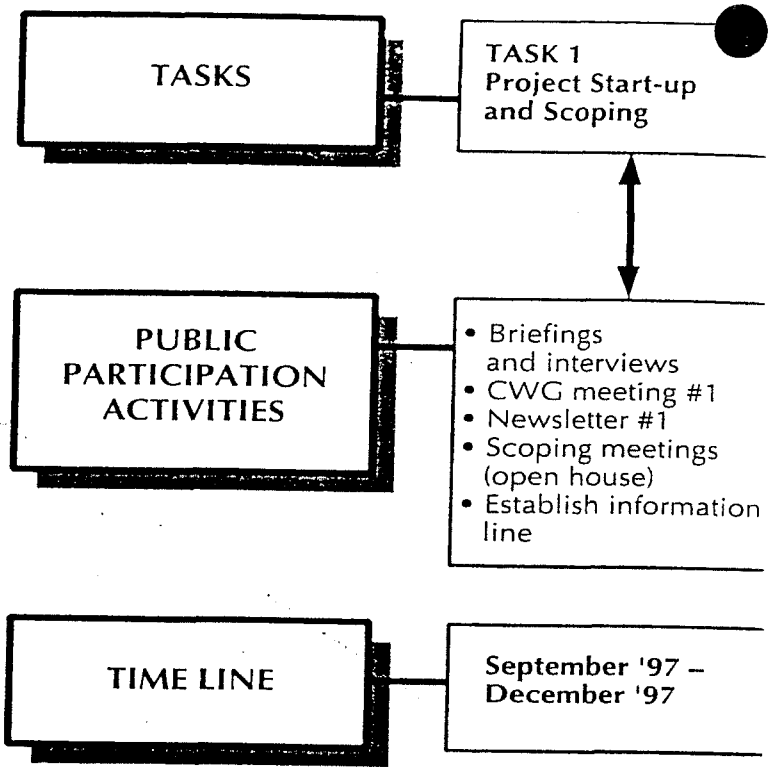
Since June 1998, the study team, which includes APS, Dames & Moore, and the Community Working Group (CWG), has reviewed and compared the various preliminary 230kV and 69kV transmission line routes and substation site alternatives (refer to map). To fully evaluate each option, published and unpublished planning and environmental materials, such as reports, maps, aerial photography, and agency information, were examined. In addition, fieldwork was conducted to verify this information and collect pertinent data. These activities allowed the study team to gain an accurate understanding of the existing environment and retrieve information for further analysis.

The information collected was used to compare the different alternatives, and the potential impacts that project activities could have on the environment. As a result, some alternatives were modified or eliminated. In order to lessen these potential impacts, measures that would minimize impacts on the environment were examined. One measure used to reduce the visual impact of the transmission line is a non-reflective surface for the transmission line conductors.

The next step in the process is to identify the preferred alternatives. To accomplish this, each route and substation site will be evaluated and ranked considering environmental criteria, electrical system standards, and comments from the CWG and public. APS will review the electrical performance, engineering constraints, system reliability, and costs of each alternative. The preferred and alternative routes and sites will be selected based on a combination of the environmental evaluation, engineering criteria, and public input.

V·A·L·L·E·Y

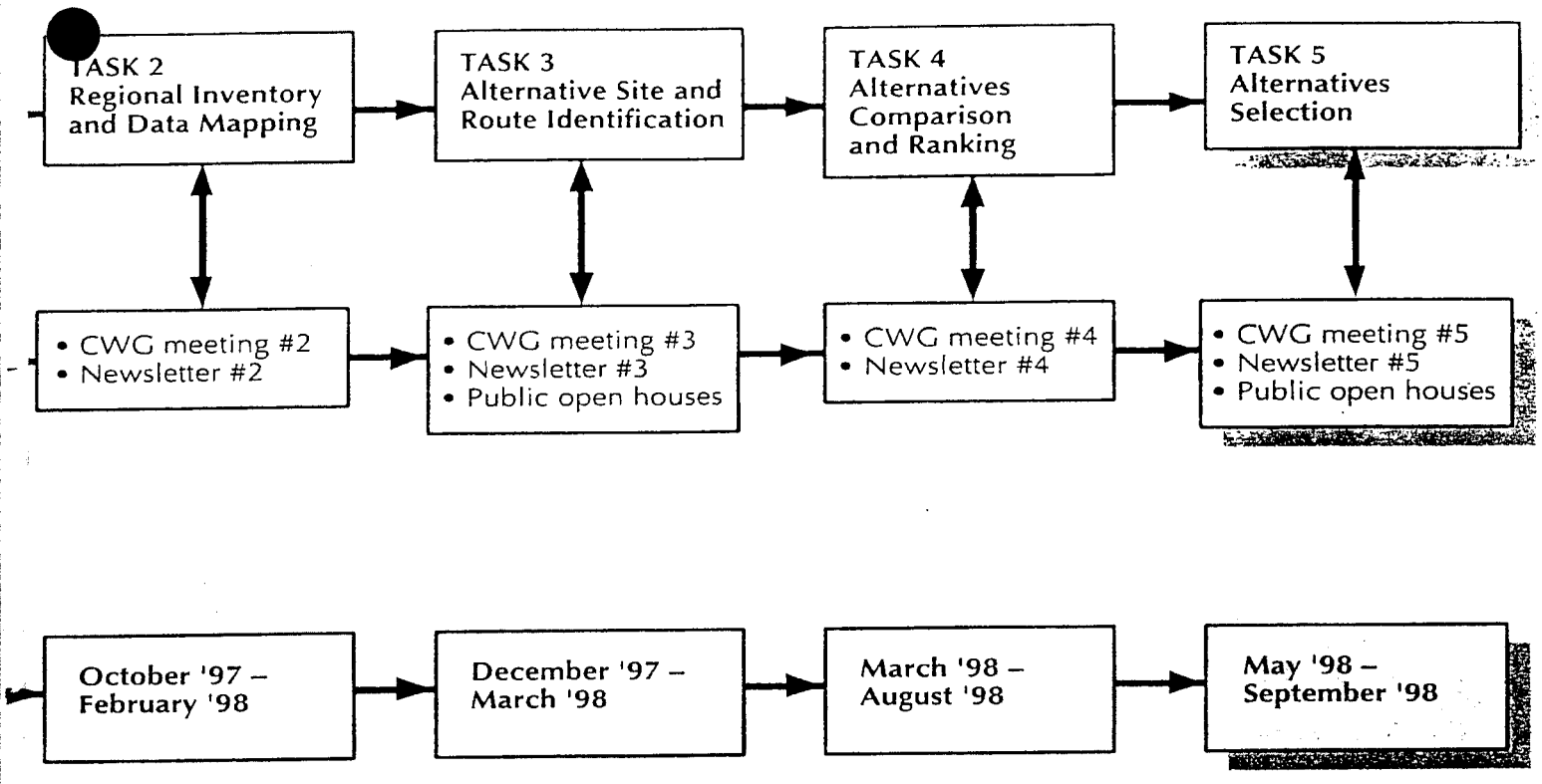
PLANNING ACTIVITIE



Opportunities for Public Participation Continue

The study team currently is considering several 230kV and 69kV transmission line routes and substation site alternatives. We invite the public to review and comment on the refined alternative routes and sites through our public participation opportunities. At a later date (to be determined), APS will present its recommendations for 230kV transmission line routes, 230kV substation sites, and the complete planning process results in a hearing before the Arizona Power Plant and Transmission Line Siting Committee (APPTLSC), a part of the Arizona Corporation Commission. The APPTLSC has the responsibility for approving the proposed 230kV transmission line routes and substation sites. The proposed 69kV transmission line routes and 69kV substation sites are not required to go through hearings before the APPTLSC. APS also will work with the local jurisdictions to incorporate the 230kV and 69kV transmission line routes and substation sites into their General Plans for future planning purposes.

AND SCHEDULE



The final round of public open houses will be held on September 17 and 19, 1998 at the Las Brisas Elementary School. You are encouraged to attend and comment on the refined alternative routes and sites. The open houses will be informal to allow people to review project displays and discuss the project individually with project team members. Your input is important to us so please plan to attend!

If you are unable to attend, please call the telephone information line at 861-7471 to ask questions or request information.

The sixth and final newsletter will be distributed this fall, after APS has had the opportunity to evaluate the public's comments from the last set of open house meetings. The intent of the sixth newsletter is to list the 230kV and 69kV transmission line routes and substation sites that APS will permit and construct.

PUBLIC OPEN HOUSES

PLEASE ATTEND!!

Open house dates and times:

Thursday, September 17, 1998,
6:00-8:00 pm
Saturday, September 19, 1998,
10:00 am-12:00 noon

Both open houses will be held at:

Las Brisas Elementary School Cafeteria
5805 West Alameda, Phoenix
(west of 55th Avenue north
of Pinnacle Peak Road)

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NEWSLETTER 6

V·A·L·L·E·Y ENERGY ENHANCEMENT SITING PROJECT

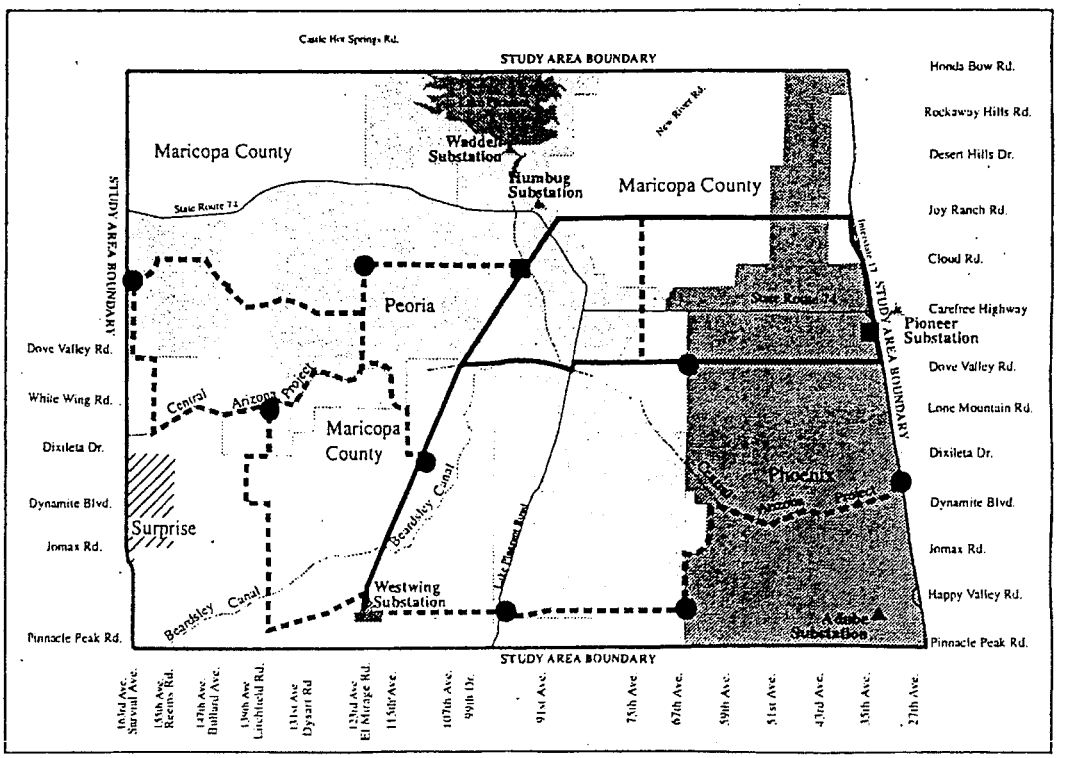
Introduction

This is the sixth in a series of newsletters designed to keep you informed about the APS Northwest Valley Energy Enhancement Siting Project, a comprehensive and systematic environmental planning process which began in September of 1997. Throughout this process, APS and the environmental consulting firm of Dames & Moore have studied and identified numerous possible transmission line routes and substation sites to serve the rapidly growing population in the northwest valley. After extensive consideration and review, APS has selected preferred transmission line routes and substation sites. This newsletter will describe the preferred routes and sites, and will explain upcoming steps in the process.

APS Preferred Routes and Substation Sites

The APS preferred system of 230 kilovolt (kV) and 69kV transmission line routes and substation sites for the northwest valley is shown on the map below.

The APS preferred route for the 230kV transmission line, which would deliver power in bulk from Westwing Substation to the northwest valley area, would initiate at the Westwing Substation at about 123rd Avenue between Happy Valley and Pinnacle Peak roads. The route, shown as a solid line on the map, would leave the Westwing Substation in a northeast direction, paralleling the existing 500kV transmission line, to an APS preferred substation site at Cloud Road. The line then would continue north

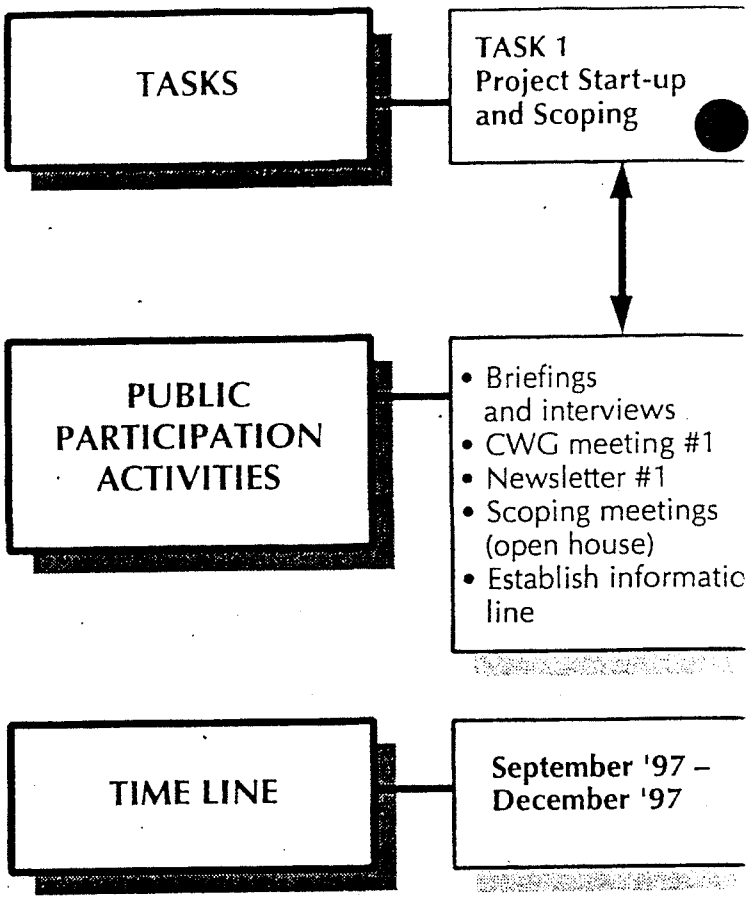


NOVEMBER 1998

and follow an existing 69kV transmission line parallel to Joy Ranch Road, extending east to Interstate 17. The 230kV transmission line route would continue south along Interstate 17 to an APS substation site between the Carefree Highway and Dove Valley Road. The 230kV transmission line route would parallel Dove Valley Road, creating a loop for system reliability back to the existing 500kV line to the west. APS anticipates needing the 230kV facilities within five to ten years.

The APS preferred lower voltage 69kV transmission system (shown as a dashed line on the map), which would incorporate existing 69kV lines in the area and distribute power to neighborhoods within the northwest valley, consists of several sections. The section that is needed most immediately is in the southern portion of the project area. The 69kV transmission line would initiate at and head east from the Westwing Substation. The route would connect to two APS preferred 69kV substation sites, while paralleling the existing 230kV transmission line between Happy Valley and Pinnacle Peak roads to 67th Avenue. There, the route would turn to the north along 67th Avenue and continue to the Central Arizona Project canal. The 69kV line would parallel the canal east to an APS preferred substation site near Interstate 17 between Dixileta Drive and Dynamite Boulevard. APS anticipates that design and construction on a portion of this section of 69kV line will be completed within the next few months. The remaining portion of 69kV line and substations will be completed by the year 2000.

Other APS preferred substation sites and sections of 69kV transmission lines needed within the next five to ten years would parallel the APS preferred 230kV transmission line (solid line on the map). Along the preferred 230kV line, APS will underbuild 69kV transmission lines on the same poles as the APS preferred 230kV transmission line. In addition, a section of 69kV line is proposed along 75th Avenue between Joy Ranch and Dove Valley roads (dashed line on the map).



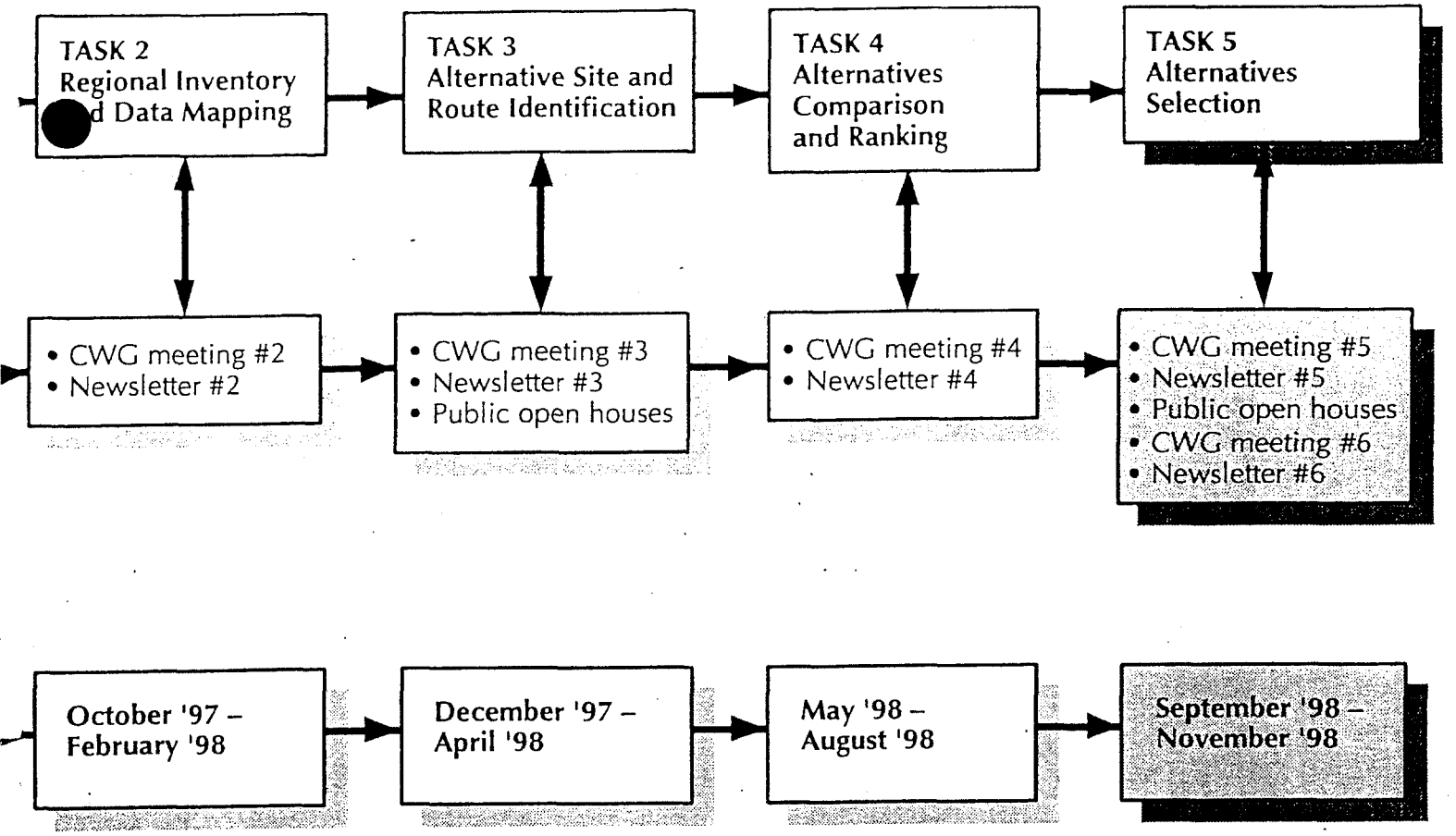
There are several APS preferred substation sites and sections of 69kV transmission line routes that will be needed to the west of the APS preferred 230kV line (also shown as dashed lines). However, construction of these substations and transmission lines will be determined by future growth and need.

What Happens Next?

The next step for APS will be to acquire the land for the substation sites and right-of-way for the 69kV transmission line section in the southern portion of the project area by December 1999 for design and construction in the year 2000.

As mentioned above, APS anticipates needing the 230kV facilities within five to ten years. In the state of Arizona, approval of a 230kV transmission line route is within the jurisdiction of the Arizona Power Plant and Transmission Line Siting Committee (APPTLSC), a committee that is part of the Arizona Corporation Commission. APS will prepare and submit an application for a Certificate of Environmental Compatibility to the APPTLSC for processing and hearing by June 2000.

NW VALLEY



Planning and Selection Process

To identify the preferred alternatives, each 230kV and 69kV transmission line route and substation site was evaluated and ranked considering environmental criteria, electrical system standards, and comments from the Community Working Group (CWG) and public. At key points during the process, the study team and the CWG worked together to discuss community concerns, examine environmental and engineering issues, and compare and refine the alternative routes. In addition, public open houses were held in December 1997, April 1998, and September 1998 to present and explain project information and obtain public comments and concerns. These public comments were incorporated into the ranking and evaluation of the alternative routes and sites facilitated by Dames & Moore.

APS reviewed the electrical performance, engineering constraints, system reliability, and economics of each alternative. After extensive review and consideration, the APS preferred routes and sites were selected based on a combination of the environmental evaluation, engineering criteria, and public input.

Public Participation

With the selection of the preferred alternative, the environmental planning and public participation component of the project is complete. The comments received from you, the public, during the planning process and the commitment of the CWG members were very helpful and greatly appreciated by Dames & Moore and APS.

Since this will be the final newsletter, thank you for your interest and valuable assistance on the project! If you have additional comments or questions, please call the telephone message line at 861-7471.

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NW VALLEY ENERGY ENHANCEMENT SITING PROJECT

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NW VALLEY

ENERGY ENHANCEMENT SITING PROJECT

EXHIBIT J-2
COMMUNITY WORKING GROUP
ROSTER AND MEETING SUMMARY

NORTHWEST VALLEY SITING PROJECT
COMMUNITY WORKING GROUP INTERVIEWS

Federal

- Rich Hanson, Bureau of Land Management

State

- Sheila McAfferty, Arizona State Lands Department

County

- Neil Urban, Maricopa County Planning Department
- Aaron Iverson, Maricopa County Department of Transportation

City

- Jolene Ostler, City of Phoenix Planning Department
- Al Deshazo, City of Surprise
- Ken Forgia, City of Peoria
- Betty Lynch, Peoria Chamber of Commerce
- Phil Bloom, City of Peoria Neighborhood Services Department

School Districts

- Ed Gillam, Peoria Unified School District No. 11
- Salem Ashatti, Deer Valley Unified School District

Business and Industry

- Bruce Agenter, Southwest Builders
- Debbie Wilden, Northwest Valley Chamber of Commerce
- John Kimmeries, Kimmeries Aviation
- Ron Hilgardt, CMX Group
- Jim Miller, John F. Long Properties
- Ferrin Squires, Cactus Land Ranch
- Jim Norton, Arizona Rock Products Association
- Allen Williams, Pensus Group
- Gary Torhjelm, Lake Pleasant Estates
- Steve Campbell, JD Campbell Realty

- Steve Voss, Larson, Voss Associates, Inc
- Gary Knight, Knight Transportation
- Kent Forsey, Paine Webber
- Ken Estrada, Del Webb

Individuals

- Vonda Culp
- Joe Hull
- J.D. Campbell
- Josi Campbell

NORTHWEST VALLEY SITING PROJECT
COMMUNITY WORKING GROUP MEMBERS

Federal

- Rich Hanson, Bureau of Land Management

State

- Mark Keller, Arizona State Lands Department

County

- Neil Urban, Maricopa County Planning Department

City

- Debra Stark, City of Peoria Planning Department
- Jim Mathien, City of Phoenix Planning Department
- Ellis Perl, City of Surprise

School Districts

- Ed Gillam, Peoria Unified School District No. 11

Individuals

- Doug Nelson, Cactus Lane Ranch
- Steve Campbell, JD Campbell Realty
- Steve Voss, Larson, Voss Associates, Inc.
- Vonda Culp
- Gary Knight, Knight Transportation
- Joe Hull

NORTHWEST VALLEY SITING PROJECT
COMMUNITY WORKING GROUP MEETING SUMMARY

APS met with the CWG six times throughout the planning process. An additional meeting was held in July 2002 during the North Valley Project. The meetings were generally two hours in length and covered a variety of topics. Each of the meetings is summarized below.

Meeting 1/December 1997 – The primary function of the first CWG meeting was to provide background information on the mission of the CWG, define the purpose and need for the project, describe the environmental siting process and schedule, and review the public involvement activities and project schedule.

Meeting 2/February 1998 – The second CWG meeting focused on a review of the project description and status, the results of scoping, assessment issues (e.g., visual, land use), regional environmental inventory results, and an introduction to preliminary siting criteria.

Meeting 3/March 1998 – The main emphasis of the third CWG meeting was the development of preliminary alternatives. The group reviewed siting criteria developed to identify areas of opportunities for and constraints to siting transmission lines and substation sites. These criteria were used to develop preliminary alternative transmission line routes and substation sites. An integral part of the planning process was determining which alternatives should be eliminated from further study or brought forward for detailed analysis.

Meeting 4/June 1998 – The purpose of the fourth CWG meeting was to select alternatives for further evaluation. The group as a whole made recommendations and agreed upon the selection of alternatives. The meeting also reviewed the detailed inventory, impact assessment, and mitigation planning. Examples of mitigation were examined during the meeting.

Meeting 5/September 1998 – The fifth CWG meeting was spent examining the environmental screening that was used to rank alternatives for environmental preference and discussing possible mitigation measures and planning. APS explained their alternatives selection criteria. The group made recommendations for the preferred routes and substation sites.

Meeting 6/November 1998 – During the sixth and final CWG meeting the group reviewed APS' alternatives selection process, public and agency issues and concerns, and discussed the final alternatives.

Meeting 7/July 2002 – This meeting was held to advise members of the upcoming filing of an application for a CEC and update them on the status of the 69kV components of the project.

NORTH CENTRAL FACILITY SITING PROJECT
COMMUNITY WORKING GROUP INTERVIEWS

State

- Jim Gross, Arizona State Lands Department

County

- Ann Blech, Maricopa County Department of Transportation
- Supervisor Andy Kunasek, Maricopa County Board of Supervisors
- Mark Wheaton, Maricopa County Planning Department

City

- Lynn Favour, City of Phoenix Planning Department
- Jim Mathien, City of Phoenix Planning Department
- Bruce Swanson, City of Phoenix Parks, Recreation, and Library Department
- Usama Abujbarah, Town of Cave Creek

School Districts

- Skip Brown, Paradise Valley Unified School District
- Tom Boone, Deer Valley Unified School District
- Joe Ewan, ASU Landscape Architecture and Planning Department

Land Development

- Dan Freese, Anthem by Del Webb
- John Svechovsky, CMX Group, Inc.

Neighborhood/Local Area

- Joseph Hudock, Desert View Village Planning Committee
- Clancy Jayne, North Gateway Village Planning Committee
- Barbara Maroney, North Gateway Village Planning Committee
- Diane Sangirardi, Deer Valley Village Planning Committee
- Carol Caldwell, New River
- Gary Giordano, Save New River
- Lynn Grant, New River/Desert Hills Community Association
- Jerry Jacka

- Bud Redeker, Desert Hills Improvement Association
- Steve Sorenson, Tatum Highlands
- John Wenner, Tatum Highlands
- Woody Woods

NORTH CENTRAL FACILITY SITING PROJECT
COMMUNITY WORKING GROUP MEMBERS

State

- Diane Crawford, Arizona State Lands Department

County

- Tom Loomis, Maricopa County Flood Control District
- Neil Urban, Maricopa County Planning Department
- Chuck Williams, Maricopa County Department of Transportation

City

- Charles Fitzhugh, City of Phoenix Planning Department
- Ron Short, Town of Cave Creek Planning Department
- Bruce Swanson, City of Phoenix Parks, Recreation, and Library Department

School Districts

- Skip Brown, Paradise Valley Unified School District
- Sandra Kube, Deer Valley Unified School District

Land Development

- Matt Christensen, Anthem by Del Webb
- Shelby Moores, CMX Group, Inc.

Utilities

- Melissa Chiechi, Western Area Power Administration

Neighborhood/Local Area

- Steve Beurerlein, Deer Valley Village Planning Committee
- Gary Giordano, Save New River
- Lynn Grant, New River/Desert Hills Community Association
- Ray Griswold, North Gateway Village Planning Committee
- Joseph Hudock, Desert View Village Planning Committee

- Teri Lynch, Desert Hills
- John Wenner, Tatum Highlands

NORTH CENTRAL FACILITY SITING PROJECT
COMMUNITY WORKING GROUP MEETING SUMMARY

APS met with the CWG five times throughout the planning process and once for a group "field trip" of the study area. An additional meeting was held in July 2002 during the North Valley Project. The meetings were generally two hours in length and covered a variety of topics. Each of the meetings is summarized below.

Meeting 1/August 1999 – The first meeting provided information on the role and responsibilities of the CWG members, described the environmental planning process and public involvement activities, defined the purpose and need for the project, and provided a project description.

Meeting 2/November 1999 – The second CWG focused on a review of project description and status, public comments received to date, regional environmental inventory results, and an introduction to preliminary system planning and siting criteria.

Meeting 3/January 2000 – The emphasis of the third CWG meeting was the development of preliminary siting alternatives. The group reviewed land use data and compatibility mapping developed to identify opportunities for and constraints to siting transmission lines and substation sites. These criteria were used to develop preliminary alternative transmission line routes and substation sites.

Field Trip/March 2000 – The CWG took a van field trip of the study area. This trip provided group members with the opportunity to review preliminary alternatives and siting opportunities or constraints first-hand.

Meeting 4/June 2000 – The fourth meeting provided a status of the project and the public participation activities. The group was then presented with information on the impact assessment portion of the planning process, including land use and visual resource impacts. The project team discussed how alternatives are screened and compared. Based on group discussion, routes were recommended to be eliminated or carried forward.

Meeting 5/October 2000 – APS preferred routes and substation sites were presented to the CWG at the final group meeting. A summary of public comment and route preference, and a review of the APS selection process were also provided.

Meeting 6/July 2002 – This meeting was held to advise members of the upcoming filing of an application for a CEC and update them on the status of the 69kV components of the project.

EXHIBIT J-3
NEWSPAPER ARTICLES

POSTAL PATRON PHX

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THE DESERT ADVOCATE

The Oldest Newspaper in Northern Maricopa County
Est. 1989

Vol. 12, No. 17

March 13, 2002

APS planning area substations, power lines

DESERT FOOTHILLS – Arizona Public Service is planning to construct five electric substations and three major power lines in the near future. The substations are needed to serve the rapidly growing Desert Foothills area.

Locations of the substations will be 12th Street and Desert Hills Drive, 40th Street and Lone Mountain Drive, 23rd Avenue and Happy Valley Road, Misty Willow Drive and Central Avenue, and I-17 and Dynamite Boulevard.

The 12th Street and Desert Hills Drive location, referred to by APS as the Gavilan Peak site, is on 10 acres APS is leasing from the State Land Department. Site construction

APS
Please see page 10

APS *Cont...*

From page 1

may begin early 2003.

Known as the Dove Valley site, the 40th Street and Lone Mountain Drive location is also being leased from State Land. Site construction there is scheduled to begin by the end of 2002.

The 23rd Avenue and Happy Valley Road location, called the Stout site, is on land owned by APS. Construction is slated to begin by the end of 2002.

The Misty Willow site is also owned by the public utility, with construction not currently scheduled.

The location east of I-17 and one mile north of Dynamite is the North Gateway Water Reclamation Plant site, land owned by the City of Phoenix. APS is currently working with the City to tie down a substation on the property. Construction of the substation is currently being driven by the need for power at the water reclamation site. At this time construction is not scheduled to begin in 2002.

Three other substations are identified on an APS North Central Siting Study. APS has not yet purchased property for those sites. The substations will be needed sometime from 2005-2009.

APS is also planning construction of three power lines in the area–New River to Dove Valley, Dove Valley to Jomax, and Gavilan Peak to North Gateway.

Easements for the New River to Dove Valley and Dove Valley to Jomax power-line corridors are currently being obtained by APS. Construction of portions of these lines may begin in early 2003. The Gavilan Peak to North Gateway corridor is on State land. APS has submitted a request for an easement on this property, which is also being driven by the power requirements of the new water reclamation plant.

The North Central Siting Study shows a new 230kV transmission line from Phoenix going north along I-17 to just south of Happy Valley Road, then turning east and terminating at the Pinnacle Peak Station. APS is finalizing documentation to file with the State Siting Committee, and is expected to file for a Certificate of Environmental Compatibility (CEC) by the summer of 2002. The route of the line requires approval by the Arizona Corporation Commission. Obtaining of easements and construction will not begin until the Corporation Commission has granted a CEC.

For more information on the siting study, contact APS official Maria Arellano at 602-493-4478.

Power line meetings set

by Curtis Riggs

DESERT HILLS – Public meetings concerning the placement of power lines in the area will take place next week. The meetingS are being held as part of the North Central Facilities Citing Project.

An open house hosted by consultants on the project, Environmental Planning Group, will be held from 6 to 8 p.m. on Tuesday, July 18, in the multi-purpose room at Desert Willow Elementary School, 4332 E. Desert Willow Parkway. The meeting concerns future placement of 69-KV power lines in the vicinity of Carefree Highway. The placing of a 230-KV line is also being considered.

On Thursday, July 20, an open house will be held at Desert Mountain Elementary School, 35959 N. 7th Avenue in the multi-purpose room.

HELP ?

SITES NEAR FOR NEW POWER LINES IN FAR NORTH VALLEY

Arizona Republic; Phoenix, Ariz.; Jul 28, 2000; Brent Whiting. The Arizona Republic;

*Sic:*221112 4931*Duns:*00-690-1995
Sub Title: [Final Edition]
Start Page: 1
ISSN: 08928711
Personal Names: Arellano, Maria
Companies: Arizona Public Service*Ticker:*APSEL*Duns:*00-690-1995*Sic:*221112 4931

Abstract:
Electrical demand in this high-growth area is getting stretched to capacity. The 186-square-mile APS study area runs roughly from Deer Valley Road on the south to Interstate 17 on the west, Photo View Road on the north and a jagged eastern boundary running from Scottsdale Road north roughly along 56th Street.

Full Text:
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Site recommendations soon will be made for additional electrical substations and transmission lines to keep pace with explosive growth in the far north Valley.

"We expect our recommendations to be made in late August or early September," said Maria Arellano, a spokeswoman for **Arizona Public Service** Co.

Her announcement followed two informal meetings last week at which APS officials discussed site options. APS is expected to announce the final sites, and the public will have an opportunity to respond to the selections.

Last week's open houses marked the final round of such meetings in a selection process that began a year ago to determine the site for substations and 69- and 230-kilovolt transmission lines in the scenic area from north Phoenix to New River.

Electrical demand in this high-growth area is getting stretched to capacity. The 186-square-mile APS study area runs roughly from Deer Valley Road on the south to Interstate 17 on the west, Photo View Road on the north and a jagged eastern boundary running from Scottsdale Road north roughly along 56th Street.

The area includes the Cave Buttes Recreation area and the proposed Sonoran Preserve.

Residents have until next Friday to voice their view on the matter.

Comments can be mailed to EPG Inc., 4350 E. Camelback Road, Suite G-200, Phoenix, AZ 85018.

Further information is available at http://siting.apsc.com, the siting project Web site.

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Volume 2, Number 2

March/April 2000

DOVE VALLEY ESTATES Messenger

A PUBLICATION BY AND FOR THE MEMBERS OF THE DOVE VALLEY ESTATES HOME OWNERS ASSOCIATION

Be Sure to Join Us on May 15!

APS PRESENTATION SCHEDULED

by Mike Rich

During the past few days, I have been talking with APS, trying to get an idea of the *North Central Facilities Siting Project* status. This is the project that can bring 6-story high power poles and a power substation in our neighborhood, and/or 12-story high voltage transmission towers very near (less than a mile) our neighborhood.

Since APS takes public opinion into consideration before the facilities siting is final, they have graciously (and bravely!) accepted an invitation to give a special presentation at the next Dove Valley Estates Homeowners' Association meeting.

In general, the plan is to discuss what has happened since the last public Open House in January and why the project is moving so slowly. They will also specifically discuss our proposed route and answer questions.

APS is coming prepared - they are sending the Project Manager, an engineer and representative from their consulting firm Environmental Planning Group (EPG).

This is a great opportunity to make your opinions known. Be sure to attend so APS knows we are a concerned and active community!!

APS seeks citizen input for placement of power lines

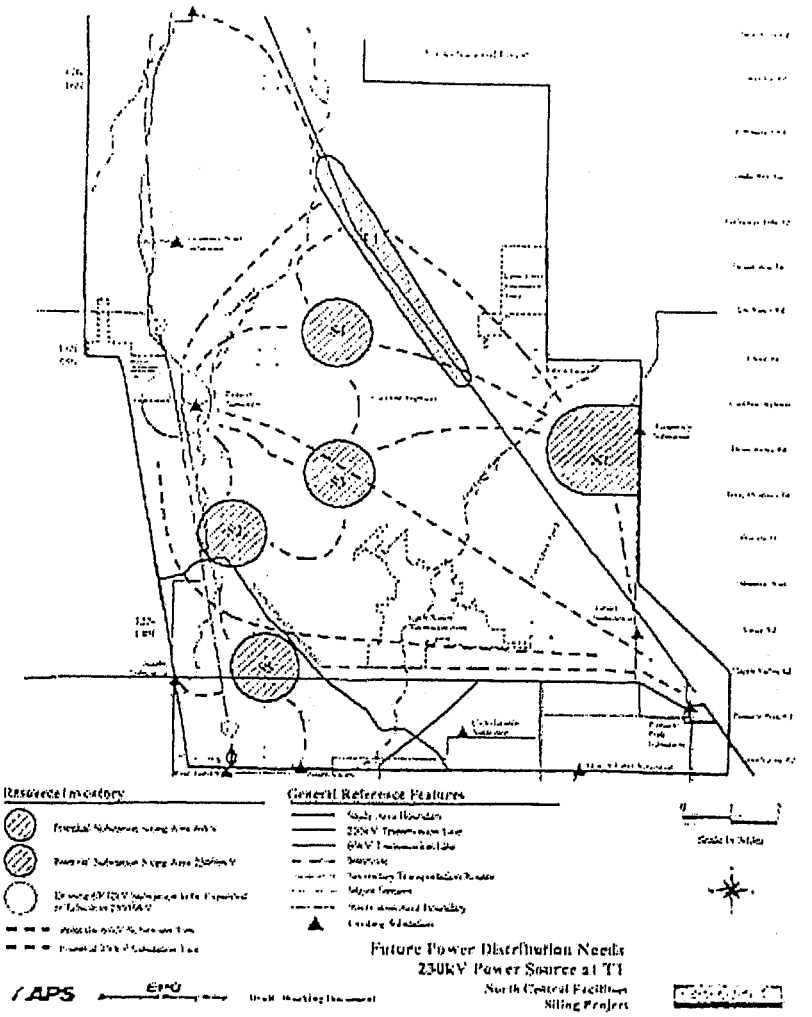
by Kat Gallant

DESERT HILLS/NEW RIVER - APS is making the rounds trying to get input from residents in the North Phoenix region on where to put their new sites for their 230 KB lines, 69 KB lines and substations.

Brad Larsen, project manager, says that so far, they have received over 300 comments from residents voicing their opinion. Most of the comments have been to the tune of, "Don't put it in my backyard!"

But Maria Arellano, assistant project manager, says that is the way most people feel about the placement of power lines. She cautions that before residents take to the streets protesting, APS is merely in the process of getting comments from the residents and exploring all the alternate possibilities.

They have held public meetings in New River, one with the Desert Hills/New River Homeowner's Association and at the Desert View Village Planning Committee Meeting held on Mar. 7th at the Paradise Community Center.



Arellano confirms that they have made no decisions yet but will conclude their study at the end of the summer.

From there she says, "The when and where will largely be based on the growth." However, she anticipates construction will start next year around 2001 to 2002 and will take over a period of 15 years to build.

Their study includes 186 square miles with the perimeters running from Deer Valley Road on the southern boundary, I-17 on the western boundary, the Maricopa County line for the northern boundary and 56th Street over to Scottsdale Road on the eastern boundary.

Alternate locations to run the power lines include I-17 to 56th Street, Carefree Hwy. from I-17 towards Scottsdale Road, along an existing power line at Happy Valley Road or from I-17 through the Southern part of Anthem along Desert Hills Road alignment.

According to Larsen, Anthem will have less chance of placing a new substation in their backyard because they have constructed their own substation located at Deadman Wash.

"They have all the power there they need," says Larsen. "However, the new power lines will assist

Anthem because currently they only have one main power source that runs parallel to I-17."
He says with the new implementation of power lines, it will provide a backup in case Anthem experiences a power outage.
Larsen says the project will consist of overhead lines but the type of poles may vary. "We can use the giant looking power poles or a single steel pole, it depends on where we place them. If we are going to build next to another power pole, we will most likely use the same type."
For the fashion conscious, the poles also come in different colors. There is the regular steel, dull steel and corten. Corten is a rust color, which Larsen says is liked by the rural communities.
Arellano says that they are still working through the public process, holding open houses, evaluating data, and studying environmental alternatives. "When the study becomes more fully developed, we will hold another open house within two months."

Power-line plans upset residents

By Brent Whiting
The Arizona Republic

When Teresa Vincent and her husband purchased their home in the far north Valley about a year ago, they picked a one-acre site with underground utility lines.

They wanted an uninterrupted view of the desert surrounding their nearly $400,000 home in the Carefree Highlands subdivision along Central Avenue, north of the Carefree Highway.

"We just wanted some land, some space and some desert view so we could watch the coyotes, jackrabbits and all sorts of things running through the back yard," Vincent said.

Now she is upset at plans by Arizona Public Service Co. that could drastically change things. The utility is studying the area as a possible route for a new high-capacity power line.

"Things will go to hell in a handbasket now, if they can put up a thing," Vincent said during an open house by APS last week at New River Elementary School.

She's not alone in her concern. Other Carefree Highlands residents, as well as homeowners in New River and Desert Hills, attended the informal meeting to learn about siting proposals and to provide input.

"My concerns are about the environment and what this will do to property values," said John Bennici, who has lived in Desert Hills since 1974.

The meeting was part of an

See POWER LINE | Page 11

POWER LINE | Plans upset residents

From Page 1

ongoing study by APS to determine the site for electrical substations and 69- and 230-kilovolt transmission lines in the scenic area from north Phoenix to New River, a high-growth area that is getting stretched to capacity with electrical demand.

Another open house also was held at Desert Willow Elementary School, 4322 E. Desert Willow Parkway. About 150 people attended the two meetings, said Maria Arrelano, an APS spokeswoman. Similar meetings in October attracted about 80 people.

The 186-square-mile APS study area roughly runs from Deer Valley Road on the south; Interstate 17 on the west; Photo View Road on the north; and a jagged eastern boundary running from Scottsdale Road north roughly along 56th Street.

The area includes the Cave Buttes Recreation area and the proposed Sonoran Preserve.

Brad Larsen, manager of the APS North Central Facilities Siting Project, said the meetings were the second step of a selection process that started in mid-1999. The utility is seeking citizen input and hopes to complete its study by June, he said.

Nothing will be going up soon, but APS wants to put routes in general plans so that developers and others will be put on notice where the transmission lines and substations are going to be placed, Larsen said.

"We always hope that people will tell us something that will work, not just what they don't want and don't like," he said.

Larsen said the growing study area is vulnerable to power outages because the major 69-kilovolt line along Interstate 17 is mostly strung on aging wooden poles, which are susceptible to auto accidents and windstorms.

Jim Kuester, a Scottsdale resident who is planning to build a home in New River, said that because of the outages, he understands that things need to be improved to make electrical service more dependable.

However, Kuester said he thinks that, as much as possible, transmission lines should be put up along existing corridors for minimal impact upon residential areas. He said APS is doing the right thing in trying to communicate with people about the issue.

Teri Lynch, a Cave Creek merchant who lives in Desert Hills, said the farther north in the study area, the more pristine the desert. She favors routes that can avoid pristine sites.

"There is a need for new power lines," she said. "I think that running them along existing corridors is a great idea."

Reach the reporter at Brent.Whiting@ArizonaRepublic.com or (602) 444-7119.

FRIDAY
February 4, 2000

Editor, Julie Morris
(602) 444-7470
Julie.Morris@ArizonaRepublic.com

More Volts For New River/ Desert Hills

by Karen K. Seemeyer

The Desert Advocate
February 3, 2000

At the APS Public Information Open House held Jan. 25 at the New River Elementary School, residents surrounded the maps, graphs and photos of electrical facilities in order to learn of the upcoming APS North Central Facilities Siting Project in other words, more substations and transmission lines in the Desert Hills/New River area. APS has explained that anticipated future demand for power due to development, both north and south of Carefree Hwy, fuels the study and planning for new facilities locations.

An initial public open house was held in late October '99 to gather public comments. Out of 9000 residents in the New River/Desert Hills area, less than 70 attended.

According to public comments made during the past open house, suggestions were made that new facilities should be placed where the major growth areas are located and that facilities should not be constructed near mountain areas. Others were concerned that electric rates will be affected by the capital improvements.

Three possible locations for a new 230 kilovolt(kV) substation sit along the existing 230kV transmission line, the large metal towers which run through the Desert Hills/ New River area from approximately 24th St northwest, intersecting I-17 just north of the county line. The first proposed location is between Carefree Hwy and Cloud Rd. along 24th St. Site two is between Joy Ranch Rd and Desert Hills Dr west of 16th St. Site three is located south of Honda Bow and just east of 7th Ave. The 230kV substation will require ten acres of land.

A 69kV substation, which requires one acre of land, has several proposed locations. However, there is only one location north of Carefree Hwy, the section of land between 7th St and 7th Ave., Cloud and Joy Ranch Rd, being the preferred site. The logic for placement in this area is that the state-owned 640 acres at this location will be zoned for development and the substation could be placed contiguous to the development.

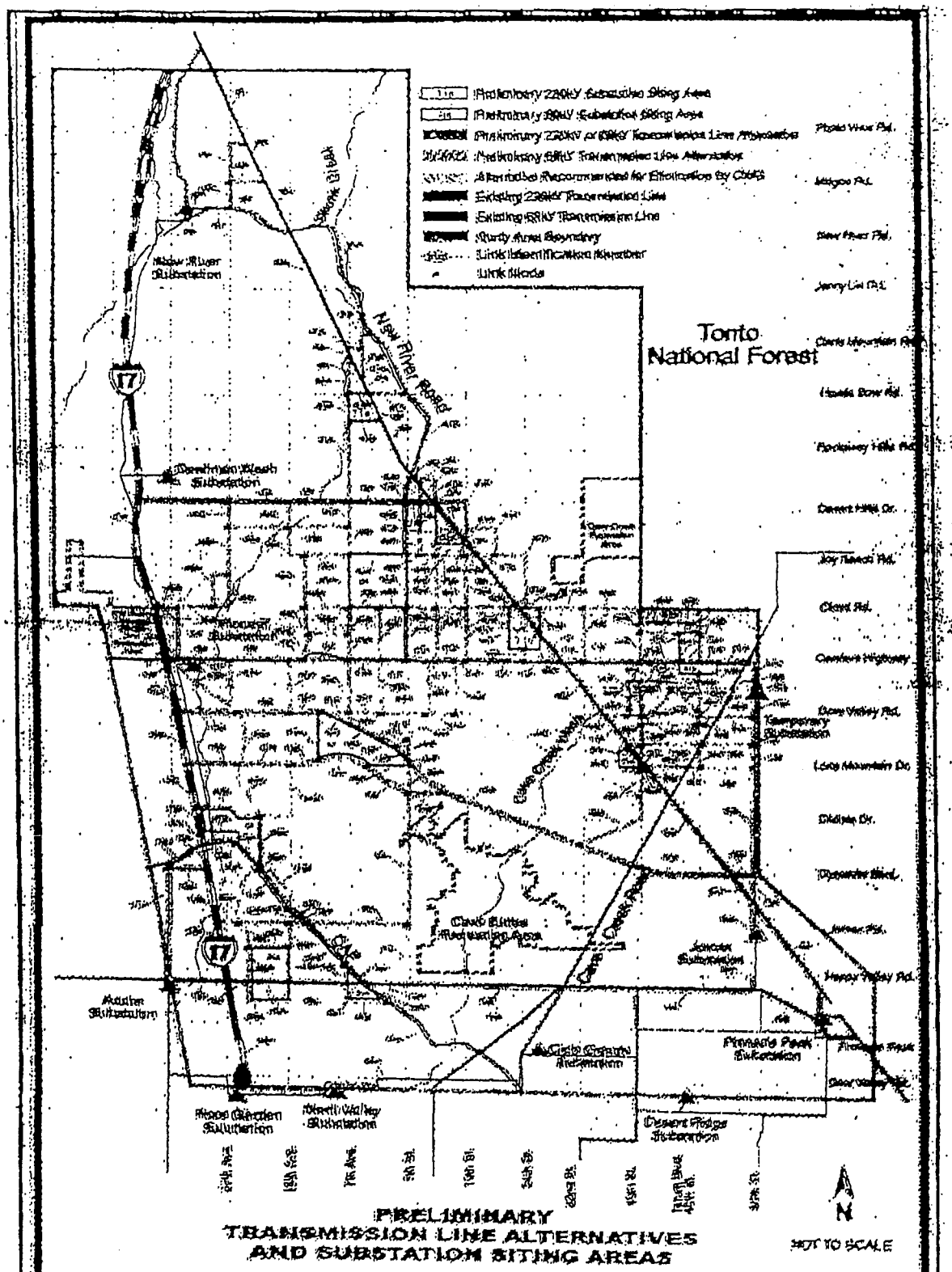
Seven proposed sites south of Carefree Hwy for 69kV substation construction range from the area around 16th St and Carefree Hwy westward to I-17 and south to the CAP canal.

Environmental Planning Group Inc., a consulting firm working with APS, has chosen a 19-member Community Working Group (CWG) ostensibly representing a cross-section of the community that will assist the planners with input of concerns and values of the community. Terri Lynch, a member of the CWG, stresses, "I believe that the community needs to become involved now. Their input is vital to the planning process and their public comments, either through the comment line or e-mail, could very well affect the outcome of the decision."

A consensus of public opinion states that the new facilities should be placed where the majority of area residents prefer they be located, versus just the most cost efficient locations, and that every effort should be made to accommodate residents requests.

As usual, the future of the community rests on the shoulders of those who choose to participate. Unfortunately, to date all too few have taken the opportunity to voice their opinions.

APS has sent out two newsletters to keep community members informed. If you have not received a newsletter or would like to ask questions or make comments, you may call 602-381-1769 or visit the website at http://siting.apsc.com.



PRELIMINARY
TRANSMISSION LINE ALTERNATIVES
AND SUBSTATION SITING AREAS

APS

EPG
Environmental Planning Group

The Arizona Republic
October 30, 1999

Residents review power pole plans

By Betty Beard
The Arizona Republic

NEW RIVER — Most people probably aren't like Lynette Polewka, who doesn't mind living near power lines.

For one thing, there's a road under them where you can walk your dog, she points out.

The best thing is that every fall, hundreds of buzzards fly through and rest on the lines in front of her home, perhaps on their way from the Boyce Thompson Arboretum near Superior to the south for the winter.

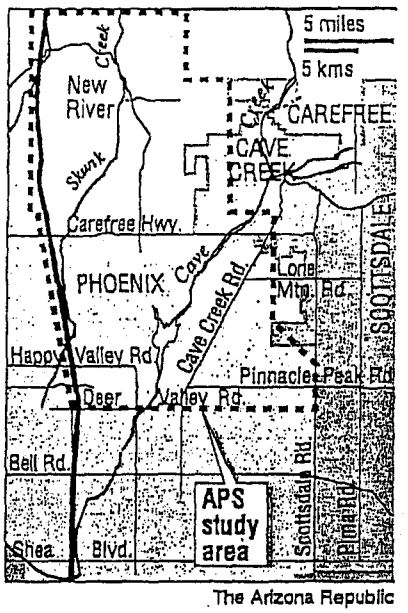
"It gets crowded up there," Polewka said of the visiting birds.

Most people probably would avoid living near power poles and electrical substations if they had a choice. They would not be happy to know that Arizona Public Service Co. is planning to build two new lines and five substations in the scenic area from north Phoenix to New River.

The 186-square-mile target area includes the Cave Buttes Recreation area and the proposed Sonoran Preserve.

Brad Larsen, manager of the APS North Central Facilities Siting Project, said the rapidly growing area is vulnerable to power outages because the major 69-kilovolt line along Interstate 17 is mostly strung on aging wooden poles that are susceptible to auto accidents or windstorms.

"Any problem with that line means we pretty much lose everything," Larsen said.



The Arizona Republic

Also, the electrical demand in the area is growing faster than in any other APS system in the state, and the company wants to stay ahead of the growth, he said. Construction of the power systems wouldn't begin until the end of 2001, and some parts wouldn't be built for 15 years.

APS is replacing the wooden poles with stronger steel ones and wants to build one 230-kilovolt line and one 69-kilovolt line to make the system more reliable.

Officials with APS emphasize that they have not decided where to put the lines and substations and are just beginning to ask the public for suggestions. It plans to take 8 to 12 months for environmental studies and public comment.

The utility held the first of three sets of public hearings Tuesday and Wednesday at the New River and Esperanza elementary schools.

APS no longer just decides to put in power poles or substations, buys the land and puts them in, as it used to do, Larsen said. Its new philosophy is to get public comment ahead of time. To find out what the public wants, the company formed a siting department a few months ago. It also has formed a 19-member working group that includes residents and is using an outside consulting group, Environmental Planning Group.

Boundaries of the study area are roughly Deer Valley Road on the south; Interstate 17 on the west, Photo View Road on the north and a jagged eastern boundary running from Scottsdale Road north roughly along 56th Street.

At Tuesday's hearing in New River, about 30 residents showed up, crowding around maps to examine some approximate locations.

Dawn Abbey wasn't surprised by the turnout, saying it's typical of any project affecting the community.

"Meetings tend to be packed," she said. "People want to preserve their lifestyles."

red for in a home. The meeting is at a.m. at the Pyle A[illegible] Recreation enter, 655 E. South[illegible] Ave.

Child-care advocates argue that the ty's ordinance, in effect since the to teaching English as a second language.

The office, which has been monitoring the district since 1996, has said district programs could be under scru-

and Bell Road, [illegible] neighbors persuaded the city [illegible]te it down, citing traffic, privacy and safety concerns.

In April, Budget Suites decided to try Bell again, this time near 69th Av-

AZ REP.
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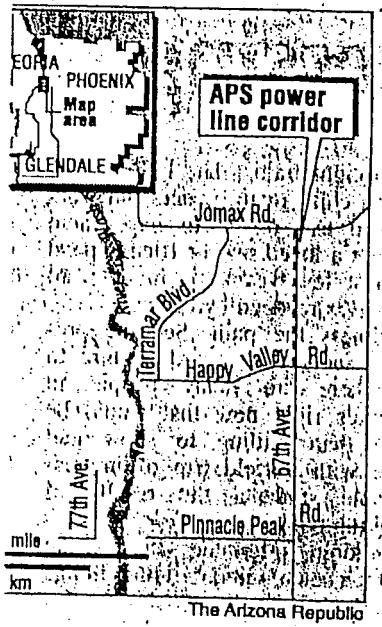
Tues. 8/24/99

W[illegible]ms Gateway Airport.

New APS line in North Valley has neighbors buzzing



The Arizona Republic

Neighbors in a booming area of northwest Phoenix bought their homes for the desert vistas, but lately, they've been looking up, not out.

Signs posted along 67th Avenue south of Jomax Road read, "Future Power Line Corridor."

For the past two years, Arizona Public Service Co. and area residents have been working on plans for new power lines and substations to serve the growing Northwest Valley. There have been open houses, newsletters, even a special telephone number to call.

The problem is, many of the homes along 67th Avenue have been built only in the past few months, and some new owners say they were caught off guard when they moved in. The same goes for

what they're talking about

other residents who are waiting for their new homes to be built.

"Even though we've done what we consider a fair amount of outreach, we know there are some residents who don't know about the plans," said Maria Arellano, a siting consultant for APS. "The area is growing so darn fast."

But, she added, "That line is going to serve the new customer base."

There are last-minute calls by some homeowners to pull the plug on the plan. Some have tried to enlist the help of Phoenix City Councilman Dave Siebert, who represents the area.

But APS is moving forward.

In six weeks or so, crews will install dozens of 58-foot, brown steel poles along 67th Avenue between Jomax and Happy Valley Road. The poles, about 400 feet apart, will carry a 69,000-volt line. Once they've begun, crews can have the line up in about a week.

The new power line is just one piece of a larger plan by APS to serve a sprawling area roughly bounded by Honda Bow and Pinnacle Peak roads, Interstate 17 and 163rd Avenue.

Plans call for 67,000-volt and 230,000-volts lines, as well as new substations. APS must get the OK from the Arizona Corporation Commission's siting committee for the 230,000-volt routes.

Meanwhile, residents along North 67th Avenue can have the last word — for a price.

The overhead line can be taken down and buried if neighbors form an improvement district and pay for the work. The cost of burying a line is about 10 times the cost of installing one overhead.

APS would pay that cost upfront, and the residents who participate in the district would repay it.

Arellano stressed, however, that APS will not reroute the line.

"We know we need to build the line," she said.

Information: (602) 493-4478 or Larry Krueger at (602) 493-4200.

— Susie Steckner

es unite to seek $2 billion for wastewater projects

groundwater and drinking water supplies. Towns along the lower Colorado River — a water source for 20 million Americans — are being pressured to switch to conventional sewer systems, which handle wastewater more efficiently and safely.

Installing sewers and making improvements to inadequate and aging wastewater systems won't be cheap, however. In Lake Havasu City, a community of 40,000, the price tag is estimated at $200 million; 50 miles upstream in Bullhead City it's $2 billion.

With fewer federal dollars trickling out of Washington, D.C., these days for public projects like sewers, the prospect of individual communities having to shoulder much of the bill for the upgrade has alarmed community leaders in the river towns.

Last year, the then-mayors of Lake Havasu and Bullhead City persuaded local, state and tribal representatives from Arizona, Nevada and California to form a non-profit coalition dedicated to sorely needed in small towns strapped for cash to pay for them.

"Due to the rapid growth along the river, especially on the Arizona side, without sewer improvements we are facing the prospect of polluting our own groundwater supply," said Tom Parry, city manager of Needles, Calif. "We don't have the money to do the improvements on our own."

Septic tanks are common in communities along the lower Colorado River because they were far cheaper to install than full-fledged are on septic systems. The town's industrial area, however, is served by traditional sewers.

But business development along the lower Colorado could be inhibited unless cities end their reliance on septic systems, Dahl said.

"That's certainly something that has these communities concerned as well," she said.

Folks in the arid West have been brawling over the Colorado River's uses and allotments for decades.

But getting representatives of river communities in three states for millions and millions of people," he said. "We who live along it feel very responsible for its cleanliness and the watershed that serves the Colorado."

Members of CRRSCo include the Arizona cities of Lake Havasu City, Bullhead City, Quartzsite and Yuma; La Paz and Mohave counties in Arizona; Needles and Blythe, Calif.; and the Fort Mohave Indian Tribe.

Other entities with an interest in the river's water quality, such as Clark County, Nev., home to Las Vegas and Laughlin, aren't officially

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Future high-voltage lines mapped for NW Valley

— FUTURE, *from Page 1*

"We want people to know ahead of time," Arellano said.

The map represents nearly a year's work for APS and a 13-member committee, dubbed the Community Working Group. The committee included residents, developers, a school-district representative, and city, county and state representatives.

The group recommended several alternative routes to APS, which determinated the final route.

Apparently, people are pleased with the final outcome.

There was some concern among homeowners living along Happy Valley Road between 67th Avenue and Interstate 17 that APS would string a second high-voltage power line alongside an existing 230,000-volt power line that follows Happy Valley Road.

Neighbors protested the route at a recent open-house meeting, saying that the existing transmission line has hurt their property values and that it would be unfair to erect another one.

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Before the map is final, the utility company will have to get the blessing of the Arizona Corporation Commission's siting committee for the 230,000-volt routes.

Meanwhile, APS officials will begin working to get the planned routes included in the various municipalities' general plans so potential homeowners and developers can find out exactly where high-voltage lines are planned before building or buying a residence.

APS said the lines will be built as they are needed. Selected sections of the 69,000-volt line will be constructed by June 2000, according to the company.

Copies of the map can be obtained by calling 861-7471.

Jeffry Nelson can be reached at 444-7117 or at jeffry.nelson@pni.com via e-mail.

THE ARIZONA REPUBLIC

NW

Editor,
Laura McBride
444-7122

New River Sunnyslope

Friday
November 20, 1998

COMMUNITY EDITION 3 Online: www.azcentral.com/www/nw.html

APS maps high-voltage routes

Public alerted on where future lines will cross northwest Valley

By Jeffry Nelson
The Arizona Republic

Some say they hurt property values. Some believe they're unhealthful. Most just think they're plain ugly. Whatever the reason, people don't like living near high-voltage power lines.

Arizona Public Service Co. found out last year just how deep that animosity runs when it announced plans to string a 69,000-volt power line along 83rd Avenue between Beardsley and Happy Valley roads in Peoria.

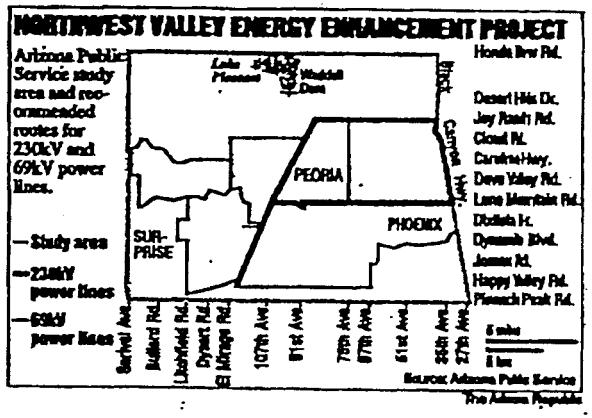
Within days, residents banded together to fight the plan. In the end, APS chose a different route for the line.

Hoping to avoid another quarrel, APS has produced a map showing the planned routes of future high-voltage lines in a 200-square-mile area in the far northwest Valley. The map shows where APS plans to install 69,000-volt and 230,000-volt power lines, as well as electrical substations.

"These are the routes that have come up as No. 1 in our book as to where we'll go," said Maria Arellano, spokeswoman for APS.

By producing a map showing where the transmission lines will go, APS hopes property owners won't be caught by surprise when a line crew shows up and starts digging a hole for a 65-foot-tall power pole or a 120-foot-tall metal tower.

— Please see PATHS, Page 8



APS maps future high-voltage lines in NW Valley

APS, *from Page 1*

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COMMUNITY EDITION 2 A B C D E F G

Online: www.azcentral.com/wv/wv.shtml

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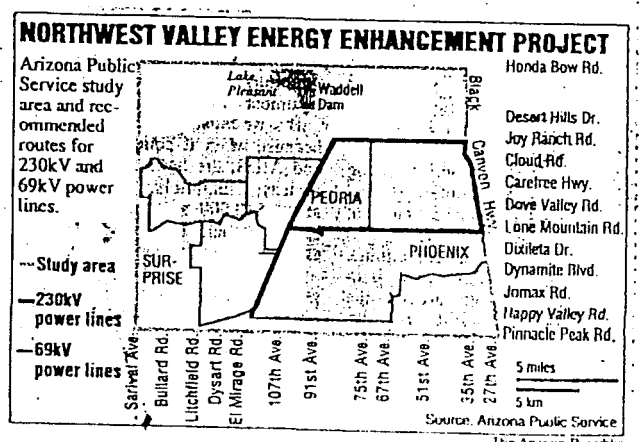
Please see APS, Page 9



APS to use public's help mapping power line routes

By Jeffry Nelson
The Arizona Republic

PEORIA — Concerns over the placement of a high-voltage power line in the north end of town have prodded Arizona Public Service Co. to begin work on a map that will show the future routes of high-power lines in the northwest Valley.

The idea, APS spokesman Larry Krueger said, is to let people know where the company has high-voltage power lines planned before the lines are strung.

That way, no one is caught by surprise when APS shows up and starts digging a hole for a 56-foot-tall power pole.

"We didn't have to do a study area this big," Krueger said. "We just felt we needed to move and get ahead of the growth."

By doing that kind of planning, APS is hoping to avoid some of the problems it has encountered in north Peoria recently.

Over the summer, APS ran into resistance from residents who opposed the company's plans to string a 69,000-volt power line along 83rd Avenue between Beardsley and Happy Valley roads.

Opponents were concerned that putting the line near their homes could cause health problems and depress property values.

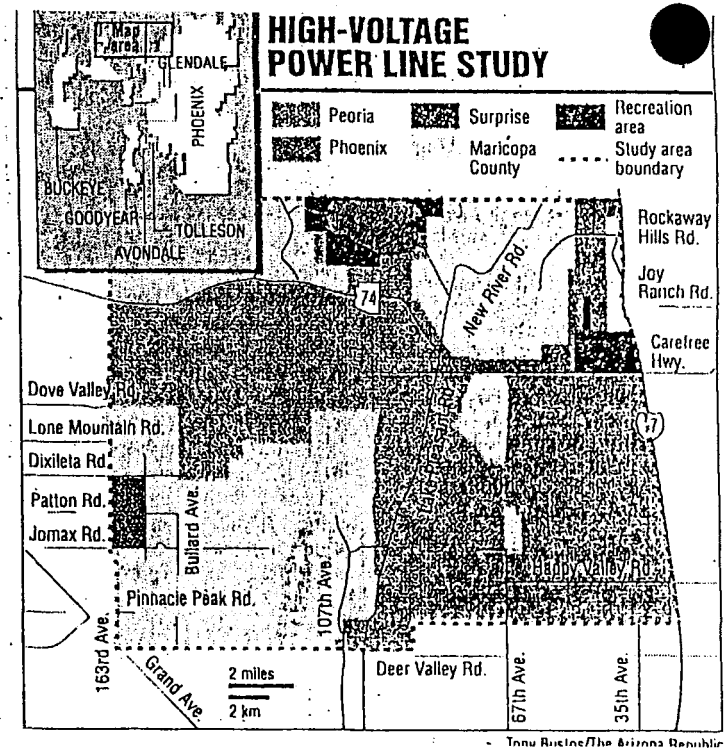
The company dropped the plans for the 83rd Avenue route in August and formed a "community working group" to suggest an alternate route for the line.

APS officials were in the process of accepting volunteers to serve on the committee when they decided to expand the study.

"We figured that since we're going through the process, why not look at the big picture instead of the little picture?" Krueger said.

APS has hired a consulting group, Phoenix-based Dames & Moore, to assemble a committee of 15 to 20 people to look at a 200-square-mile area bounded

— *Please see* PUBLIC, *Page 4*



Tony Rustos/The Arizona Republic

Public to help APS map NW Valley power line routes

— PUBLIC, *from Page 1*

roughly by the Maricopa County line on the north, Interstate 17 on the east, Deer Valley Road on the south and 163rd Avenue on the west.

The area includes portions of west Phoenix, Glendale, Peoria, Surprise and the county.

In addition to having residents and city officials from each areas, the committee likely will include developers, farmers and school-district representatives.

Krueger said the committee, which is still being assembled, will recommend where to place 50 to 80 miles of high-voltage power lines and eight to 14 electrical substations.

They will decide where to place:

- 10 to 20 miles of 230,000-volt transmission lines.
- 40 to 60 miles of 69,000-volt transmission lines.
- Two to four transmission substations.
- Six to 10 distribution substations.

Krueger said the committee will produce a recommended plan and likely a couple of alternatives.

He said APS then will work to get the recommended routes included in the various municipalities' general plans so city planners can tell potential homeowners and developers where high-voltage lines are planned.

The recommended routes for the 230,000-volt lines will have to be approved by the siting committee of the Arizona Corporation Commission.

Cindy Smith, senior project manager for Dames & Moore, said the pace of growth in the northwest Valley means these power lines and substations will be needed within 10 years.

Smith said the committee will hold five meetings and three open houses over the next nine to 12 months, after which it should have a recommendation.

The committee is expected to begin meeting next month, but a date hasn't been set.

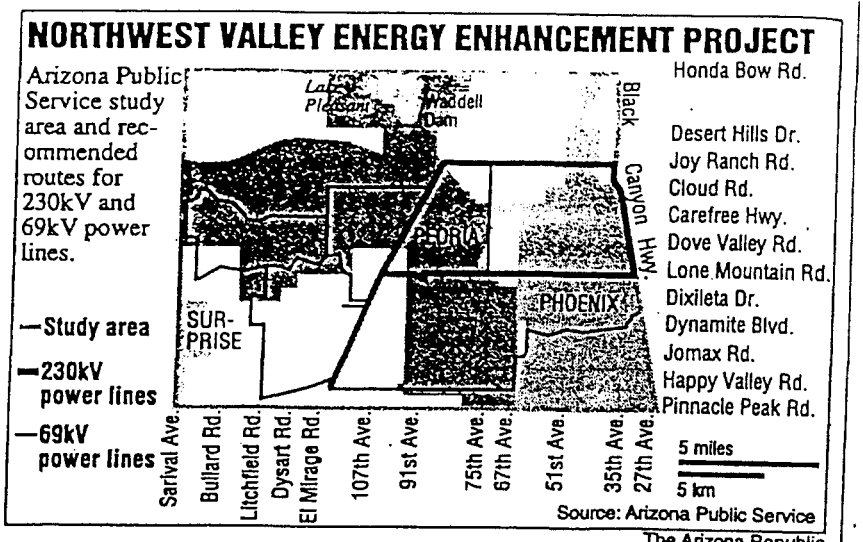
Jeffry Nelson can be reached at 444-7117 or at jeffry.nelson@pni.com via e-mail.

SERVING
Glendale
Northwest Phoenix
Peoria

Monday, November 17, 1997

Power line protests defused

APS gives notice of proposed routes



The Arizona Republic

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By producing a map showing where the transmission lines will go, APS hopes property owners won't be caught by surprise when a line crew shows up and starts digging a hole for a 65-foot-tall power pole or a 120-foot-tall metal tower.

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The map represents nearly a year's work for APS and a 13-member committee, dubbed the Community Working Group. The committee included residents, developers, a school-district representative, and city, county and state representatives.

Using maps and aerial photographs and on-site visits, the group determined which routes it felt would least affect existing property owners and the environment. Several possible routes were recommended to APS, which made the final determination.

Apparently, people are pleased with the final outcome.

There was some concern among homeowners living along Happy Valley Road between 67th Avenue and Interstate 17 that APS would string a second high-voltage power line alongside an existing 230,000-volt power line that follows Happy Valley Road.

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Meanwhile, APS officials will begin working to get the planned routes included in the various municipalities' general plans so potential homeowners and developers can find out exactly where high-voltage lines are planned before building or buying a residence.

Copies of the map can be obtained by calling 861-7471.

Jeffry Nelson can be reached at 444-7117 or at jeffry.nelson@pni.com via e-mail.

ews For APS

Corporate Media Relations (602) 250-2277

Date: Friday, November 13, 1998
City: Peoria, Arizona
Media: THE PEORIA TIMES
Page: A8

APS selects power line routes in NW Valley

By GREG ZEMEIDA

Growth in Peoria has occurred faster than many expected, including utility companies. To help catch up with, and even get a step ahead of, future growth in the city, Arizona Public Service (APS) plans to build miles of new power lines in the mostly undeveloped northern parts of Peoria.

APS spokesman Larry Krueger said the new power lines will meet energy demands for the area for the next 20 years.

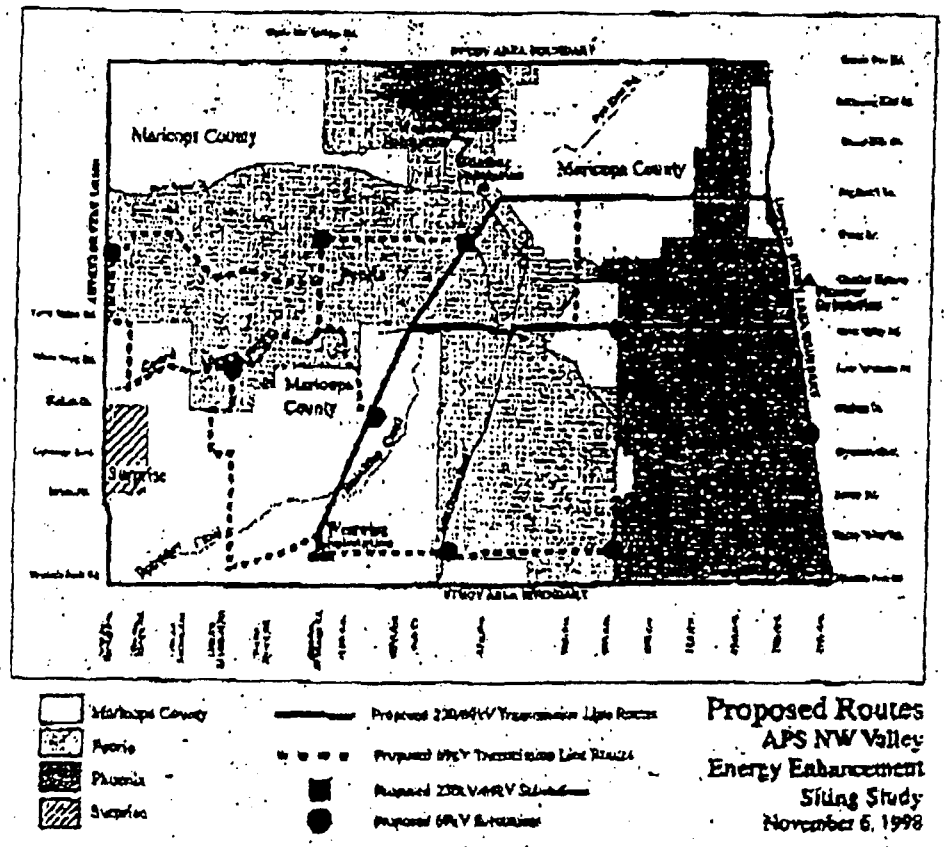
In addition, by building the lines now before homes are put in, there will be less controversy about their location.

"What we're trying to do is get ahead of the growth so people will know in advance where they are located," Krueger said.

Mayor John Keegan said he was pleased with the way APS worked with Peoria residents in coming up with the power-line routes. The power company had put together a 13-member community working group which provided input on the various land issues facing the power-line siting.

"This seems to be a substantial effort to ensure the infrastructure is there before housing comes in," Keegan said.

APS plans to install both 230 kilovolt (kV) power lines as well as 69 kV lines throughout the Northwest Valley. Extensive portions of the new lines will pass through the city of Peoria north of Pinnacle Peak Road.



The 230 kV line will run northeast from the Westwing substation near 123rd Avenue and Happy Valley Road, passing through Peoria until it reaches Joy Ranch Road just south of Lake Pleasant. The line will then extend east until it reaches Interstate 17.

The 230 kV line then heads south until it reaches Dove Valley Road. From there, it turns west and passes through Peoria until it connects back up with the other 230 kV line near 107th Avenue.

The majority of the 69 kV lines will be located in the far northwest sections of Peoria south of State Route 74. Portions of the lines will also be built along

Happy Valley Road and on 67th Avenue just north of Happy Valley.

The first lines to go in will be the 69 kV ones connecting the Westwing substation up to 67th Avenue. Work is expected to begin on those lines some time next year.

The 230 kV lines will be built within the next five to 10 years. Construction of both 230 kV and 69 kV lines will be determined by future growth and need.

For the first time ever, Peoria residents moving into the areas with planned power lines can choose to have them built underground. At Peoria officials' urging, the state Legislature passed a new law this spring allowing citizens to form improvement districts to pay for putting power lines underground.

Keegan said city officials will talk with future home developers to see if they want to pay for putting lines underground.

"We're trying to make sure those lines are put underground with the initial development that goes in," he said.

Krueger said APS would build power lines underground if it receives the extra funding from the improvement districts. He didn't have any cost estimates for such a project, but said putting lines underground costs about 10 times more than building them above ground.

For more information about the power line routes, call 861-7471.

Wednesday +
September 16, 1998

2 chances left to get say on power lines

By Jeffry Nelson
The Arizona Republic

PHOENIX — Arizona Public Service Co. is putting finishing touches on a map that will show the future routes of high-voltage power lines and electrical substations in the far northwest Valley.

But before the map is made final, the public will get two more chances to view the proposed routes and suggest changes.

Open houses will be held at Las Brisas Elementary School, 5805 W. Alameda Road (north of Pinnacle Peak Road). The first will be from 6 to 8 p.m. Thursday, and the second will from 10 a.m. to noon Saturday.

The map will show the locations of 230,000-volt lines, 69,000-volt lines and electrical substations in a 200-square-mile area bounded roughly by Honda Bow Road on the north, Interstate 17 on the east, Pinnacle Peak Road on the south and Sarival Avenue (163rd Avenue) on the west.

Earlier this year, Dames & Moore, a Phoenix environmental-consulting firm hired by APS, came up with a list of possible routes.

The list was then narrowed by members of a 13-member committee, dubbed the Community Working Group. The committee includes residents, developers, school-district representatives, and city, county and state representatives.

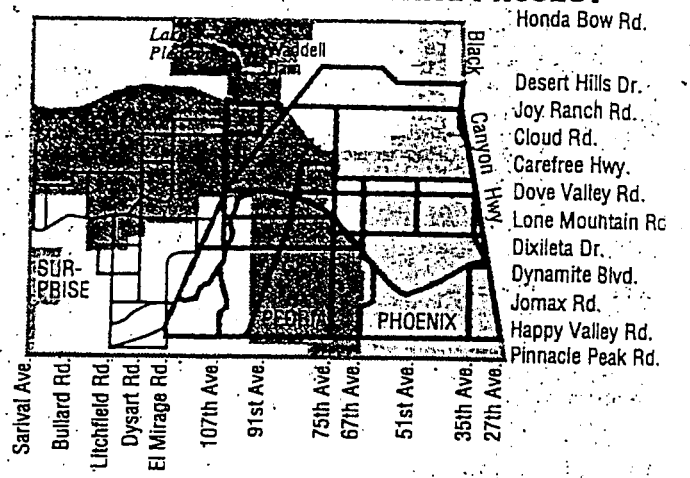
It has taken the group about nine months to decide where the power lines and substations should go. The group used maps, aerial photographs and on-site visits to help choose the routes, many of whi follow existing features such as the CA Canal, major streets and other power lines.

Larry Krueger, area manager of custom relations for APS, said the committee al

— *Please see* **2 CHANCES**, *Page*

NORTHWEST VALLEY ENERGY ENHANCEMENT SITING PROJECT

Arizona Public Service study area and proposed routes for 230kV and 69kV transmission lines.



Gus Walker/The Arizona Repub

2 chances for say on power lines

— **2 CHANCES**, *from Page 1*

wanted to choose routes that would make the power lines as unobtrusive as possible. The 230,000-volt lines are typically strung on poles 120 feet tall, while 69,000-volt lines are typically hung on poles 65 feet tall.

"You wouldn't want to take power lines up and over mountains because they become very visible," Krueger said. "You try to keep them in the lower areas so they kind of disappear into the desert."

After the two public hearings, the Community Working Group will meet again to review comments made at the hearings. Krueger said the hearings could result in changes to the map if enough people object to a proposed route.

The map the committee ends up recommending to APS will include suggested routes for the power lines, as wells as some alternative routes, said Paul Trenter, project manager for Dames & Moore. After it receives the recommendation, sometime in October or November, APS will decide which of the recommended routes it will use.

APS will have to get the permission of the Arizona Corporation Commission's siting committee for routes with 230,000-volt lines.

After APS and the Corporation Commission sign off on the routes, APS will then work to get the routes included in municipal general plans so potential homeowners and developers know exactly where the lines are planned before building or buying a residence.

By doing this, APS hopes to avoid some of the problems it had in north Peoria recently.

Last summer, APS ran into resistance from residents who opposed its plans to string a 69,000-volt power line along 83rd Avenue between Beardsley and Happy Valley roads. Eventually, it was forced to choose a different route for the line.

For more on the Northwest Valley Energy Enhancement Siting Project or the open houses, call 861-7471.

12-10-97

Sites sought for APS power lines in NW Valley

By PATRICK O'GRADY
Arrowhead Ranch Independent

Arizona Public Service officials are planning for new power lines in the northwest Valley to bolster the company's supply lines in the area.

The company, Arizona's largest supplier of electric power, is conducting public meetings to detail its plans to install new lines and equipment in the area bounded by Interstate 17 to the east, Pinnacle Peak Road on the south, 163rd Avenue to the west and the county line to the north.

Company officials will hold open houses this week to explain the project and its effects on area neighborhoods from 6 to 8 p.m. Dec. 10 and 10 a.m. to noon Dec. 13 at Las Brisas Elementary School, 5805 W. Alameda in Phoenix.

Although there are no plans to establish power lines near Arrowhead Ranch, residents could still be effected. Without the project, their power supply would be less reliable because of the number of new residents moving to the area, company officials said.

"We're trying to get out in front of development on this," said Larry Krueger, siting project manager.

The company plans to install up to 80 miles of transmission lines, 4 transmission substations and 10 distribution substations in the next several years, primarily in north Peoria and areas of unincorporated Maricopa County.

APS is trying to map out its strategy for the next 10 years because of the tremendous growth in these areas, as well as northeast Phoenix, Surprise, the Sun Cities and other areas of the northwest Valley. Some equipment recommended in the siting study, however, will be needed in the near future.

The new equipment will be connected to the company's sprawling power grid that, along with the Salt River Project,

See ■ PENNIES, Page 10

■ POWER

From Page 1

supplies power to the Phoenix metropolitan area. The interconnected grids within the system will allow APS to re-establish power quickly should it fail in other areas. Mr. Krueger said.

"What we are trying to ensure is that we have more than one source of power into an area," he said.

The project is being designed by Dames and Moore, an environmental consulting and engineering firm in Phoenix. The company will conduct the early public meetings, gather information and select sites.

The selection process will be complete by June 1998 when the first of the new facilities will be needed.

Peoria Times
Sept. 26, 1997

Progress crackles on power line issue

City of Peoria and APS officials talk next week

By L.E. McCORMACK

If north Peoria citizens are still concerned about where and how APS will construct a 69kv power line originally planned for 83rd Avenue, Peoria Mayor John Keegan can assure them that the issue is being worked on.

On Aug. 7, about 40 people came to Sunrise Mountain High School to an on-again-off-again meeting about the placement of the power line. Although city and APS officials were present, the formal meeting had been "canceled" by parties unknown and an informal meeting took place instead, mostly consisting of citizens voicing individual concerns.

The casual nature of the meeting aside, the citizens' comments were not lost on the city and APS representatives.

After citizen protests, APS had backed off the 83rd avenue plan before the meeting and agreed to study other alternatives. Mayor Keegan says changes in state law will be necessary for alternatives that make sense for the citizens of Peoria.

Next week, Keegan, council member Ken Forgia, and Phillip Hubbard, the city's government affairs and community relations liaison, will meet on the power line issues with APS representatives and the consulting firm of Dames and Moore.

APS hired the consulting firm to develop a study that will include a larger area than just north Peoria to get a better picture of cost implications for citizens.

Keegan and Forgia have supplied Dames and Moore with a list of citizens who have contacted the city or APS on the power line issue. The firm is interviewing people on the list to serve on a committee with city and APS officials to review the power line study.

Keegan indicated earlier that the committee would probably meet three or four times and then present its findings at a series of public hearings.

Meanwhile, Hubbard is researching the current law, drafting language for a bill to put before the legislature in its January 1998 session and lining up legislators to sponsor it. The council plans to have the bill ready for "pre-filing" in mid-December so that it will get a jump start on the legislative action in January.

APS won't make power-line decision alone

Utility still seeking members for site-selection committee

By CAROLYN DRYER

The decision about where Arizona Public Service Company's high-voltage lines will go in the Northwest Valley will be made by a community working group.

That's what APS spokesmen and the utility's consultant, Dames & Moore, are saying and they are sticking to it. It won't work any other way, APS spokesman Larry Krueger said. Krueger said if APS doesn't listen to the city planners, residents and others who have a vested interest in the area, everything the utility does could backfire.

That's why Krueger said it is very important to remind people that there will not be a return visit to the question of whether there will be a high-voltage line installed along 83rd Avenue north of Union Hills Drive to Happy Valley Road. APS doesn't have to get hit over the head with a 2-by-4.

"We are not going back to reconsider 83rd Avenue," Krueger said.

When APS came out with a preliminary plan to build the 69kv line on 83rd Avenue in north Peoria instead of siting it closer to Glendale, some vocal north Peoria residents became incensed and actively recruited others in the area to join in a concerted fight to oppose placing the lines on 83rd.

Instead of fighting back, APS sought the advice of Dames & Moore to work with the residents rather than against them. Instead of the 83rd Avenue line, there will be a 69kv line added from the Rio Vista Substation south to Bell Road to provide back-up electrical service from the Mountain View Substation to the Westbrook, Arrowhead and Pleasant substations; APS will change the existing wire on the 69kv power line from Union Hills Drive to Bell Road with a fourth circuit into the Bell Substation to provide more electrical capacity and system reliability to the area; and a 69kv capacitor bank at the Arrowhead Substation will be added to support the voltage profile in the area.

Photo by Bill Dosham

APS spokesman Larry Krueger (left) and Paul Trenter, spokesman for consulting firm Dames & Moore, are still looking for volunteers to serve on the community working group that will decide where the high-power lines will go in Peoria.

These three actions are not solutions, Krueger warned. They are just to manage until a long-term solution is agreed upon for the entire Northwest Valley. These actions are interim measures, Krueger said, just "little pieces" to handle the growth that's taking place now to handle the higher demands on the utility next summer, the crunch season in the Valley for APS.

So, an alternate route for the 230kv lines, the higher-voltage high-voltage lines, will be decided by members of the immediate area affected by their installation. But what about underground? The city of Peoria's government relations liaison Phillip Hubbard, Peoria Mayor John Keegan and the city council are working on a bill to present to the Arizona Legislature that would require all future electrical utility lines installed in the city of Peoria be placed underground.

Krueger said, "We were supporting what Hubbard wants to do with that. We're not sure if it will be a legislative or city thing."

Krueger added that, although APS is willing to do whatever the city wants in the area of underground installation, the funding mechanism is another story: the additional costs associated with underground installation would have to be borne by someone other than APS.

APS is "trying to get out ahead of the curve," Krueger said.

The utility is working with city planners on the utility elements of the city's comprehensive master plan, he said, and APS hopes its future line installations will be included in that plan.

Larger, higher-voltage lines will have to be constructed in Peoria in the future just to handle future demands and siting of those lines will have to go through a Arizona Corporation Commission (ACC)-mandated state siting process. To those who may question the objectivity of that process, Paul Trenter of Dames & Moore said, "Yes, it does matter."

Trenter recalled a siting process that took place in

More APS on A18

APS

From A3

southeast Phoenix where a siting committee listened to citizens in the area and placed their concerns at the top of their considerations when it came time to make a decision. APS had to comply with that decision. The siting committee is comprised of delegates from Arizona State Parks, state legislators, the public at large and staff from the ACC. Nine people serve on the committee.

Trenter said there are five stages to the task portion of the community working group (CWG) process. Dames & Moore had hoped that by now the CWG members would already be selected and the first meeting would have taken place. Trenter said the group needs another citizen from the Lake Pleasant vicinity to create a better cross-section of people from the Northwest Valley. Once the committee is in place, it will hold its first meeting and be briefed on the scope of the project.

The second stage of the task portion - from now to January - will involve the CWG holding its second meeting and the second newsletter being sent to citizens in the affected areas. Dames & Moore will inventory the region and perform its data-mapping tasks.

When the CWG holds its third meeting, sometime between December and March, Trenter said a second public open house should take place and the third newsletter should be mailed. The CWG will have decided on alternative sites and route identifications by that time.

The fourth stage of the task portion outlined by Dames & Moore involves comparing and ranking the alternative routes. By this time - between March and June 1998 - the CWG will hold its fourth meeting and the fourth newsletter will be sent.

Between May and July 1998, the CWG will hold its fifth meeting, the fifth newsletter will be sent to affected citizens and another public open house will be held. At that time, the CWG will select all of the alternatives and present them to the public for consideration.

All of the above stages of the public-participation process will be announced through advertisements or releases to the press and through direct mailing to affected citizens. APS' mailing list will be comprised of APS customers of record and Maricopa County tax record address information. Other interested parties are advised to call Dames & Moore at 861-7471 for more information.

PEORIA Times 10-24-91

APS power-line study committee being formed

Group will try to find acceptable APS route in north Peoria

By CAROLYN DRYER

Those high-power lines in north Peoria may find a permanent home after all.

Peoria city officials met last week with representatives from Dames & Moore, a consulting firm hired by Arizona Public Service to conduct an environmental study. According to Phil Hubbard, the city's intergovernmental affairs and community relations liaison, Dames & Moore was also hired to help with selection of a citizens committee to come up with an acceptable route for the lines.

The utility's plans to install overhead power lines along 83rd Avenue north of Union Hills Drive to Happy Valley Road was met with strong opposition from residents in the vicinity. One group even hired a public-relations firm and threatened to file an injunction to stop the installation. That is when APS decided to back off and do another study to determine whether another route might be more feasible and more acceptable to the residents of the area.

Hubbard said Dames & Moore gave city officials a briefing Oct. 16 on time lines, objectives, stakeholders and other aspects of a project that will place about 10 to 20 miles of 230 kilovolt transmission lines in the Northwest Valley. The study area has been broadened to include the area bounded by the Maricopa County line to the north, Interstate 17 to the east, Pinnacle Peak Road to the south and 163rd Avenue to the west.

For the area that will be studied in northeast Peoria, Dames & Moore will be researching who might be able to give time to serving on a citizens committee (called a CWG, or community working group), Hubbard said. The list of stakeholders should be completed by Nov. 1 with the CWG's first meeting tentatively scheduled for

More POWER on A9

Power

From A3

late November.

Hubbard said the 15- to 20-member CWG will represent a cross-section of stakeholders that will include representatives from the state of Arizona, Maricopa County, the cities of Peoria and Phoenix, employees of the Peoria Unified School District, members of homeowners' associations and an ultralight flyers' organization that uses the air space over the study area. Two Dames & Moore employees will facilitate the group's meetings and there will be no chairman involved, Hubbard said.

"Everyone is equal and the same," Hubbard said. "Dames & Moore will staff every meeting, be a neutral facilitator to keep everybody on track and focused on the issue."

Cindy Smith, senior project manager for Dames & Moore, will be paired with fellow employee Paul Trenter to facilitate the meetings. Dames & Moore is also establishing a telephone hotline to get the word to the public about when and where the meetings will be held. The firm also plans to publish a newsletter that will include updates about what the committee is doing and a coupon that will allow citizens to ask to be put on the CWG's mailing list.

The newletter's first publication will be mailed out a couple of weeks prior to an open house where CWG members will be introduced to the public. Three open houses will be held before a final decision will be made about where to locate the high-power lines. All APS utility customers in the affected area will receive the publication.

"The mailing list will grow as people want to be involved," Hubbard said.

Individuals interested in being placed on the mailing list should call Dames & Moore at 861-7471.

7/30/97

ria UNITY

THE ARIZONA REPUBLIC

2

Power line faces new opposition

83rd Avenue residents say concerns ignored by APS

By Jeffry Nelson
The Arizona Republic

Saying it would endanger their health and property values, a group of residents living near 83rd Avenue has banded together to try to pull the plug on a plan to erect a 69,000-volt power line along 83rd Avenue.

The group, calling itself the Protect Peoria Committee, says Arizona Public Service Co. ignored the concerns of area residents when it decided July 1 to string a high-voltage power line along the road.

APS officials, meanwhile, say the decision was made with public input from area residents.

But some homeowners argue that APS did not make enough of an effort to inform residents near 83rd Avenue of its plans.

"We don't want to sound like a bunch of screaming people with a 'not in my back yard' philosophy," committee Chairman Kent Forsey said.

Forsey said residents want APS to bury

— Please see POWER LINE, Page 7

Power line faces new opposition

— POWER LINE, from Page 1

the power line or install it along 75th Avenue.

"The point is, when you live in an area and they come in and want to put the power line up, it's different than having them put up lines first and then people moving into an area knowing that's where they are before they go to move in," he said.

The controversy surrounds a plan to run a power line that would connect the proposed Arrowhead substation northwest of 75th Avenue and the Beardsley Road alignment with the proposed Happy Valley substation west of the New River Wash on Happy Valley Road.

APS had considered connecting the two substations with an overhead power line running along 75th Avenue, 79th Avenue, the New River Wash or 83rd Avenue.

But those options were scrapped in favor of 83rd Avenue when hundreds of Glendale and Peoria residents voiced their opposition.

Residents were concerned that putting the line near their homes close to 75th Avenue could result in health problems and declining property values. Also, there were concerns about power lines ruining plans to provide recreational facilities in the New River Wash.

The current plan is to have the overhead line exit the yet-to-be-built Arrowhead substation and travel west along the Beardsley Road alignment to 83rd Avenue, then north to Happy Valley Road, then east to the yet-to-be-built Happy Valley substation.

Shortly after the power company announced that it would put the overhead line along 83rd Avenue, residents near 83rd Avenue began to voice the same concerns as those near 75th Avenue.

Since then, the Peoria Unified School District and leaders of a church under construction on 83rd Avenue have joined the neighbors in opposing the power line.

"We strongly oppose the installation of the 69,000-volt power line," said Lloyd Price, stake president for the Church of Jesus Christ of Latter-day Saints.

The proposal is scheduled to be discussed at a public meeting to be held at 7 p.m. Aug. 7 at Sunrise Mountain High School, 21200 N. 83rd Ave., Peoria.

Meanwhile, APS officials say they are going forward with plans for the 83rd Avenue alignment.

"We made the decision based on working with the two cities, input from residents, and input from organizations with an interest in that area, such as developers, the school district and others," Hatten said.

"It was a decision reached through a long process of public involvement."

According to Larry Krueger, area manager for APS, the 83rd Avenue route was chosen in part because an existing 12,000-volt overhead line runs along a major portion of the alignment. The existing line will be placed underground to help minimize the impact on the area, according to APS.

Krueger said community impact, service reliability, engineering standards and right-of-way availability were other factors in choosing that route.

Jeffry Mathis can be reached at 444-7117 or jeffrymathis@prol.com via e-mail.

JUL 30 '97 08:59 COMPUTER SERVICES

EXHIBIT J-4
DISPLAY ADVERTISEMENTS

APS NORTH CENTRAL

FACILITIES SITING PROJECT

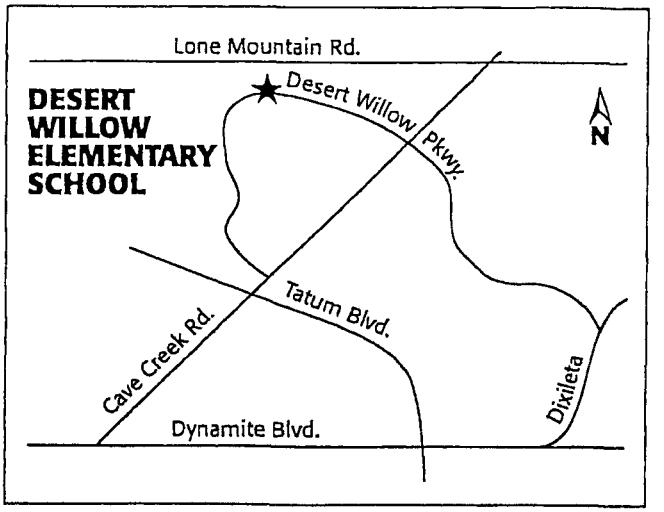
▪ PUBLIC OPEN HOUSE ▪

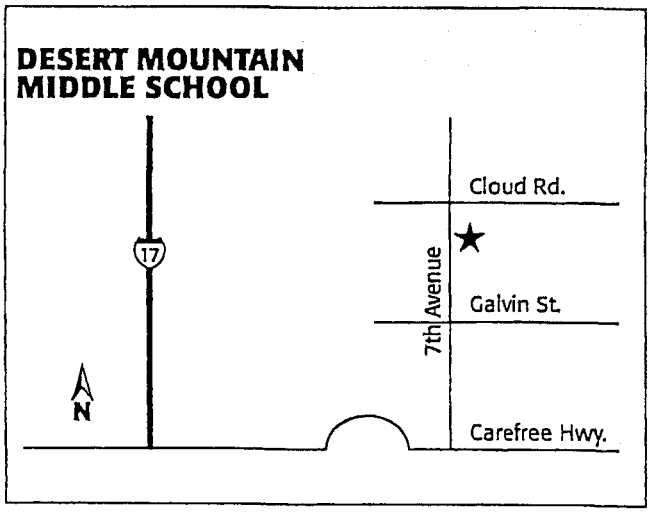
FOR NORTH CENTRAL FACILITIES SITING PROJECT

APS invites the community to attend one of two Public Information Open Houses:

Tuesday, July 18, 2000
6:00 - 8:00 p.m.
Desert Willow Elementary School
Multi-purpose room
4322 E. Desert Willow Parkway
Cave Creek
(west of Cave Creek Rd. between Lone Mountain Rd. and Dynamite Blvd.)

Thursday, July 20, 2000
6:00 - 8:00 p.m.
Desert Mountain Middle School
Multi-purpose room
35959 N. 7th Avenue
Desert Hills
(north of the Carefree Hwy. on 7th Avenue; south of Cloud Rd.)





The North Central Facilities Siting Project is an ongoing comprehensive siting study to determine the potential locations of transmission lines and substations needed to accommodate growth in the north-central Valley. The proposed facilities are expected to be needed within the next 15 years, however some will be required as soon as 2001/2002.

Since the open houses in January, studies have been done to determine the impact of the proposed alternatives. Preliminary alternative routes were evaluated (some were eliminated) based on environmental and engineering considerations. A comparison of the remaining preliminary route and site alternatives has been completed to rank the alternatives for environmental compatibility. Results of these studies will be provided at the final set of open houses in July to gather public input.

The public will have the opportunity to review project maps and displays, provide comments, and speak individually with project team members at the open houses. For more information, call the voice message information line at (602) 381-1769 or log on to http://siting.apsc.com.

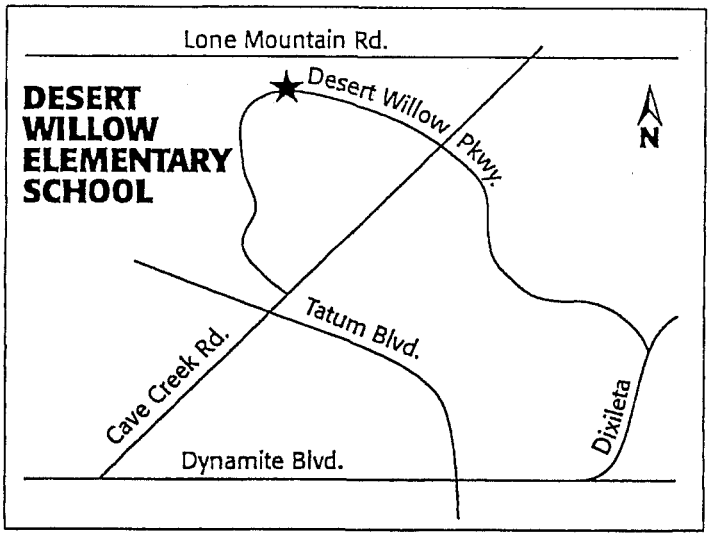
APS

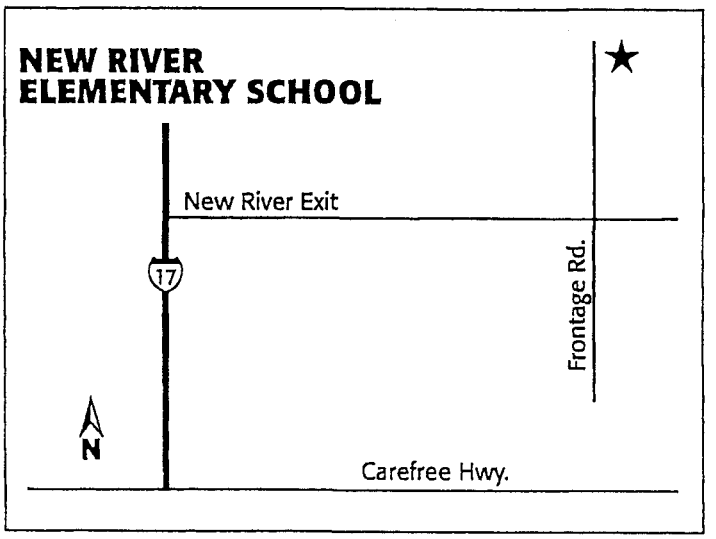
NORTH CENTRAL

FACILITIES SITING PROJECT

▪ PUBLIC OPEN HOUSE ▪

FOR APS NORTH CENTRAL FACILITIES SITING PROJECT





Public information open houses will be held at the location and dates noted below to update the public about the ongoing comprehensive siting study that APS is conducting in the north-central valley. The purpose of the study is to determine the potential locations of transmission lines and substations needed in the north-central valley over the next 15 years, depending on the rate of growth. The upcoming open houses are the second of three sets of meetings to involve the public in the planning process.

Since the last open houses in October, the study team has gathered and analyzed information about the existing and planned land uses, and natural and cultural resources. The team and the Community Working Group have reviewed and refined alternative locations for 69 and 230 kilovolt transmission lines and substation siting areas. These preliminary alternatives will be presented at the open houses for review and comment by the public. The open houses will be informal for the public to review project displays and discuss the project individually with project team members.

Call the project information line (602) 381-1769 for more information, or log on to http://siting.apsc.com.

PUBLIC OPEN HOUSE DATES AND TIMES:

Tuesday, January 25, 2000
6:00 - 8:00 p.m.
New River Elementary School
Cafeteria
48827 N. Black Canyon Highway
(1-17 east off New River exit, north on frontage road)

Wednesday, January 26, 2000
5:30 - 7:30 p.m.
Desert Willow Elementary School
Multi-purpose room
4322 E. Desert Willow Parkway
(West of Cave Creek Rd. between Lone Mountain Rd. and Dynamite Blvd.)

FACILITIES SITING PROJECT

PUBLIC INFORMATION OPEN HOUSES

Public information open houses will be held to introduce the public to the comprehensive siting study that APS is conducting in the north central Phoenix metropolitan area. The meetings will be informal and provide an opportunity for the public to review project displays and discuss the project with project team members.

The upcoming open houses are the first of three sets of public meetings to be conducted throughout the planning study. In addition, a community working group has been established to work with the study team throughout the planning process.

The purpose of this study is to determine the potential location of facilities needed to expand electrical service in the north central Phoenix metropolitan area over the next 15 years, with the exception of some facilities that will be needed within the next few years. The study will address existing land uses, aesthetic characteristics, and natural and cultural resources. The planning process will result in recommendations to APS for alternative locations for substation sites and transmission line routes.

Please call the project information line (602-381-1769) for more information.

Tuesday, October 26, 1999

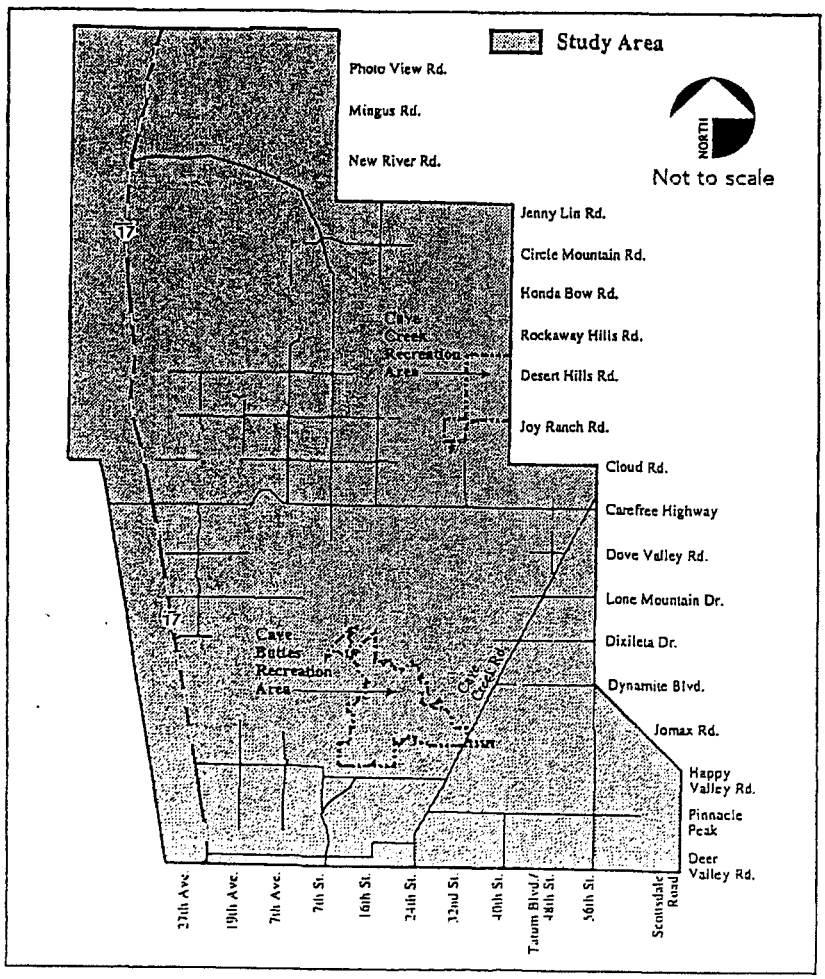
6:00 pm - 8:00 pm

New River Elementary School
Cafeteria
48827 N. Black Canyon Highway
New River
(I-17 - New River exit, north on frontage road)

Wednesday, October 27, 1999

7:00 pm - 9:00 pm

Esperanza Elementary School
Cafeteria
251 W. Mohawk Lane
Phoenix
(Take 7th Avenue, south of Deer Valley Road)



APS

OPEN HOUSE

V·A·L·L·E·Y

FOR APS NW VALLEY SITING

Open house dates and times:

Thursday, September 17, 1998,
6:00–8:00 pm

Saturday, September 19, 1998,
10:00am–12:00 noon

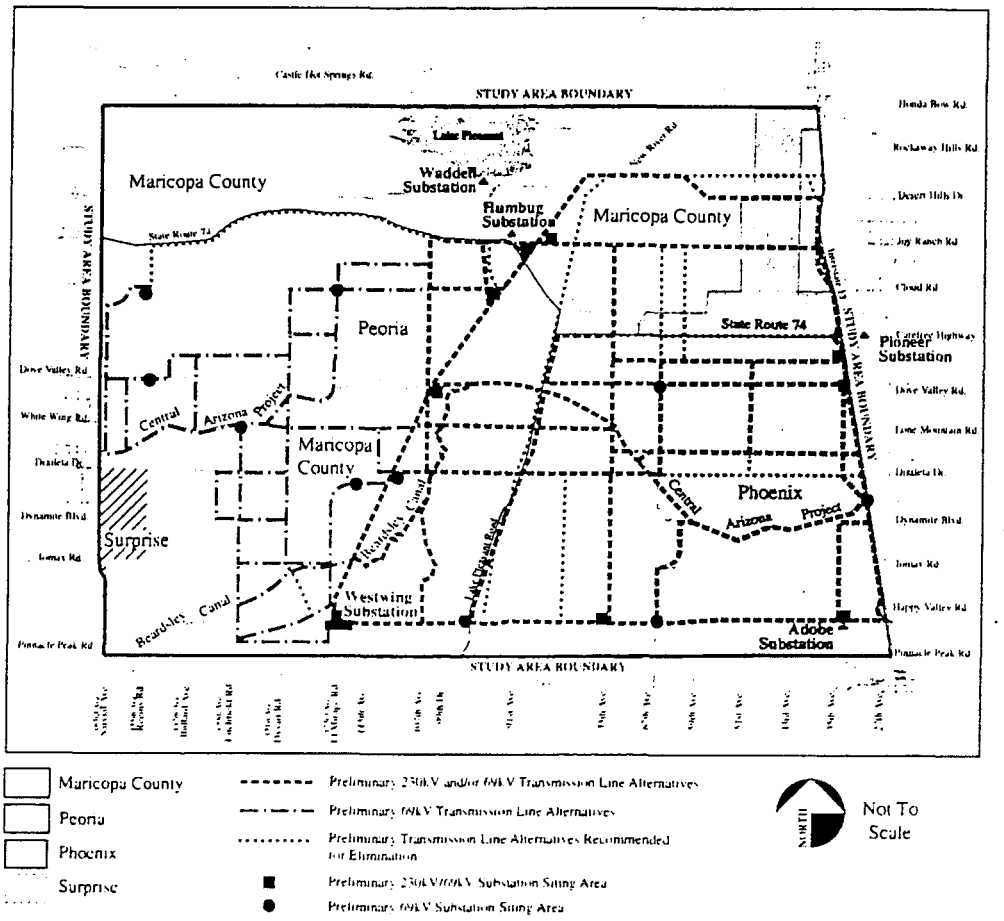
Both open houses will be held at:

Las Brisas Elementary School Cafeteria
5805 West Alameda, Phoenix
(west of 55th Avenue north
of Pinnacle Peak Road)

Open houses will be held at the location and dates noted to update the public about the ongoing comprehensive siting study that APS is conducting in the northwest valley. The purpose of the study is to determine the potential locations of transmission lines and substations needed in the northwest valley over the next 10 years, depending on the rate that growth occurs. The upcoming open houses are the third of three sets of meetings to involve the public in the planning process.

Since the last open houses in April, the study team has gathered and analyzed information about the existing and planned land uses, and natural and cultural resources. The team and the Community Working Group have reviewed and refined alternative locations for 69kV and 230kV transmission lines and substation siting areas. These alternatives will be presented at the open houses for review and comment by the public. The open houses will be informal for the public to review project displays and discuss the project individually with project team members.

Call the project information line (861-7471) for more information.



OPEN HOUSE

FOR APS NW VALLEY SITING

NW VALLEY

Open house dates and times:

Wednesday, April 1, 1998, 6:30–8:30 pm

Saturday, April 4, 1998, 10:00am–12:00 noon

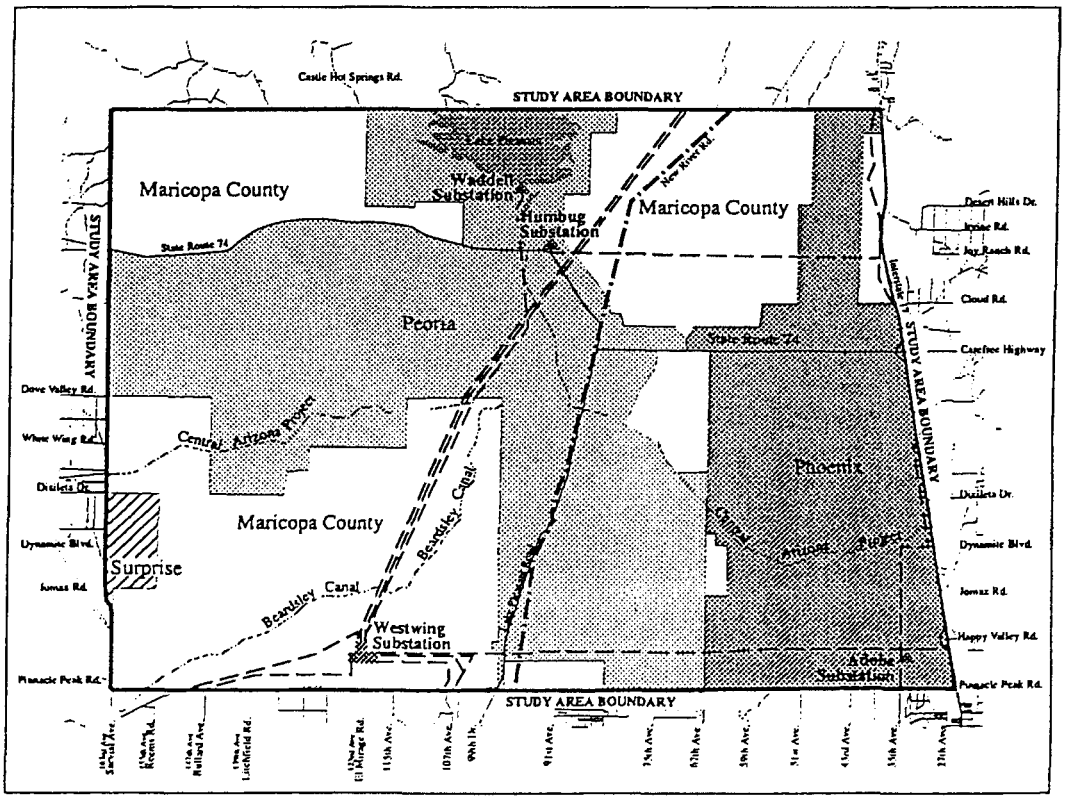
Both open houses will be held at:

Las Brisas Elementary School Cafeteria
5805 West Alameda, Phoenix
(west of 55th Avenue north
of Pinnacle Peak Road)

Open houses will be held at the location and dates noted to update the public about the ongoing comprehensive siting study that APS is conducting in the northwest valley. The purpose of the study is to determine the potential locations of transmission lines and substations needed in the northwest valley over the next 10 years, depending on the rate that growth occurs. The upcoming open houses are the second of three sets of meetings to involve the public in the planning process.

Since the last open houses in December, the study team has gathered and analyzed information about the existing and planned land uses, and natural and cultural resources. The team and the Community Working Group have identified alternative locations for 69kV and 230kV transmission lines and substation siting areas. These alternatives will be presented at the open houses for review and comment by the public. The open houses will be informal for the public to review project displays and discuss the project individually with project team members.

Call the project information line (861-7471) for more information.



OPEN HOUSE

V·A·L·L·E·Y

FOR APS NW VALLEY SITING PROJECT

Wednesday, December 10, 1997, 6:00–8:00pm
(presentation from 6:30–7:00)
Las Brisas Elementary School Cafeteria
5805 West Alameda, Phoenix
(east of 59th Avenue north
of Pinnacle Peak Road)

Thursday, December 11, 1997, 6:00–8:00pm
(presentation from 6:30–7:00)
Lake Pleasant Regional Park
Headquarters Conference Room
41835 North Castle Hot Springs Road
(State Route 74 and Castle Hot
Springs Road)

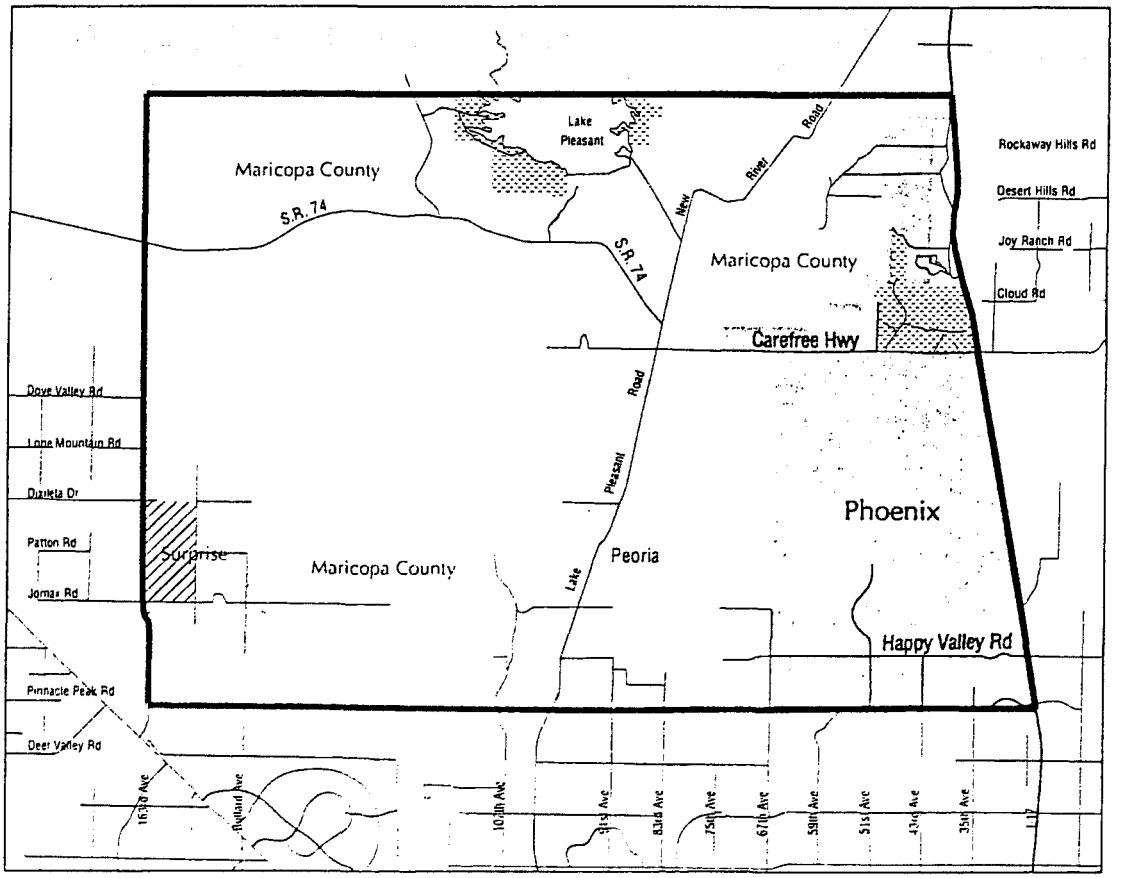
Saturday, December 13, 1997, 10:00am–12:00 noon
(presentation from 10:30–11:00)
Las Brisas Elementary School Cafeteria
5805 West Alameda, Phoenix
(east of 59th Avenue north
of Pinnacle Peak Road)

Open houses will be held at the locations and dates noted to introduce the public to the comprehensive siting study that APS is initiating in the northwest valley. The open houses, including a brief presentation, will be informal for the public to review project displays and discuss the project individually with project team members.

The upcoming open houses are the first of three sets of public meetings to be conducted throughout the planning study. In addition, a community working group has been established to work with the study team throughout the planning process.

The purpose of the study is to determine the potential location of facilities needed for expanding electrical service that may be needed in the northwest valley area over the next 10 years, depending on the rate that growth occurs. The studies will address existing land uses, visual and aesthetic characteristics, as well as natural and and cultural resources. The planning process will result in recommendations to APS for alternative locations for substation sites and transmission line routes.

Call the project information line (861-7471) for more information.



EXHIBIT

A-2

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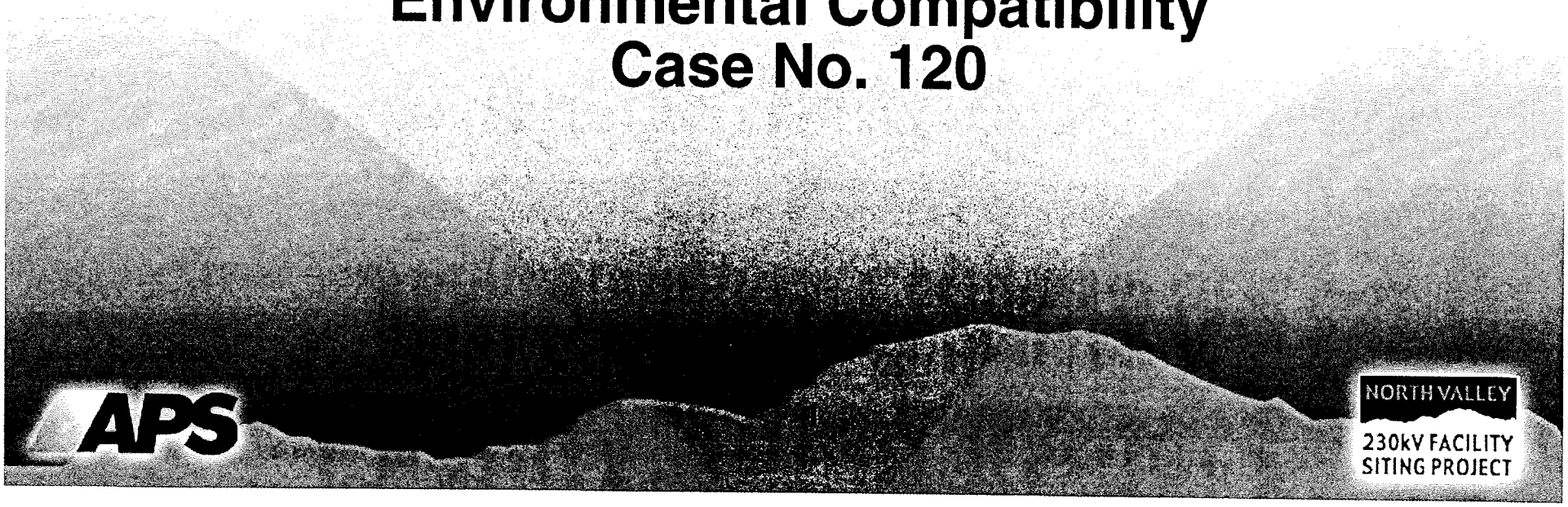
TAB 9 A CULTURAL RESOURCE SURVEY FOR THE NORTH VALLEY 230kV TRANSMISSION LINE PROJECT, MARICOPA COUNTY, ARIZONA

North Valley 230kV Facility Siting Project

Application for a Certificate of Environmental Compatibility Case No. 120



Case Overview

- Project Summary
  - Proposed Route is 31 miles of double-circuit 230kV transmission lines
    - Parallels existing and proposed linear features for majority of the route
    - Incorporated into Phoenix and Peoria general plans
  - Two proposed 230/69kV substations
    - Incorporated into Phoenix general plan
  - Interconnects existing Westwing, Raceway and Pinnacle Peak substations
  - Allows APS to meet electrical needs of North Valley
  - Four alternate routes
  - Proposed route is environmentally compatible
- Proposed Form of CEC
  - Conditions

Case Overview

- Notice of Hearing
  - Published Notice of Hearing in five area newspapers, including the Arizona Republic
- Primary Hearing Exhibits
  - CEC Application (A-1)
  - Hearing Exhibit Notebook (A-2)

Case Overview

- Witnesses – Direct Case
  - Rex Stulting, APS – APS Transmission Planning
  - Stan Sierra, APS – Project Purpose and Need
  - Mike DeWitt, APS – Project Manager
  - Paul Trenter, EPG – Environmental Studies
  - Dr. Linwood Smith, EPG – Biological Studies
  - Dr. Glenn Darrington, EPG – Cultural Studies

Transmission System Overview

Rex Stulting

Arizona Public Service Company

Transmission Planning

APS

NORTH VALLEY

230kV FACILITY SITING PROJECT

Witness Background

- BSEE, New Mexico State University
- MSEE, New Mexico State University
- APS Transmission Planning Manager
- Professional Background
  - 25 years of experience in electric utility industry
  - Registered Professional Engineer, Arizona
  - Chair of WATS committee since 1996
  - APS representative on CATS

Outline of Testimony

- Transmission Planning Overview
- Extra-High Voltage (EHV) System Planning
- High Voltage (HV) System Planning
- APS 10-Year Plan
- Other Transmission Plans in Area

Transmission Planning Overview

- Purposes of Integrated Transmission System:
  - Deliver electric power to customers
  - Provide flexibility for changing system conditions
  - Allow generation reserve sharing and energy exchanges
- Objective of Transmission System Planning is:
  - To provide an acceptable level of service
  - At reasonable cost
  - Considering both normal and single contingency operating conditions
- APS follows the Western Electricity Coordinating Council's (WECC) Regional Planning Reliability Criteria

Transmission Planning Overview

- Planning methodologies, assumptions, and guidelines are used as the basis for developing future transmission plans
- In general, an adequately planned system will:
  - Provide acceptable level of service for normal and single contingency (N-1) operating conditions
  - Not result in loss of load for N-1 contingency
  - Not result in cascading, overloaded equipment, or unacceptable voltage conditions for N-1 contingency
  - Work in compliment with local generation in load constrained areas
- Dynamic and evolving process

EHV System Planning

- System planning for the EHV System looks at:
  - Need for regional interconnections
  - Interconnection of generation to system
  - Need for import capability into load centers
- EHV System (345kV+) primarily aimed at connecting load centers to generation sources
  - Four Corners in New Mexico to Valley
  - Palo Verde to the Valley, Yuma, California
- EHV System is the basis for the major import points in the Valley
  - Westwing, Pinnacle Peak, Kyrene, Rudd

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

HV System Planning

- System Planning for the HV System involves:
  - Evaluation of long-range 230kV system requirements
  - Consideration of Long-Range Substation Development Master Plan for Metro Phoenix
  - Preparation of detailed 230kV facilities studies to develop 10-Year Plan requirements
  - Consideration of both load growth patterns and system changes such as siting constraints, joint planning, etc.
- HV System (230kV and 115kV) primarily aimed at serving load
  - Bridges the EHV and the distribution system

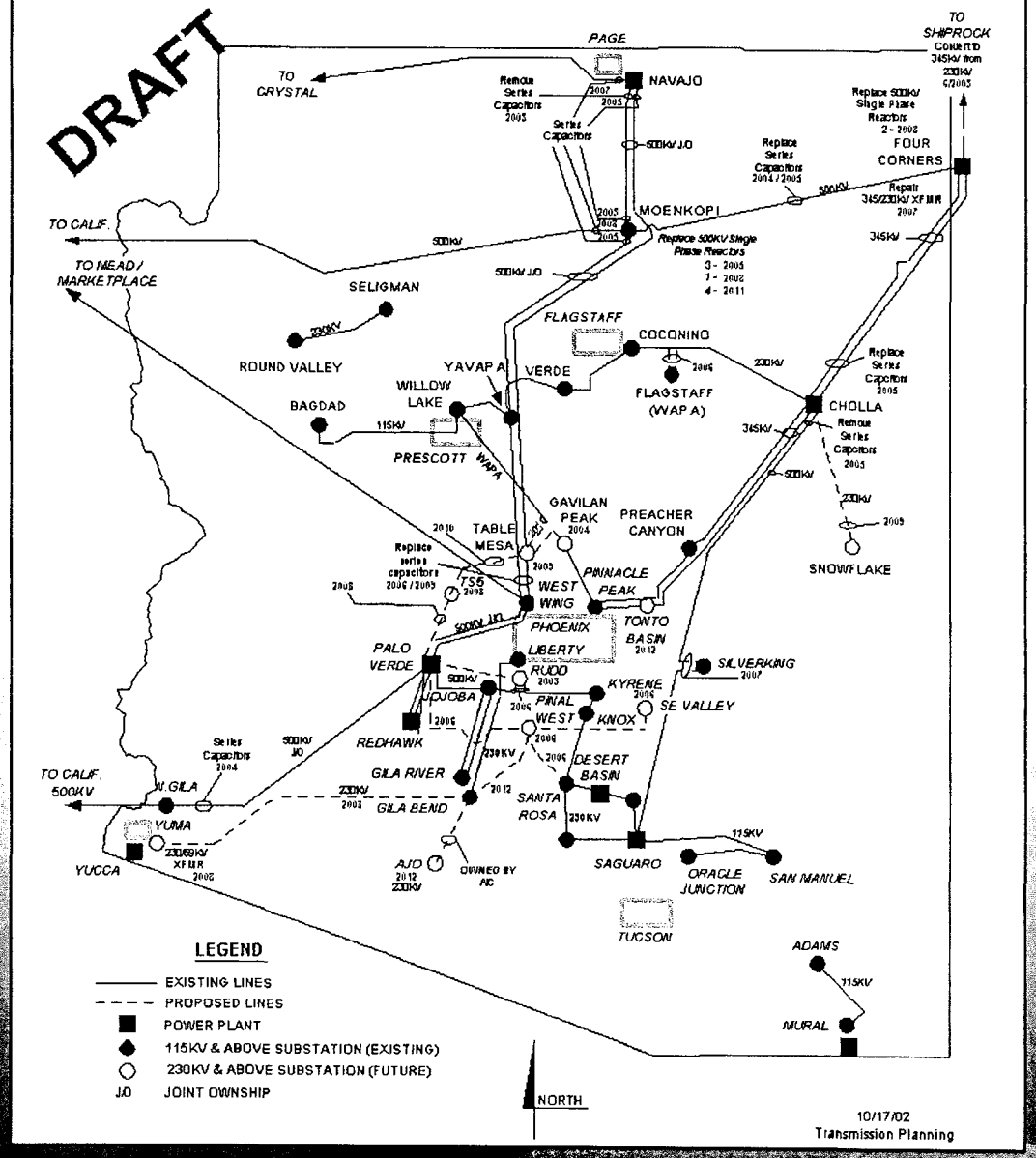
APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

Overview of APS 10-Year Plan

- EHV Projects
  - Southeast Valley Project
  - Palo Verde to Table Mesa
- HV Projects
  - Flagstaff to Winona Project
  - Gila Bend to Yuma Project
  - Cholla to Snowflake Project
  - West Valley North Project
  - West Valley South Project
  - North Valley Project

APS EHV & OUTER DIVISION 115/230 KV TRANSMISSION PLANS 2003 - 2012



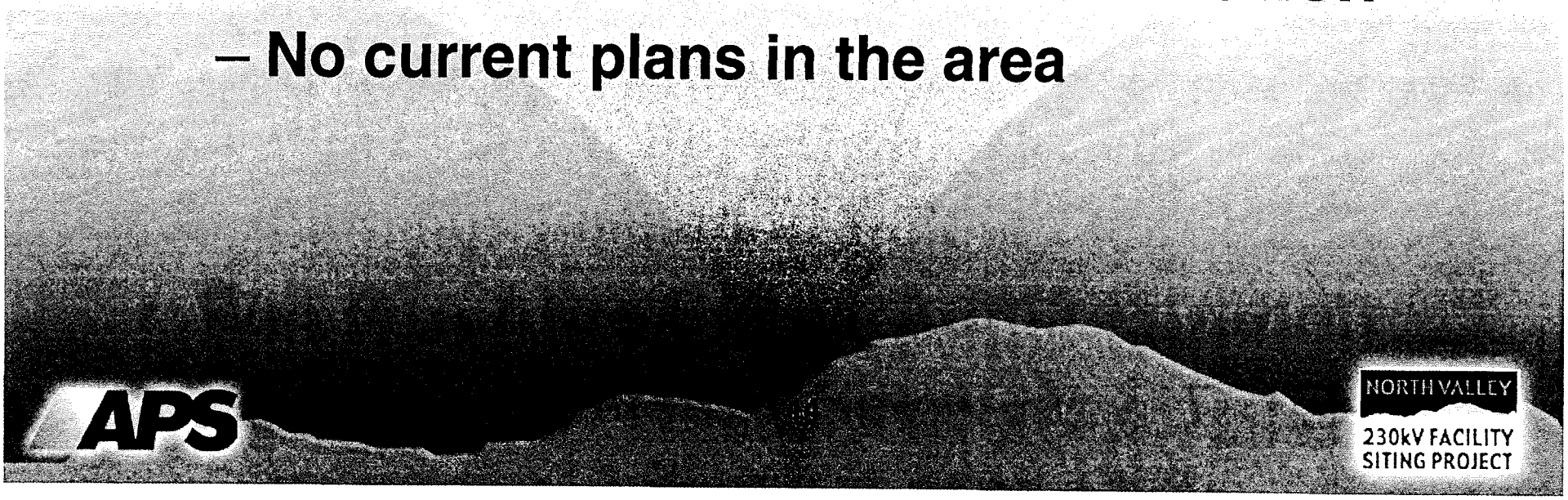
APS

NORTH VALLEY

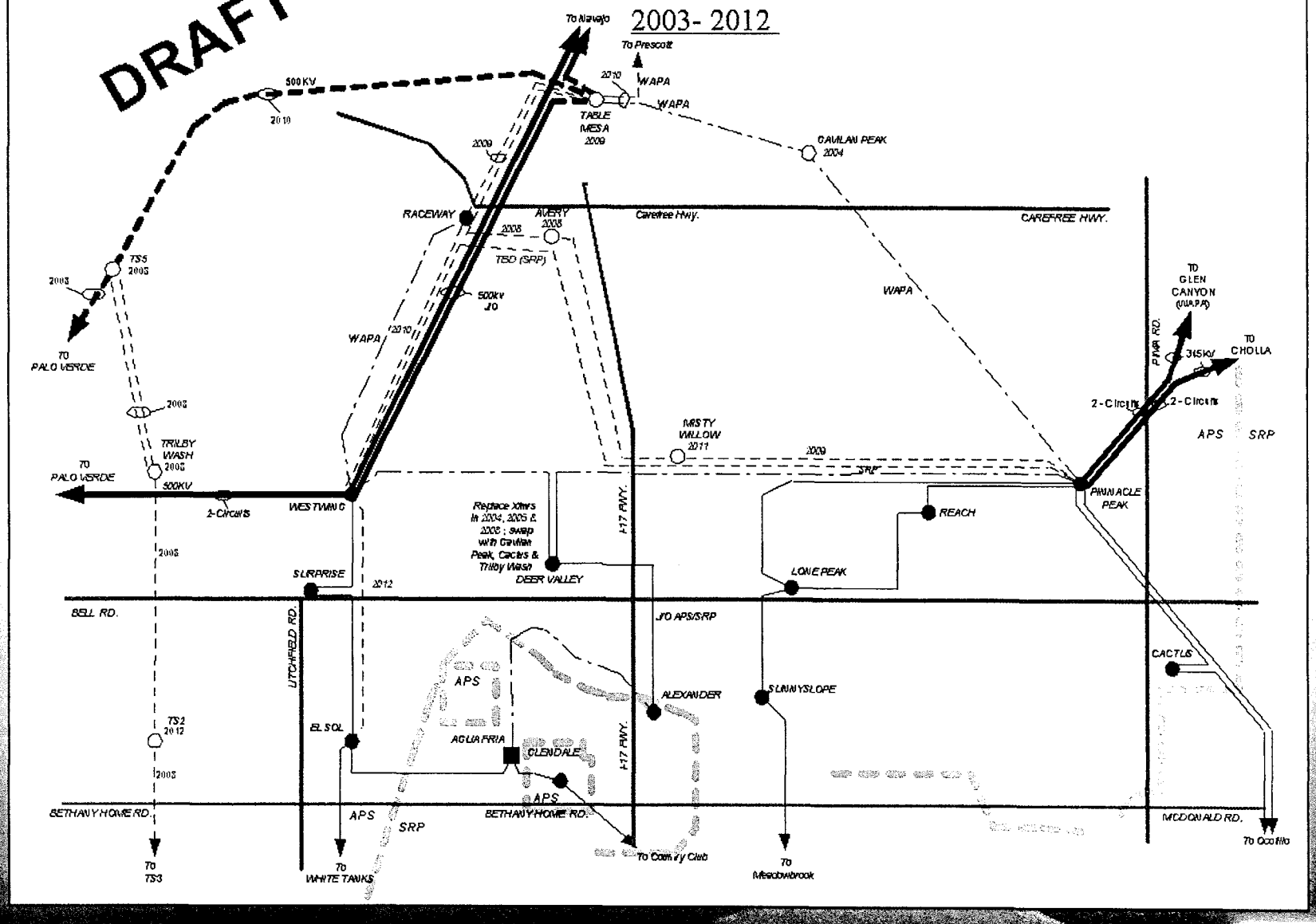
230kV FACILITY SITING PROJECT

Other Transmission Plans in Area

- Salt River Project
  - Southeast Valley Project
  - Westwing to Pinnacle Peak 230kV
  - Pinnacle Peak to Brandow 230kV
- Western Area Power Administration
  - No current plans in the area



NORTHERN PHOENIX METROPOLITAN AREA
230KV TRANSMISSION PLANS
2003- 2012

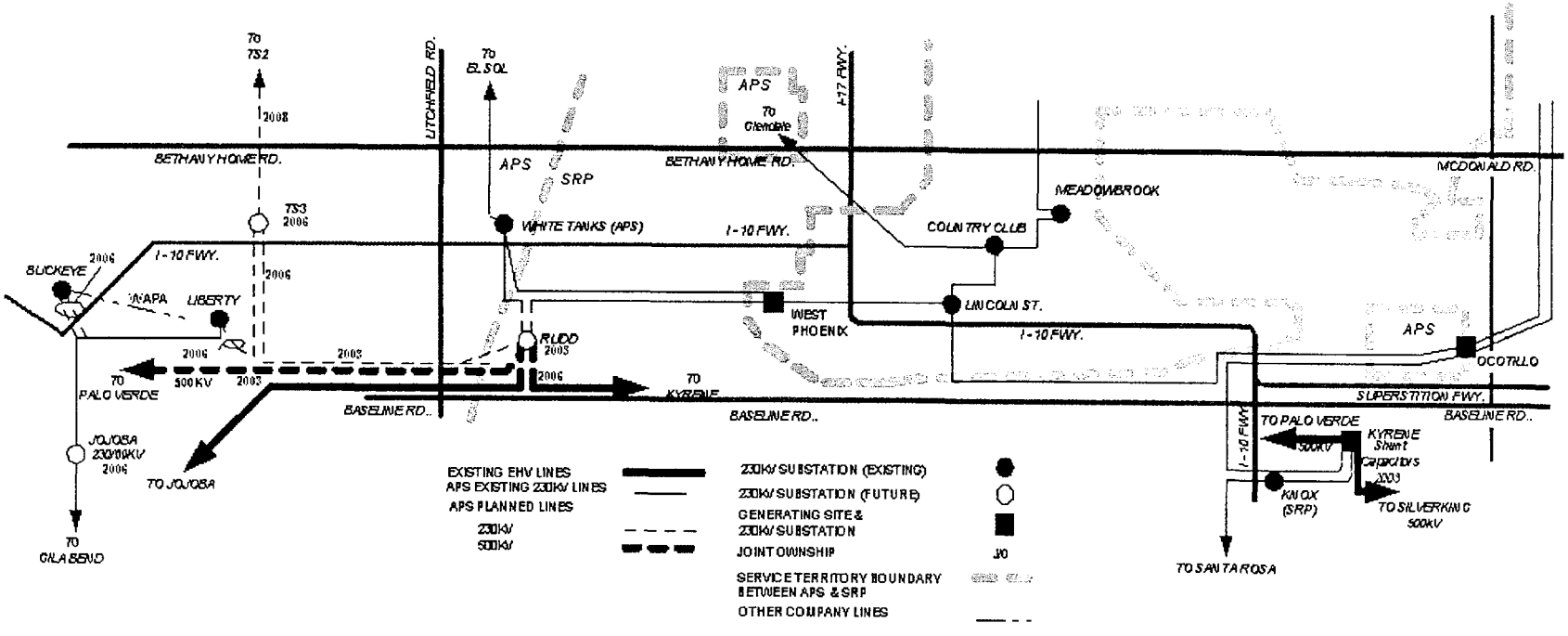


APS

NORTH VALLEY
230kV FACILITY SITING PROJECT

SOUTHERN PHOENIX METROPOLITAN AREA
230KV TRANSMISSION PLANS
2003- 2012

DRAFT



11/13/02
Transmission Planning

APS

NORTH VALLEY
230kV FACILITY SITING PROJECT

Project Need

Stan Sierra
Arizona Public Service Company
Transmission and Distribution
Asset Manager

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

Witness Background

- BSEE, New Mexico State University
- APS Transmission and Distribution Asset Manager
  - Responsible for 12kV and 69kV systems planning
- Professional Background
  - 29 years of experience in electric utility industry
  - Registered Professional Engineer, Arizona

Power Demand Forecasting

- Electrical Power Demand Forecast Methodology
  - Existing and future land use plans
  - General plans and zoning for applicable state, county, and local jurisdictions
  - Information provided by land developers (Anthem, Tramonto, USAA, Lakeland Village, White Peak Ranch)
  - Land use data converted to electric demand load densities
  - Electrical load demand forecast developed for an area

APS

NORTH VALLEY
230kV FACILITY SITING PROJECT

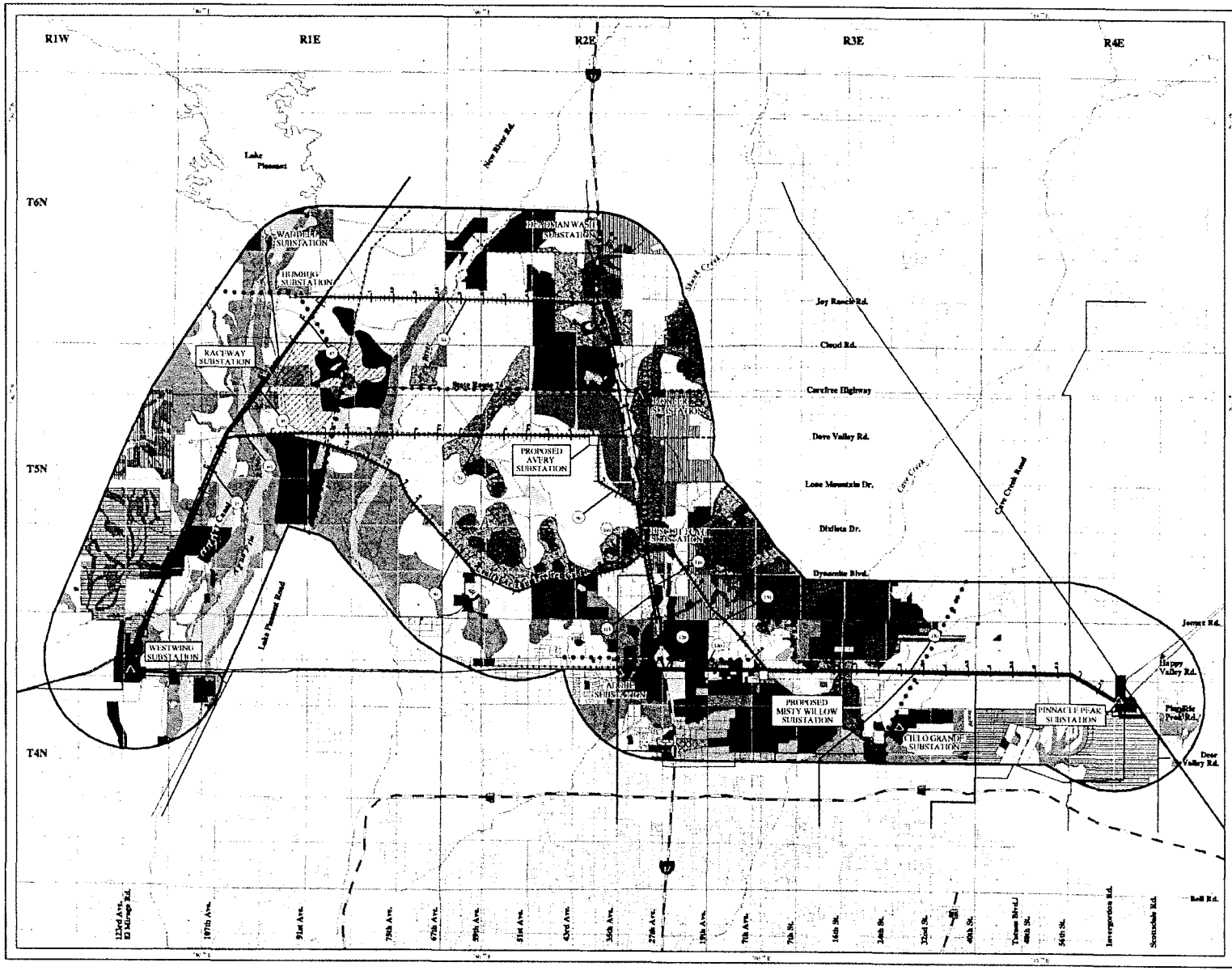


Exhibit A-4

FUTURE LAND USE

NORTH VALLEY

230kV FACILITY SITING PROJECT

Land Use Inventory

- Residential Low Density
- Residential Medium Density
- Residential High Density
- Mixed Use
- Hotel/Resort
- Office/Business Park
- Commercial Retail
- Light Industry
- General Industrial
- Public/Quasi-Public (Churches, Fire Stations, Government Facilities)
- Public Airport
- Schools/Educational Facilities
- Flood Control Facilities, Canals, Floodplains, Lakes
- Regional Park/Preserve
- Recreation Facilities and Open Space (Campsites, City/Neighborhood Parks, Golf Courses)
- Planned-Final Approval
- Planned-Concept Stage
- Proposed Sonoran Preserve
- Airport Approach Zones
- Aviation Study Area
- Planned Transportation
- Planned 69kV Transmission Line

General Reference Features

- Transmission Line Alternatives
- Proposed Substation Siting Area
- Link Identification Number
- Study Area Boundary
- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- Pipeline
- Interstate/Highway
- Transportation Route
- Scenic Road/Parkway
- Lake
- Stream
- Canal
- Township and Range
- Section
- Contour
- Existing Substation

Scale 1:62,500

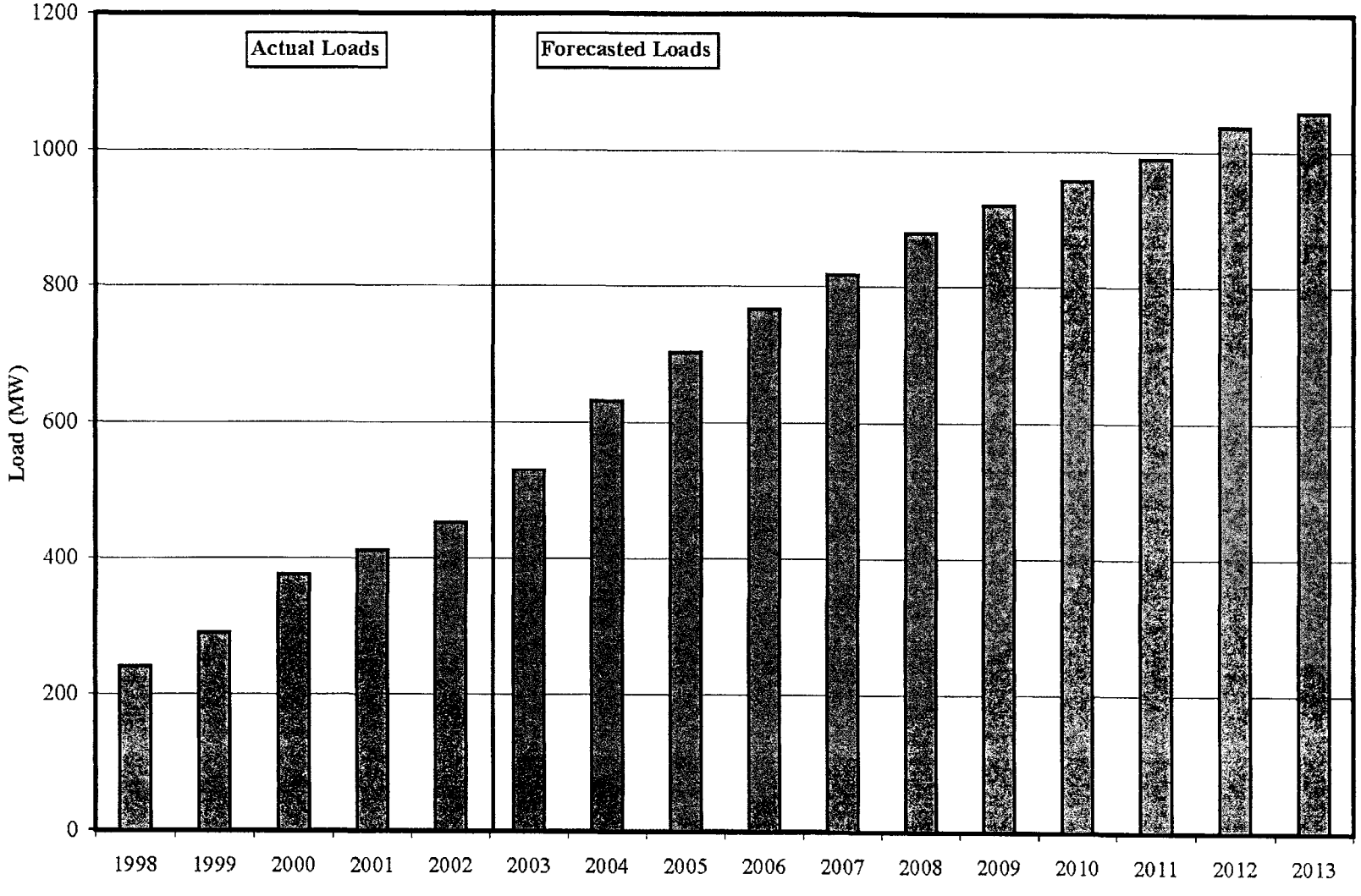
APS

APS

NORTH VALLEY

230kV FACILITY SITING PROJECT

North Valley Area Loads



North Valley
Project Area Detail
October 1999

Route Alternative

Substation

Source:
Imagery from Landiscor Aerial Information. October 1999.

0 0.25 0.5 1 Miles

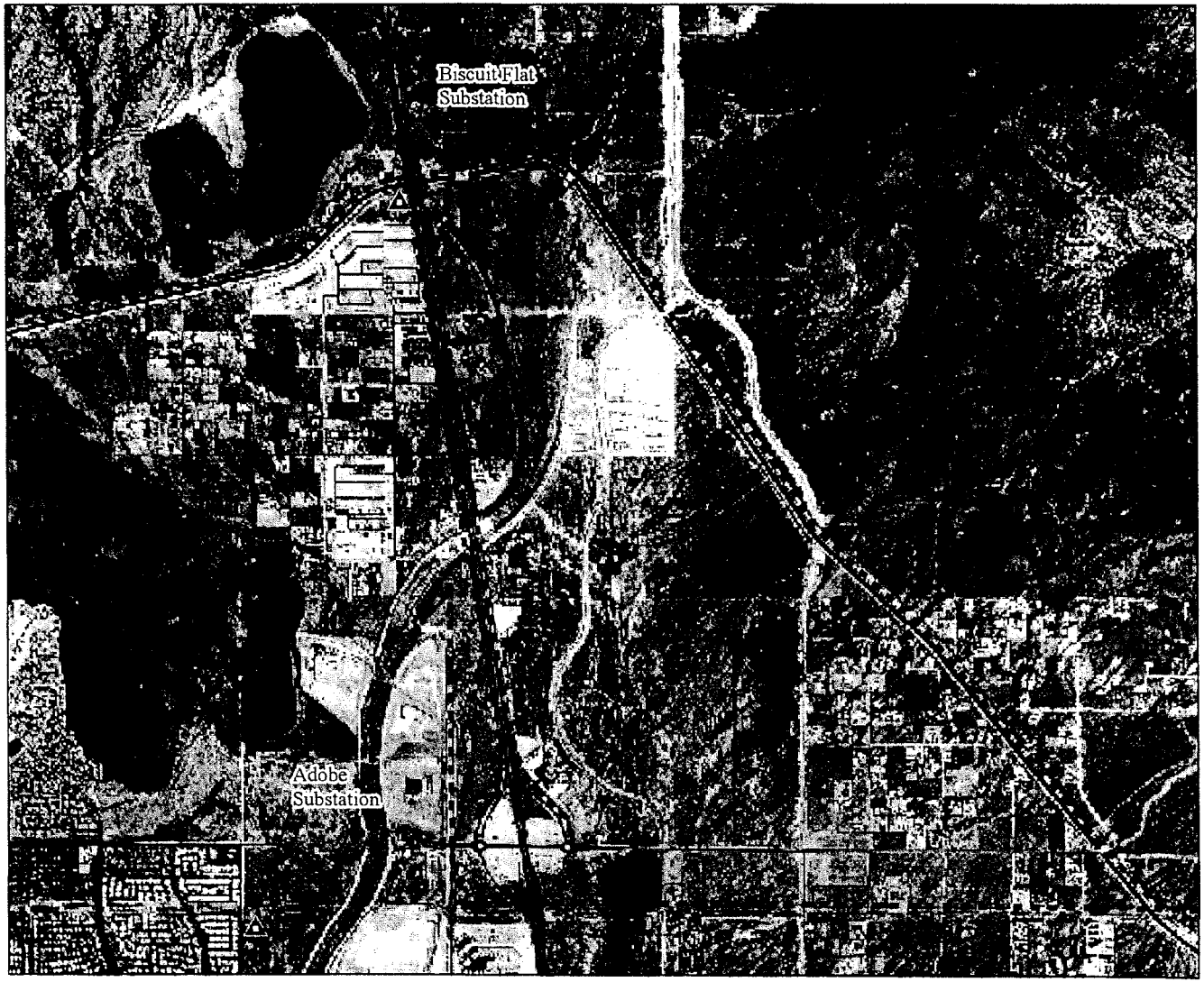
0 250 500 1,000 1,500 Meters

APS

m:/projects/aps/ncp/ceo/mxds/project_detail.mxd October 30, 2002

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT



North Valley
Project Area Detail
June 2001

Route Alternative

Substation

Source:
Imagery from Landiscor Aerial Information. June 2001.

0 0.25 0.5 1 Miles

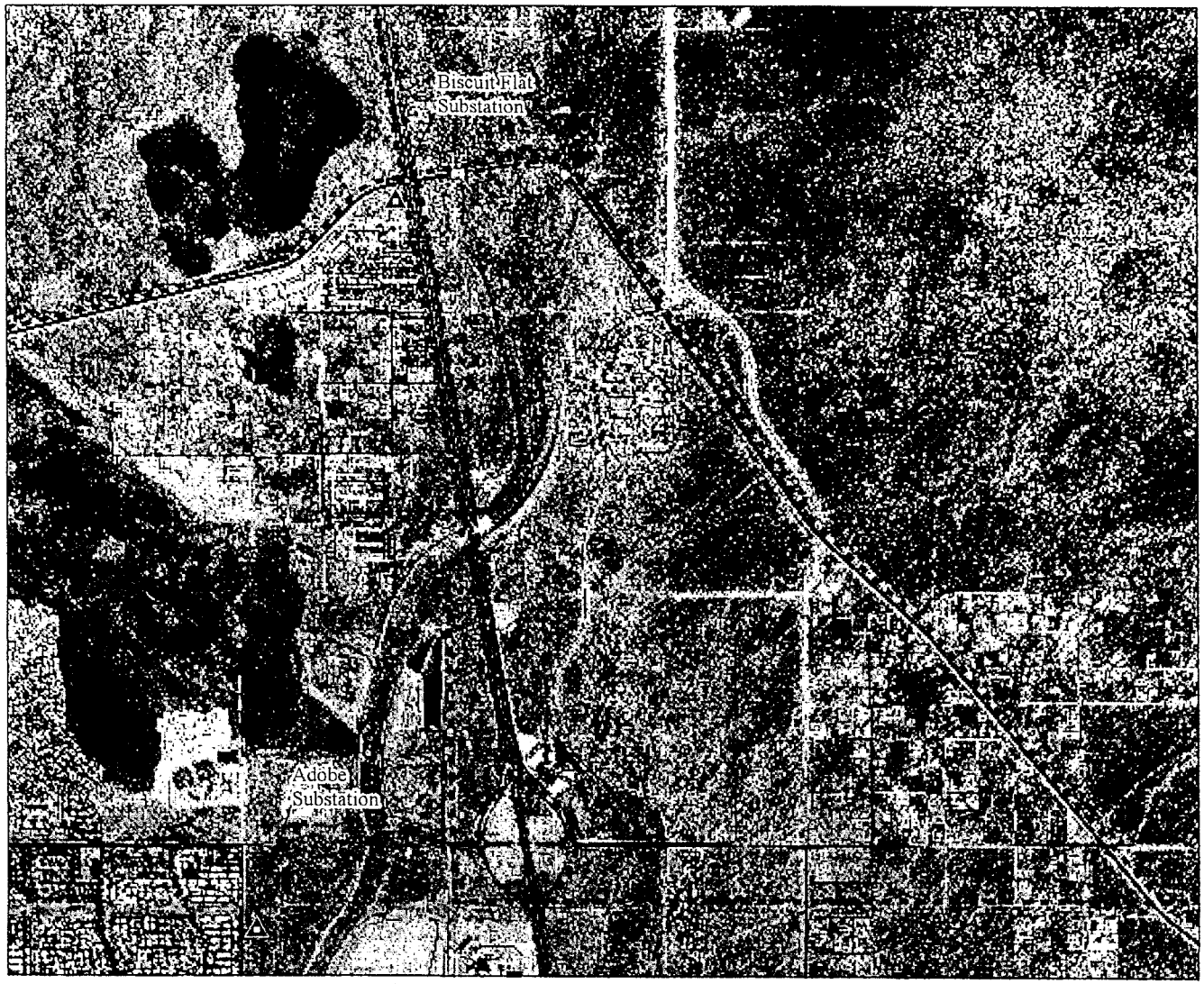
0 250 500 1,000 1,500 Meters

APS

m:/projects/aps/ncp/ceo/mxds/project_detail.mxd October 30, 2002

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT



North Valley
Project Area Detail
June 2002

Route Alternative

Substation

N

Source:
Imagery from Landiscor Aerial Information, June 2002.

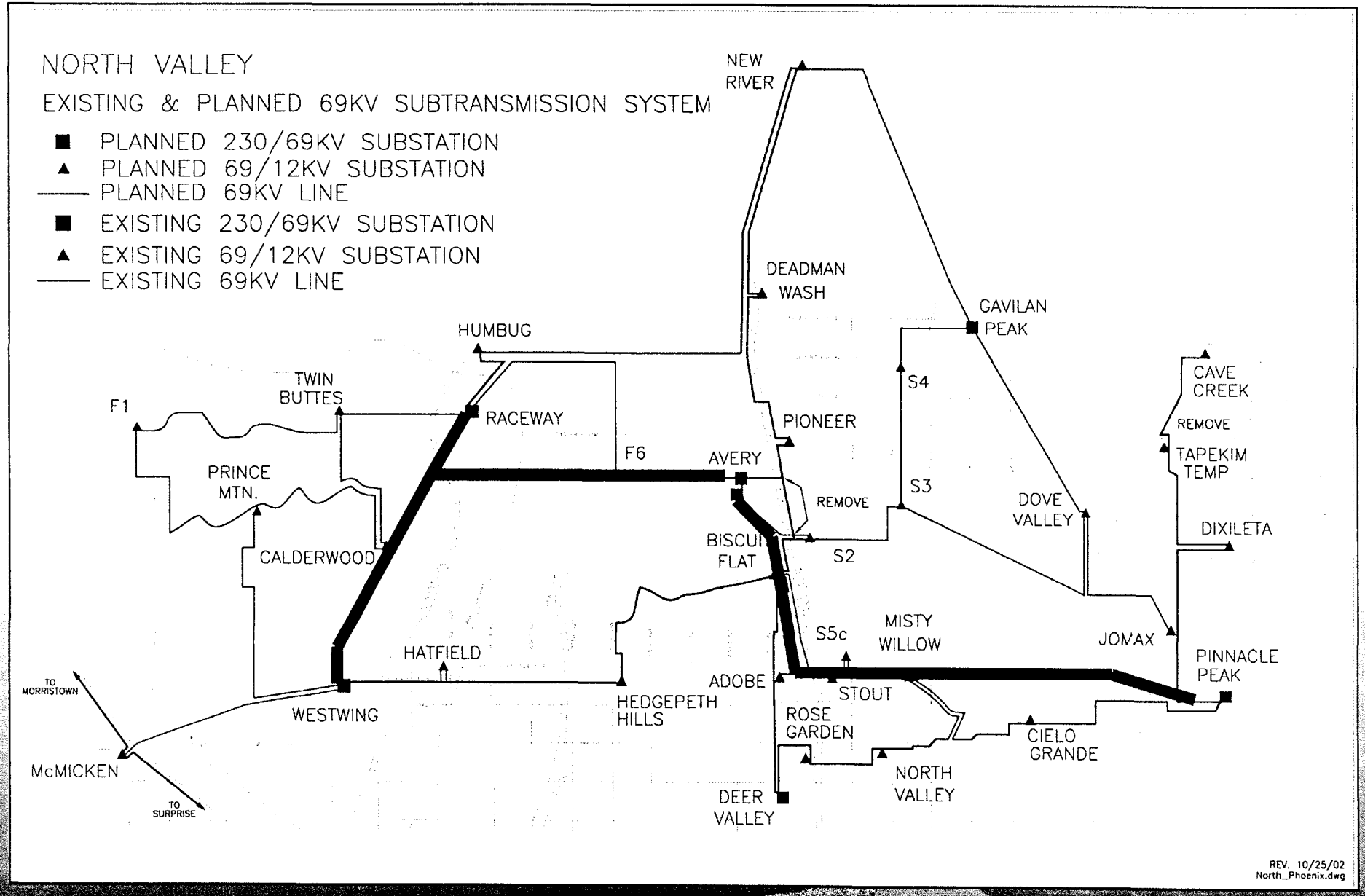
0 0.25 0.5 1 Miles

0 250 500 1,000 1,500 Meters

APS

epg

m:/projects/aps/ncp/ceo/mxd/project_detailsp.mxd October 30, 2002


NORTH VALLEY
EXISTING & PLANNED 69KV SUBTRANSMISSION SYSTEM
PLANNED 230/69KV SUBSTATION
PLANNED 69/12KV SUBSTATION
PLANNED 69KV LINE
EXISTING 230/69KV SUBSTATION
EXISTING 69/12KV SUBSTATION
EXISTING 69KV LINE
NEW RIVER
DEADMAN WASH
GAVILAN PEAK
HUMBUG
TWIN BUTTES
F1
RACEWAY
F6
AVERY
PIONEER
S4
S3
REMOVE
CAVE CREEK
REMOVE
TAPEKIM TEMP
DOVE VALLEY
DIXILETA
PRINCE MTN.
CALDERWOOD
BISCUIT FLAT
S2
S5c
MISTY WILLOW
JOMAX
PINNACLE PEAK
HATFIELD
ADOBE
STOUT
HEDGEPETH HILLS
WESTWING
ROSE GARDEN
CIELO GRANDE
NORTH VALLEY
DEER VALLEY
TO MORRISTOWN
McMICKEN
TO SURPRISE
REV. 10/25/02
North_Phoenix.dwg
APS
NORTH VALLEY
230kV FACILITY SITING PROJECT

Project Need and Benefits

- Project ties together the existing and planned HV transmission system and 230/69kV substations
- Project allows APS to meet its legal obligation to serve customers in the North Valley
- Provides increased customer reliability in a rapidly developing area
- Provides increased HV system reliability

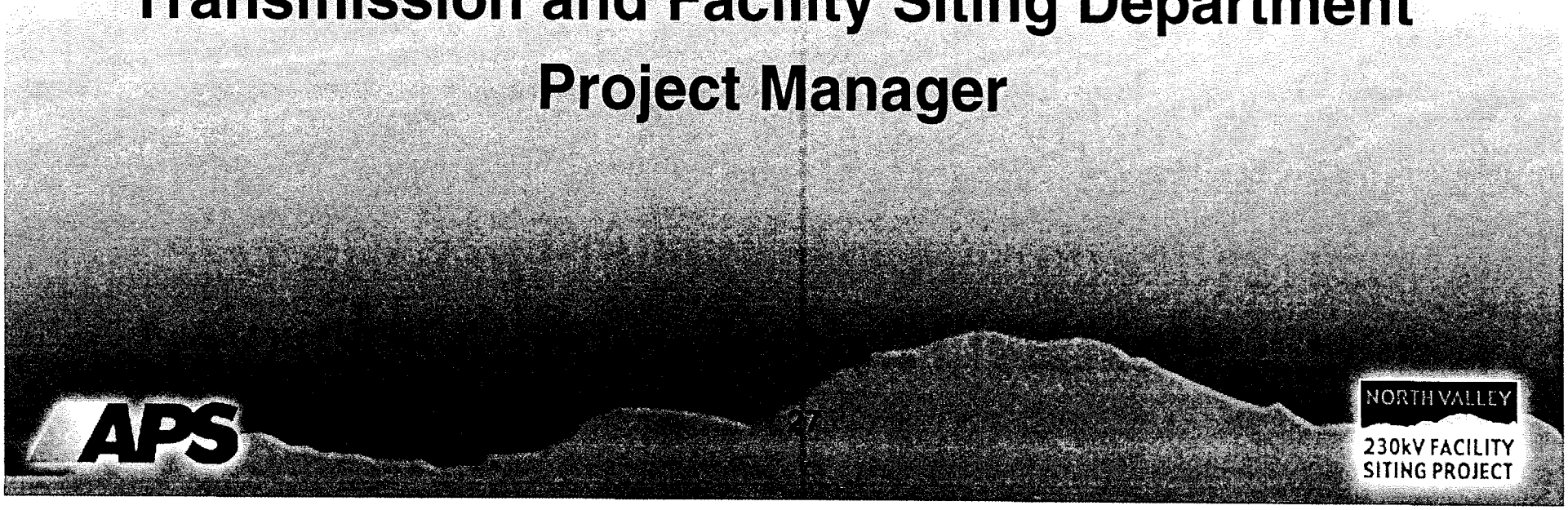
Project Description

Mike DeWitt

Arizona Public Service Company

Transmission and Facility Siting Department

Project Manager



Witness Background

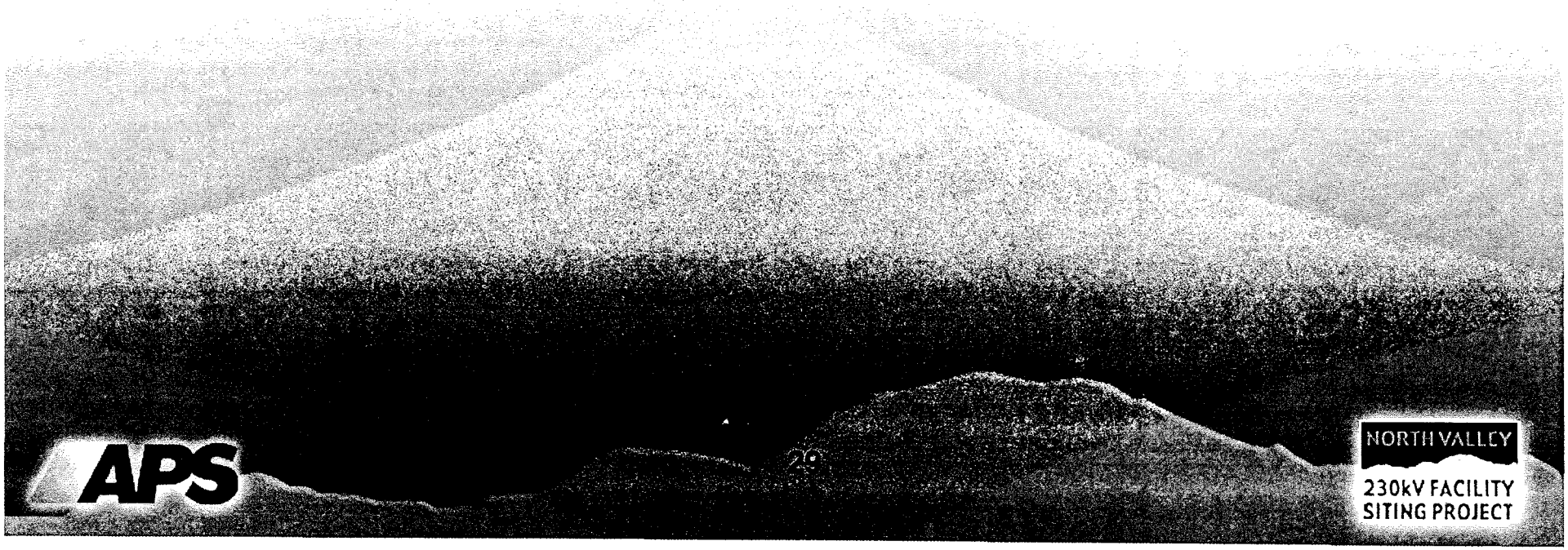
- BS, Civil Engineering, Purdue University
- Project Manager for North Valley Facility Siting Project
- Professional Background
  - 21 years of experience in electric utility industry
  - 16 years of experience with APS
    - Senior Engineer
    - Substation Construction Project Engineer and Construction Coordinator
    - Project Engineer for Fossil and Nuclear betterment projects

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

CEC Application

- Responsible for the preparation and contents of the CEC Application
- Corrections and additions



Outline of Testimony

- General Project Description
- Proposed Route
- Proposed Substations
- Overview of Alternative Routes (Technical)
- Structures
- Right-of-Way/Corridors
- CEC Timeframe
- Community and Public Involvement

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

General Project Description

- 31 miles of double-circuit 230kV transmission line
- New substation interconnections
  - Avery
  - Misty Willow
- Existing substation interconnections
  - Westwing
  - Raceway
  - Pinnacle Peak

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

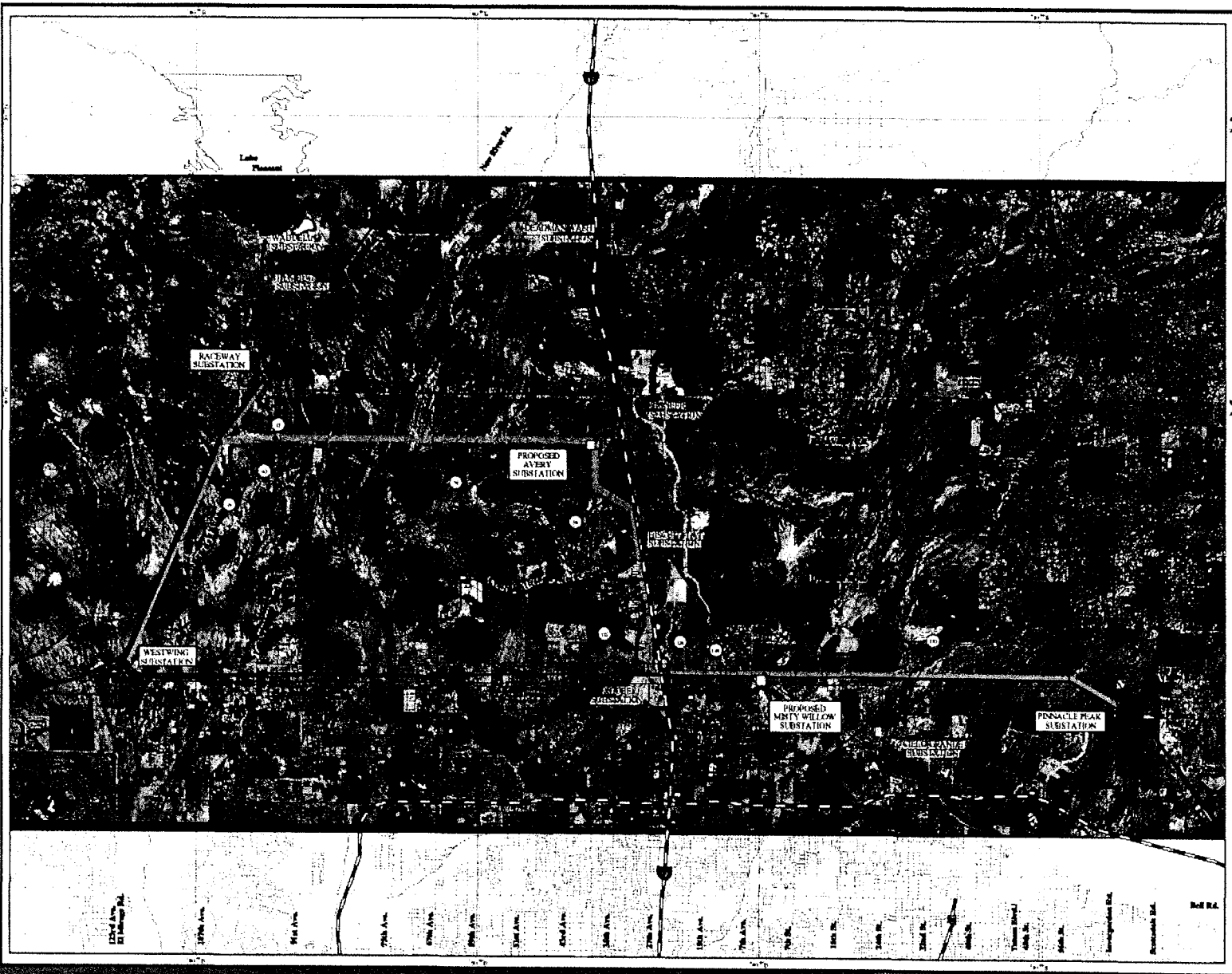


Figure 1
PROPOSED ROUTE

NORTH VALLEY
230kV FACILITY SITING PROJECT

- Proposed Route Links: 15, 35, 60, 70, 90, 115, 120, 140, 170
- Proposed Substation Siting Area
- Link Identification Number
- Link Node

General Reference Features

- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- Interstate/Highway
- Transportation Route
- Lake
- Stream
- Canal
- ▲ / ■ Existing Substation

Scale 1:62,500

APS

APS

NORTH VALLEY
230kV FACILITY SITING PROJECT

Proposed Route

- Parallels existing linear features
  - EHV transmission line corridors (17.5 miles)
  - Interstate 17 with existing and/or planned 69kV transmission line (2.5 miles)
  - Also parallels planned 69kV transmission line (11.2 miles)
- Maximum corridor width of 1,000 to 2,000 feet to accommodate site-specific mitigation and engineering
- Maximum right-of-way width of 150 feet

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

Estimated Cost and Construction Schedule

- Project cost for proposed route
  - Approximately $71,000,000
- Construction schedule
  - Begin right-of-way acquisition 2003
  - Complete right-of-way acquisition 2005
  - Begin transmission line construction 2006
  - Begin substation construction 2007
  - Construction completed and commercial operation phased in between 2008 and 2011

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

Substations

- Two new substations
  - 10-acre site with block wall and steel gate
- Design and landscaping
  - Wall design and color to match surrounding developments
  - Density and plant type in accordance with established city building permit requirements

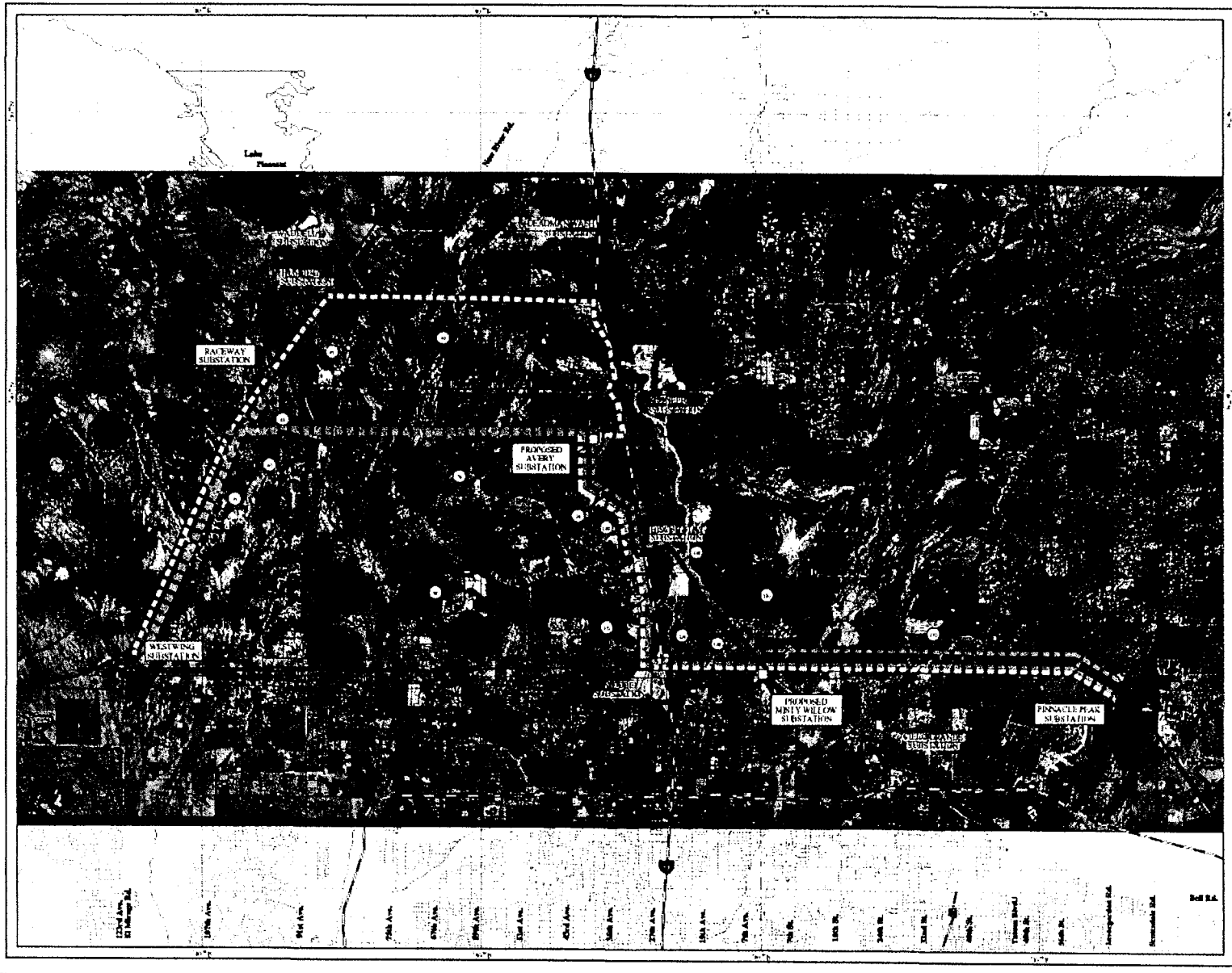


Exhibit A-5

PROPOSED AND ALTERNATIVE ROUTES

NORTH VALLEY

230kV FACILITY SITING PROJECT

Alternatives

- Proposed Route
  Links: 15, 35, 60, 70, 90, 115, 120, 140, 170
- Alternative Route #1
  Links: 15, 35, 60, 70, 90, 100, 110, 140, 170
- Alternative Route #2
  Links: 15, 35, 60, 70, 90, 100, 150, 170
- Alternative Route #3
  Links: 15, 35, 45, 50, 90, 115, 120, 140, 170
- Alternative Route #4
  Links: 15, 35, 60, 80, 90, 100, 150, 170
- Proposed Substation Siting Area
- Link Identification Number
- Link Node

General Reference Features

- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- Interstate/Highway
- Transportation Route
- Lake
- Stream
- Canal
- ▲ / ■ Existing Substation

Scale 1:62,500

APS

NORTH VALLEY

230kV FACILITY SITING PROJECT

Alternative Route Overview

- Alternative #1 (31.2 miles, $71 million)
  - Does not allow for 69kV consolidation along I-17
- Alternative #2 (30.2 miles, $69 million)
  - Requires more turning structures
  - Construction constraints
  - Greater environmental impacts
- Alternative #3 (34.9 miles, $76 million)
  - Longer route without corresponding system benefits
  - Greater environmental impacts
- Alternative #4 (32.8 miles, $75 million)
  - Construction constraints
  - Longer route without corresponding system benefits

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

230kV Structures

- Monopole
  - Typical height
  - Typical span
  - 69kV consolidation
- Lattice tower
  - Typical height
  - Typical span
- Line Crossing Structures
- Material
  - Non-specular conductor
  - Dulled galvanized structural steel

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

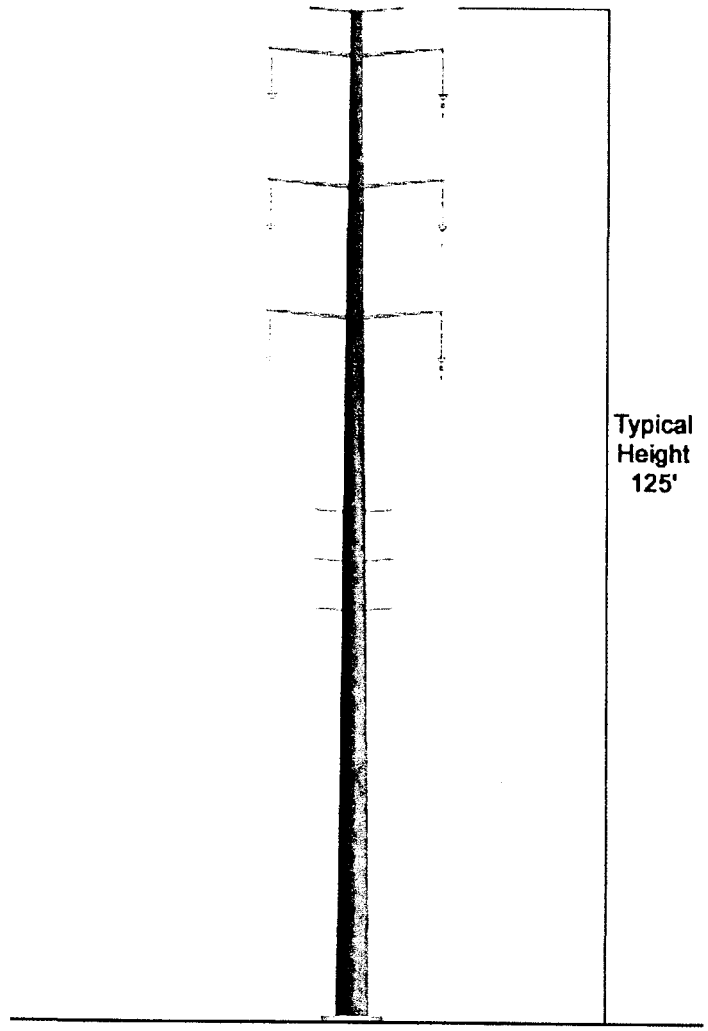


EXHIBIT G-2

Typical 230kV Double-Circuit Tangent Steel Pole with Double-Circuit 69kV Underbuild

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

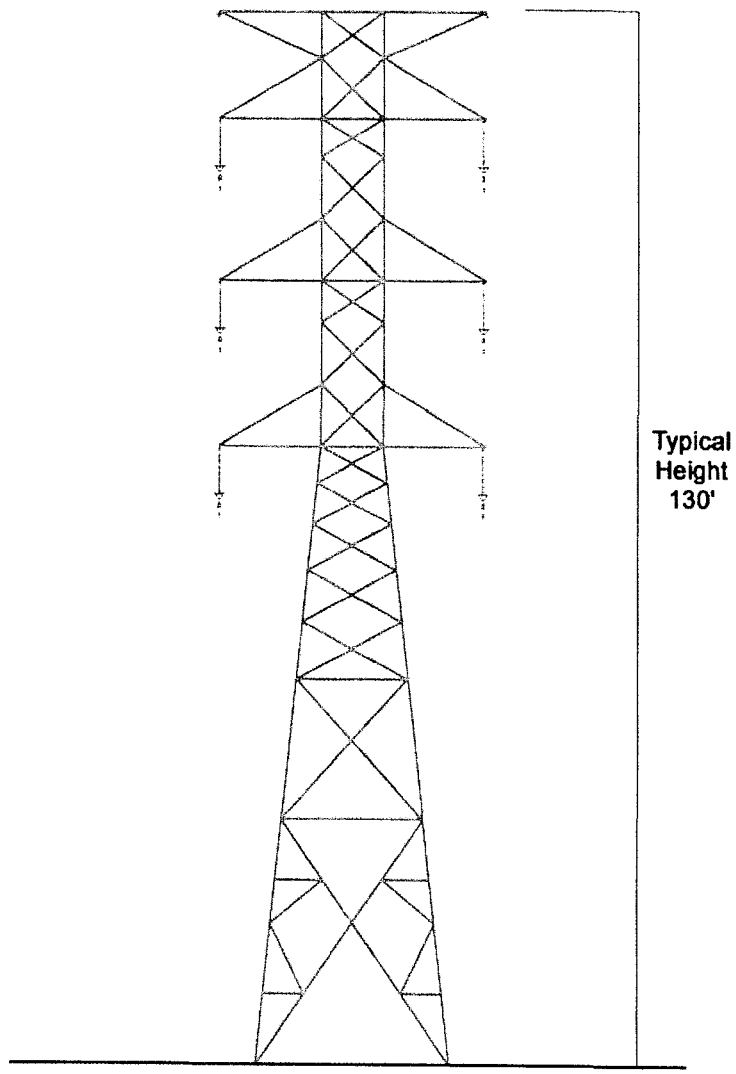


EXHIBIT G-3

Typical 230kV Double-Circuit Tangent Steel Lattice Structure

APS

NORTH VALLEY

230kV FACILITY
SITING PROJECT

CEC Timeframe

- Request 10-Year Term
  - Accommodates project in-service dates between 2008 and 2011
- Rapid development in the North Valley area
  - Need to precede growth
  - Allow for integration with future development
- Project is included in the General Plans of:
  - City of Phoenix
  - City of Peoria

Right-of-Way/Corridors

- Right-of-Way
  - Arizona State Land Department
  - Private Land Acquisition
  - ADOT I-17 Corridor
- Existing Corridors
  - Westwing - New Waddell Corridor
    - APS
    - WAPA
  - Happy Valley Corridor
    - SRP
    - WAPA circuit

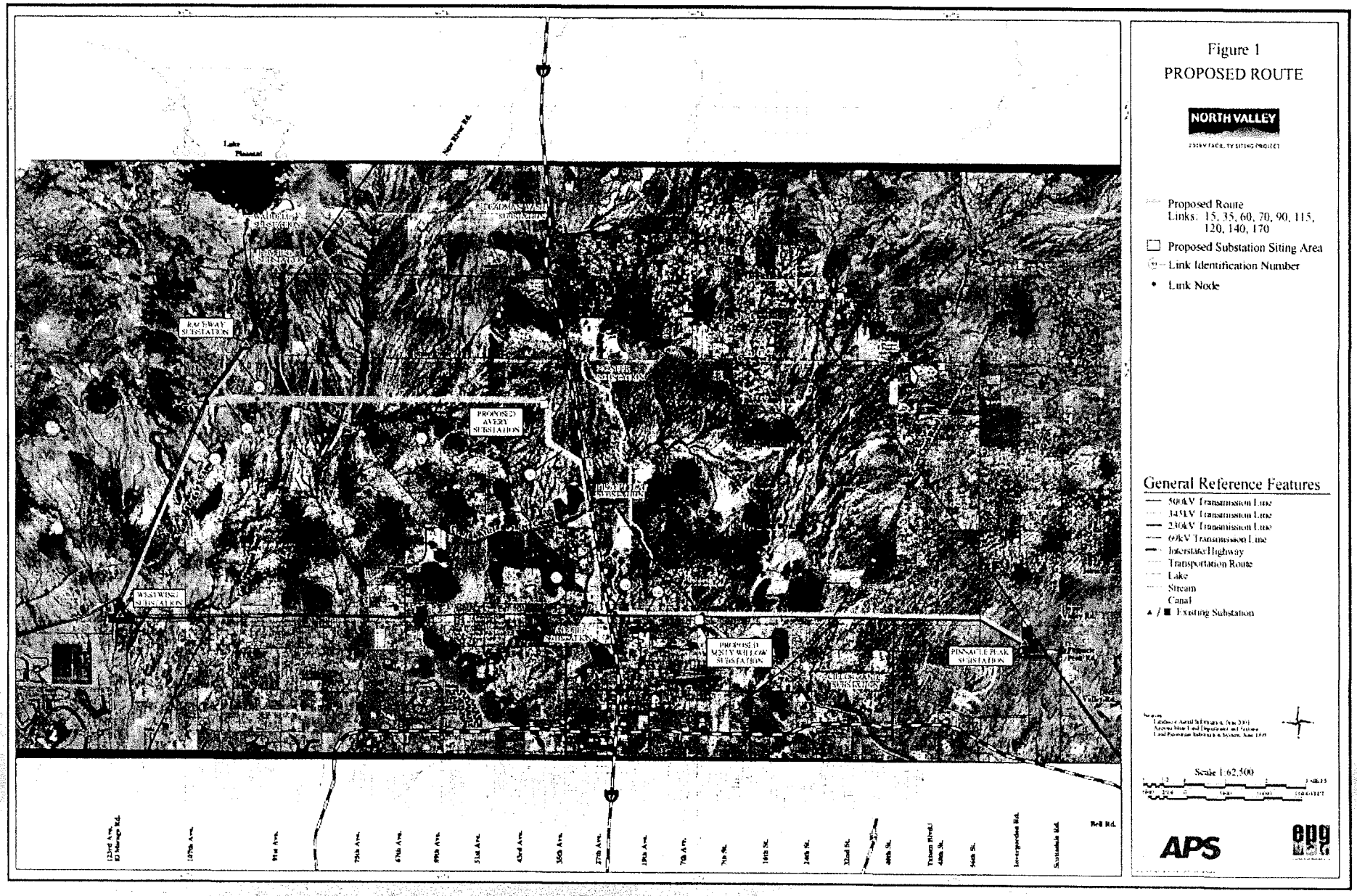
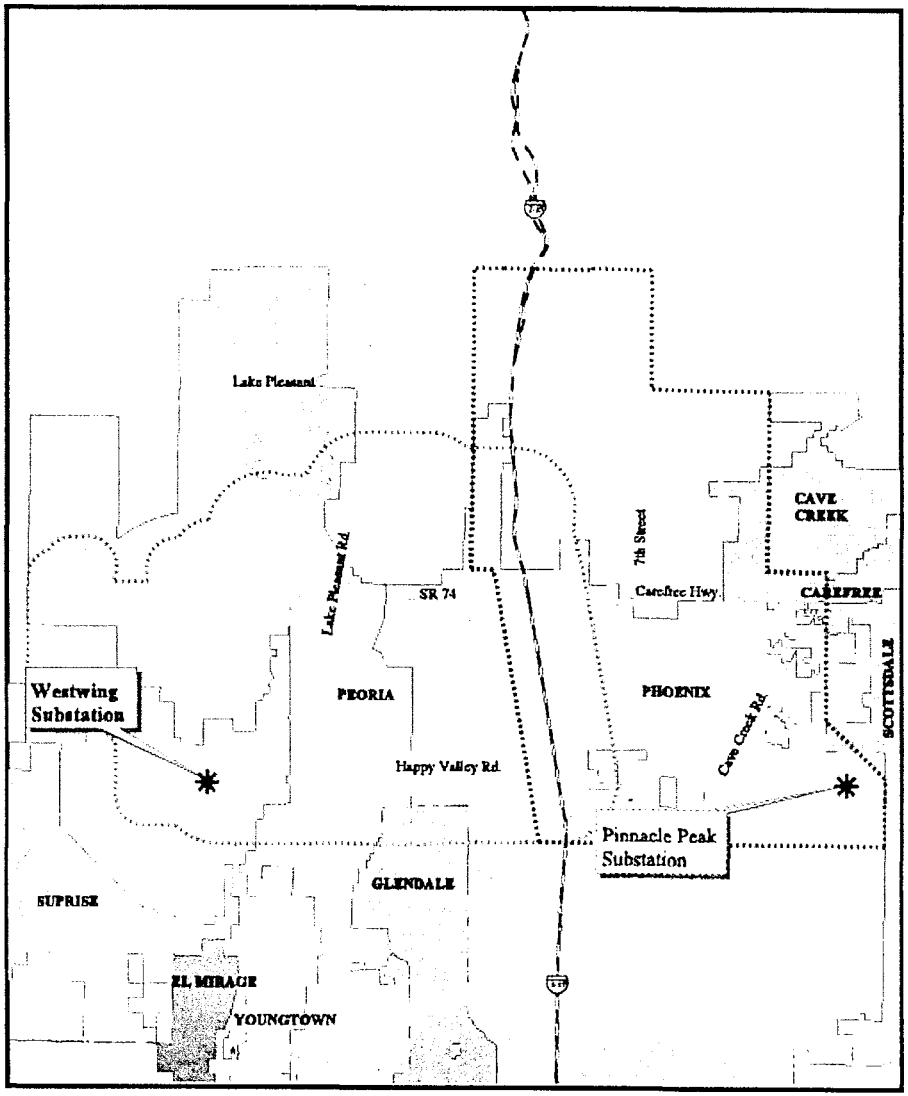


Figure 1
PROPOSED ROUTE
NORTH VALLEY
230kV FACILITY SITING PROJECT
Proposed Route
Links: 15, 35, 60, 70, 90, 115, 120, 140, 170
Proposed Substation Siting Area
Link Identification Number
Link Node
General Reference Features
500kV Transmission Line
345kV Transmission Line
230kV Transmission Line
69kV Transmission Line
Interstate/Highway
Transportation Route
Lake
Stream
Canal
Existing Substation
Scale 1:62,500
APS
RAILWAY SUBSTATION
PROPOSED AVERY SUBSTATION
WESTWING SUBSTATION
PROPOSED WESTWILLOW SUBSTATION
PINNACLE PEAK SUBSTATION
Lake Pleasant
Bell Rd.

Facility Siting Projects

- Northwest Siting Study
- North Central Siting Study
- North Valley Facility Siting Study



Legend

Northwest Valley Project Study Area Boundary

North Central Project Study Area Boundary

N W E S

2 0 2 4 Miles

Figure 2
Facility Siting Projects

APS

APS

NORTH VALLEY
230kV FACILITY SITING PROJECT

Northwest Siting Study

- Community Working Group
- 7 Open Houses
- 6 Newsletters Sent to 50,000 People
- Website
- Telephone Information Line
- Newspaper Articles

North Central Siting Study

- Community Working Group
- 6 Open Houses
- 4 Newsletters Sent to 23,000 People
- Website
- Telephone Information Line
- Newspaper Articles

North Valley Facility Siting Project

- Jurisdictional Briefings
  - City of Phoenix
  - City of Peoria
  - Arizona State Land Department
  - Arizona Department of Transportation
  - Maricopa County
- NW and NC Community Working Group Update
- Newsletter sent to 67,000 people
- Website (http://siting.apsc.com)
- Telephone Information Line

Community Involvement Summary

- Acceptance of the Proposed Route from both Community Working Groups
- City of Phoenix and City of Peoria support the Proposed Route and have included within the cities general plans
- Arizona State Land Department (ASLD) supports the Proposed Route

Applicant's Evaluation of Alternative Routes

- Criteria applied by applicant to rank the alternative routes
  - Environmental study results
  - Public input
  - Engineering and technical considerations
  - Cost

North Valley Project Benefits

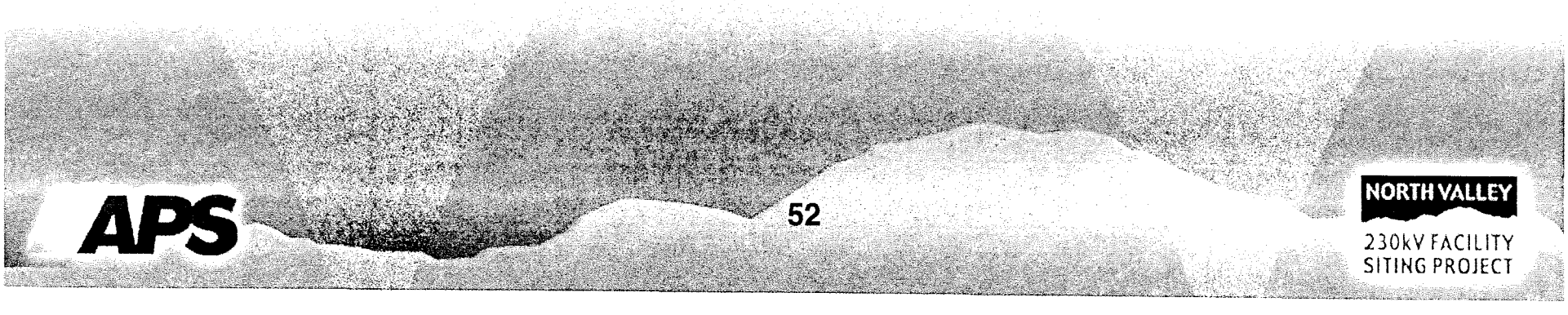
- Establishes needed electric infrastructure for the North Valley
- Improves APS' transmission system reliability
- Allows the incorporation of electrical infrastructure in future development plans
- Recognizes jurisdictional input

Environmental Studies

Paul Trenter

Environmental Planning Group

Project Manager



Witness Background

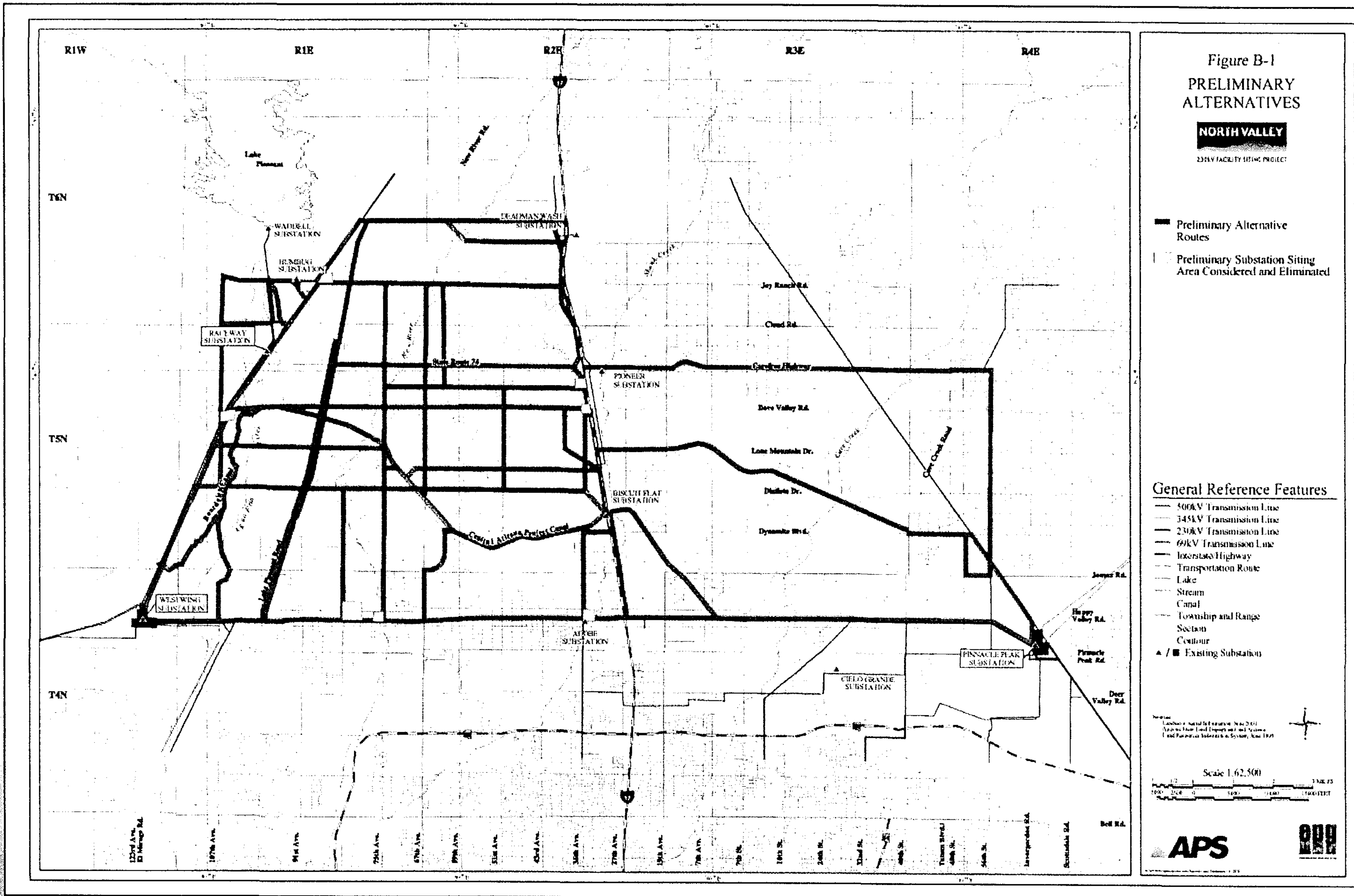
- Professional Credentials
  - BS, Landscape Architecture, Environmental Planning, University of Wisconsin
  - Principal at EPG
  - 14-years of experience in siting and environmental work with major utility projects
  - Managed or participated in over 26 major transmission line projects
  - Previously testified before the Siting Committee and most recently the APS/SRP Southwest Valley Project

Witness Background

- Environmental Planning Group
  - Provides comprehensive environmental planning, permitting and compliance
  - EPG's senior project managers have a combined total of more than 125 years of siting experience on a wide variety of projects
  - EPG or its staff have participated in a majority of all EHV and HV transmission line projects in Arizona in the last 25 years

Outline of Testimony

- Alternatives evaluation
- Environmental studies
  - Land use
  - Visual
  - Cultural
  - Biological
- Environmental compatibility



56

NORTH VALLEY
230kV FACILITY SITING PROJECT

Alternatives Identification

- Regional study conducted
- Identified 221 miles of preliminary transmission line alternatives and nine substation siting areas
- Environmental, public input, and engineering reduced the preliminary alternatives by 97 miles
- 124 miles of transmission line routes and nine substation sites were evaluated in a detailed corridor inventory and assessment

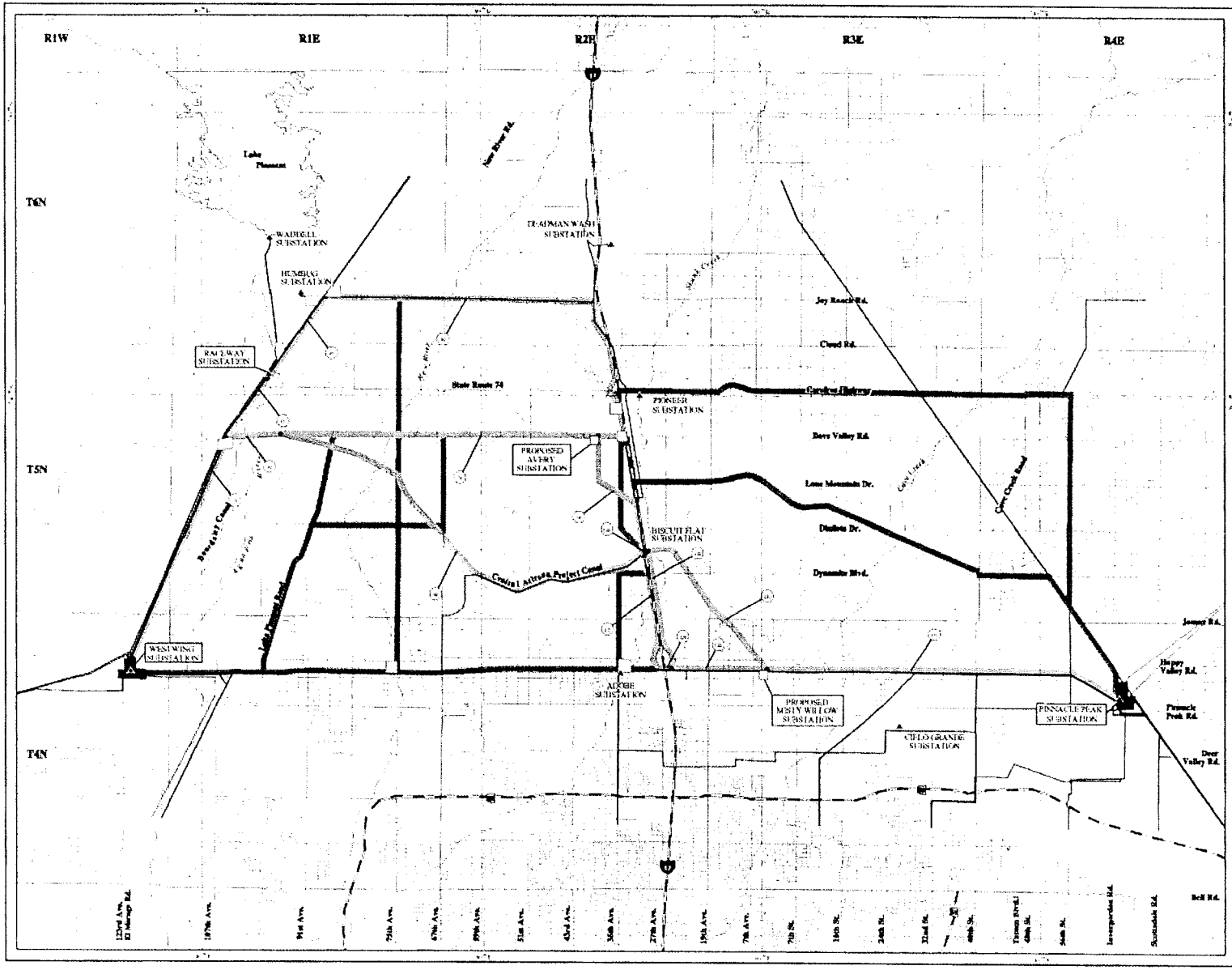


Figure B-2

ALTERNATIVES EVALUATION

NORTH VALLEY

230kV FACILITY SITING PROJECT

- Alternatives Evaluated in the Final Environmental Comparison
- Alternative Routes Evaluated in the Northwest and North Central 230kV Facility Siting Studies
- Proposed Substation Siting Area Evaluated in the Final Environmental Comparison
- Preliminary Substation Siting Area Evaluated in the Northwest and North Central 230kV Facility Siting Studies
- Link Identification Number
- Link Node

General Reference Features

- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- Interstate/Highway
- Transportation Route
- Lake
- Stream
- Canal
- Township and Range
- Section
- Contour
- ▲ / ■ Existing Substation

Sources:
Landbase: Central Information Group (2001)
Arizona State Land Department and Tenure
Land Resource Information System, July 1999

Scale 1:62,500

APS

NORTH VALLEY 230kV FACILITY SITING PROJECT

Environmental Evaluation of Alternatives

- Evaluated land use and visual impacts resulting in 60 miles of alternatives and two substation siting areas for final comparison
- These alternatives were combined to form five alternative routes
- Conducted detailed environmental evaluation of the alternative routes
- Provided environmental study results to APS

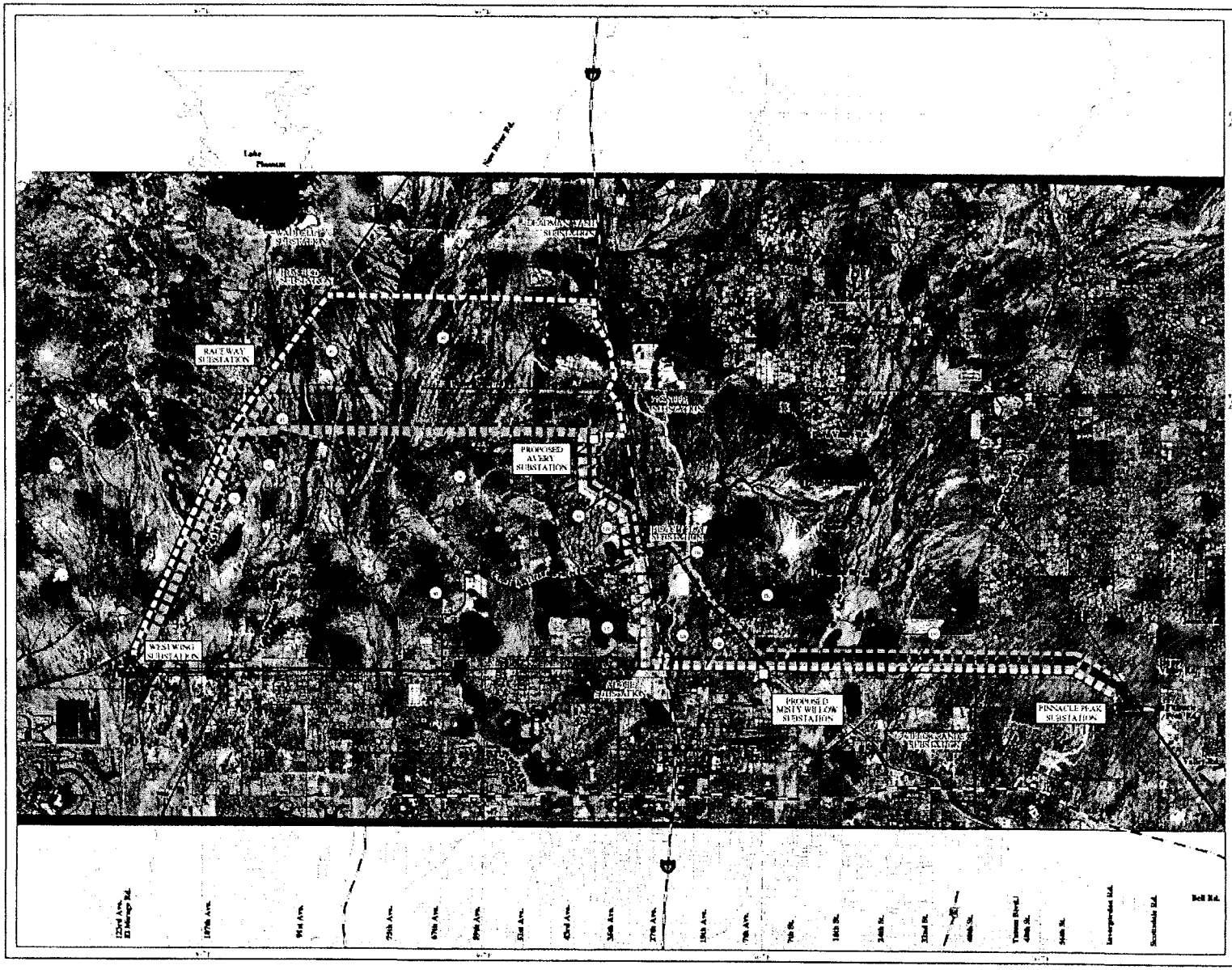


Exhibit A-5

PROPOSED AND ALTERNATIVE ROUTES

NORTH VALLEY

230kV FACILITY SITING PROJECT

Alternatives

- Proposed Route
  Links: 15, 35, 60, 70, 90, 115, 120, 140, 170
- Alternative Route #1
  Links: 15, 35, 60, 70, 90, 100, 110, 140, 170
- Alternative Route #2
  Links: 15, 35, 60, 70, 90, 100, 150, 170
- Alternative Route #3
  Links: 15, 35, 45, 50, 90, 115, 120, 140, 170
- Alternative Route #4
  Links: 15, 35, 60, 80, 90, 100, 150, 170
- Proposed Substation Siting Area
- Link Identification Number
- Link Node

General Reference Features

- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- Interstate Highway
- Transportation Route
- Lake
- Stream
- Canal
- ▲ / ■ Existing Substation

Sources:
Landsat Satellite Imagery, Nov. 2001
Arizona State Land Department and Arizona Land Resource Information System, Aug. 1999

Scale 1:62,500

APS

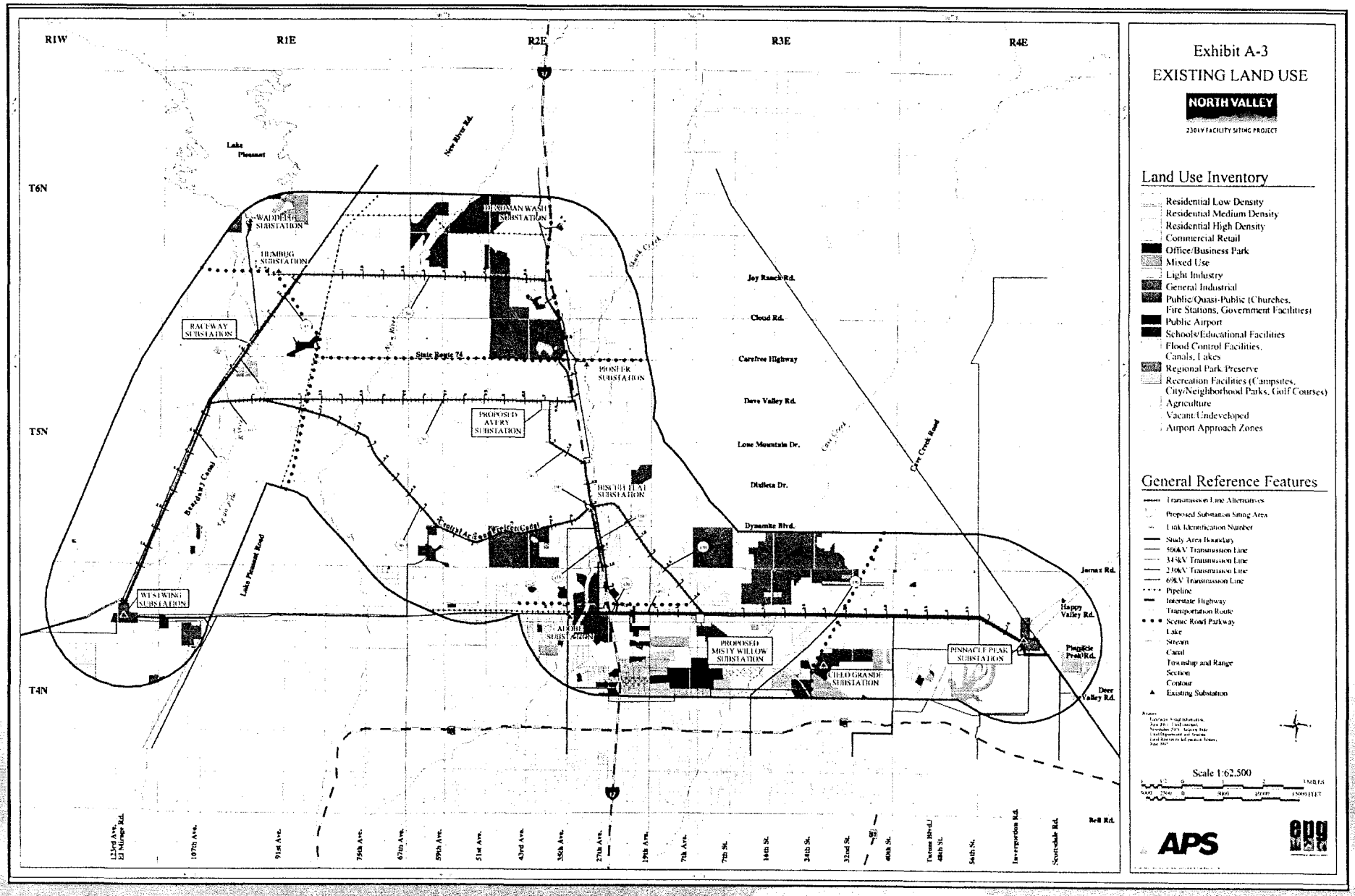
APS

NORTH VALLEY

230kV FACILITY SITING PROJECT

Land Use

- Inventory of existing and planned land uses
- Jurisdiction crossed for the Proposed Route
  - City of Phoenix (19.6 miles)
  - City of Peoria (8.5 miles)
  - Unincorporated (3.1 miles)
- Land ownership crossed for the Proposed Route
  - Private owners (7.7 miles)
  - State Trust (22.7 miles)
  - Bureau of Reclamation (0.8 mile)



APS

NORTH VALLEY
230kV FACILITY SITING PROJECT

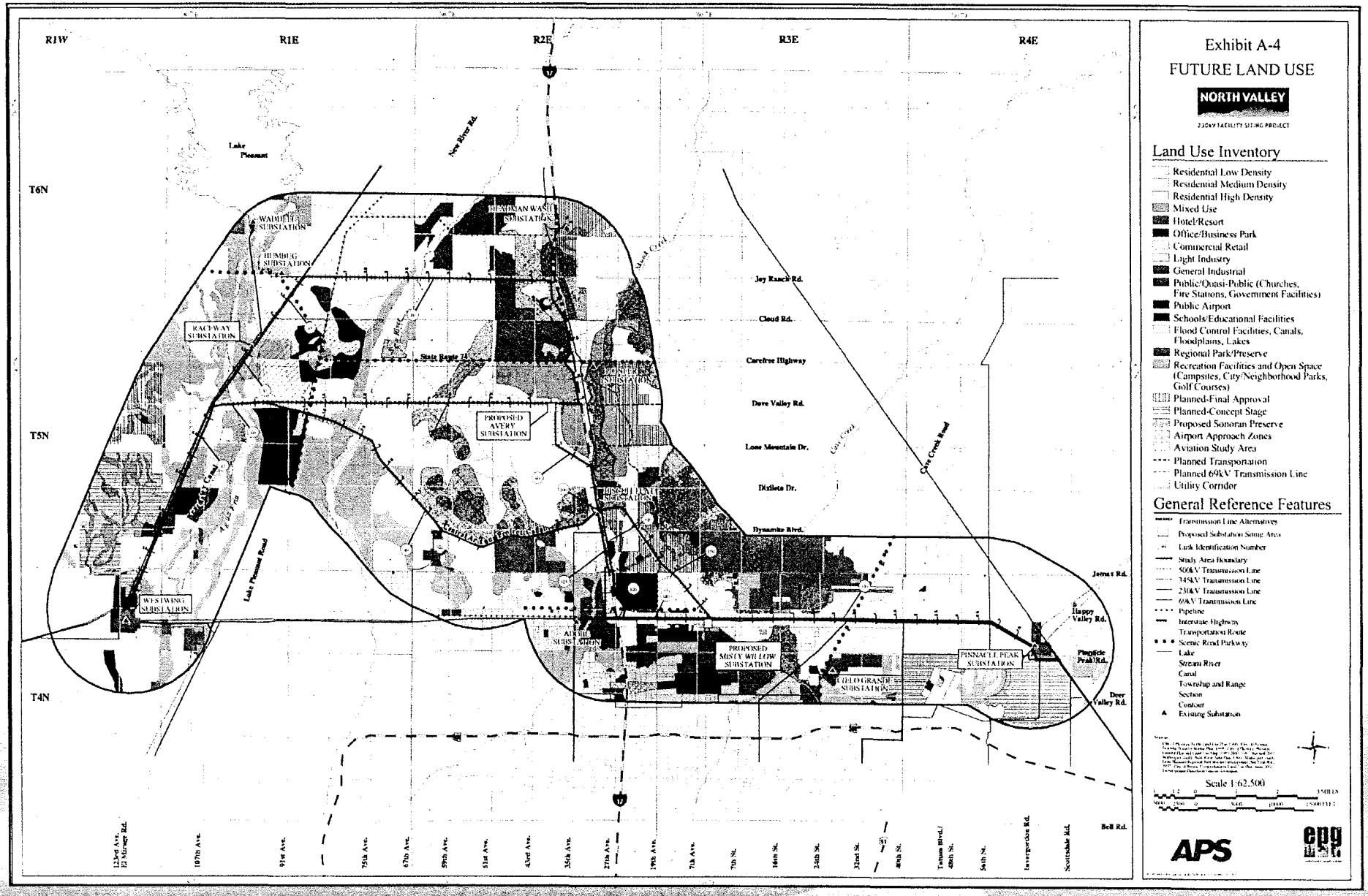


Exhibit A-4
FUTURE LAND USE
NORTH VALLEY
230kV FACILITY SITING PROJECT
Land Use Inventory
Residential Low Density
Residential Medium Density
Residential High Density
Mixed Use
Hotel/Resort
Office/Business Park
Commercial Retail
Light Industry
General Industrial
Public/Quasi-Public (Churches, Fire Stations, Government Facilities)
Public Airport
Schools/Educational Facilities
Flood Control Facilities, Canals, Floodplains, Lakes
Regional Park/Preserve
Recreation Facilities and Open Space (Campsites, City/Neighborhood Parks, Golf Courses)
Planned-Final Approval
Planned-Concept Stage
Proposed Sonoran Preserve
Airport Approach Zones
Aviation Study Area
Planned Transportation
Planned 69kV Transmission Line
Utility Corridor
General Reference Features
Transmission Line Alternatives
Proposed Substation Siting Area
Link Identification Number
Study Area Boundary
500kV Transmission Line
345kV Transmission Line
230kV Transmission Line
69kV Transmission Line
Pipeline
Interstate Highway
Transportation Route
Scenic Road Parkway
Lake
Stream River
Canal
Township and Range
Section
Contour
Existing Substation
Scale 1:62,500
APS
epg
R1W
R1E
R2E
R3E
R4E
T6N
T5N
T4N
Lake Pleasant
New River Rd.
WAUPIKI SUBSTATION
HUMBUG SUBSTATION
RACEWAY SUBSTATION
State Route 74
PROPOSED AVERY SUBSTATION
WESTWING SUBSTATION
Lake Pleasant Road
Jay Ranch Rd.
Cloud Rd.
Carefree Highway
Dove Valley Rd.
Lone Mountain Dr.
Dixileta Dr.
Dynamite Blvd.
Cave Creek Road
Jomax Rd.
Happy Valley Rd.
Pinnacle Peak Rd.
Deer Valley Rd.
Bell Rd.
PROPOSED MISTY WILLOW SUBSTATION
PINNACLE PEAK SUBSTATION
CIELO GRANDE SUBSTATION
12nd Ave.
El Mirage Rd.
107th Ave.
91st Ave.
75th Ave.
67th Ave.
59th Ave.
51st Ave.
43rd Ave.
35th Ave.
27th Ave.
19th Ave.
7th Ave.
7th St.
16th St.
24th St.
32nd St.
40th St.
Tatum Blvd./ 48th St.
56th St.
Invergordon Rd.
Scottsdale Rd.

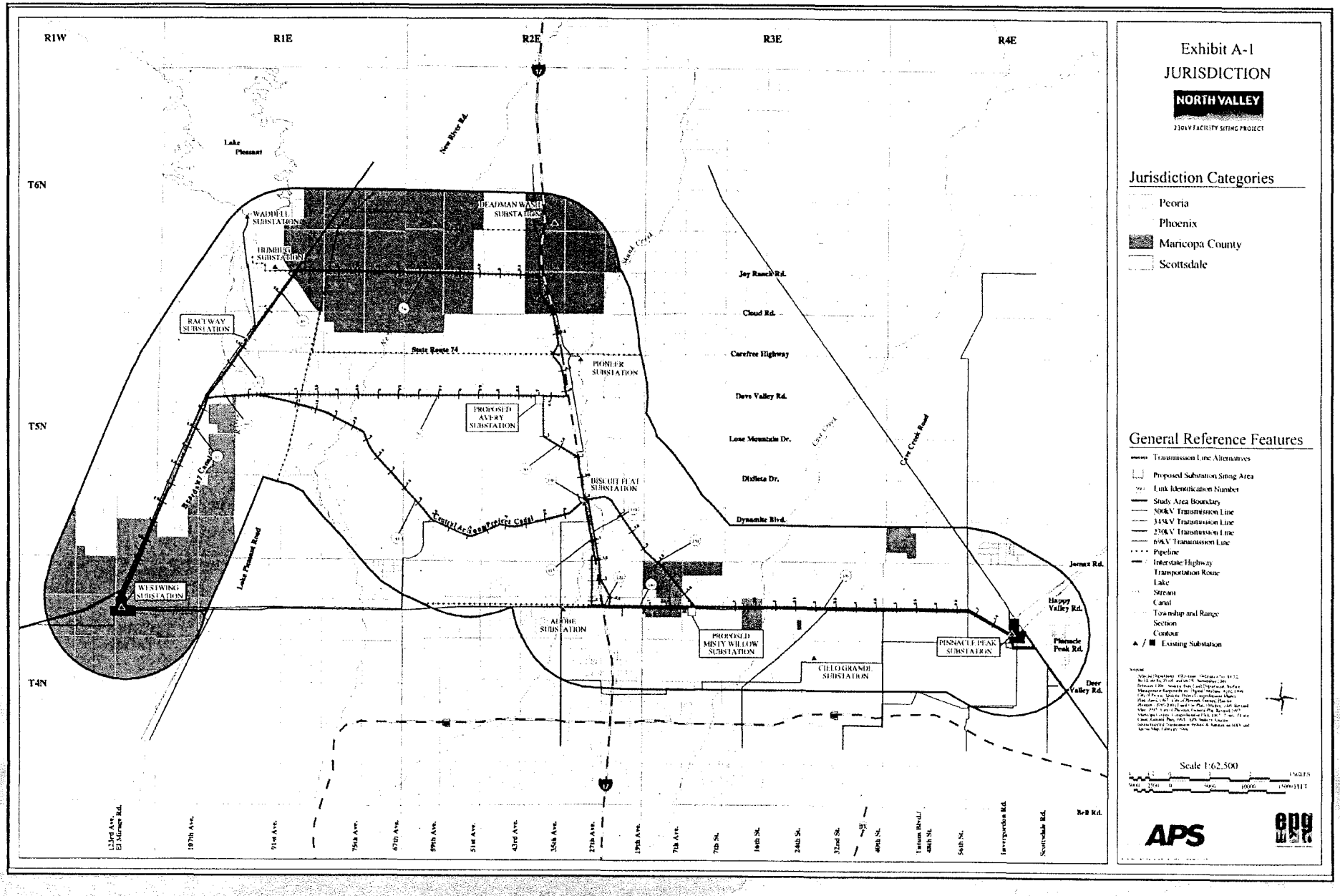
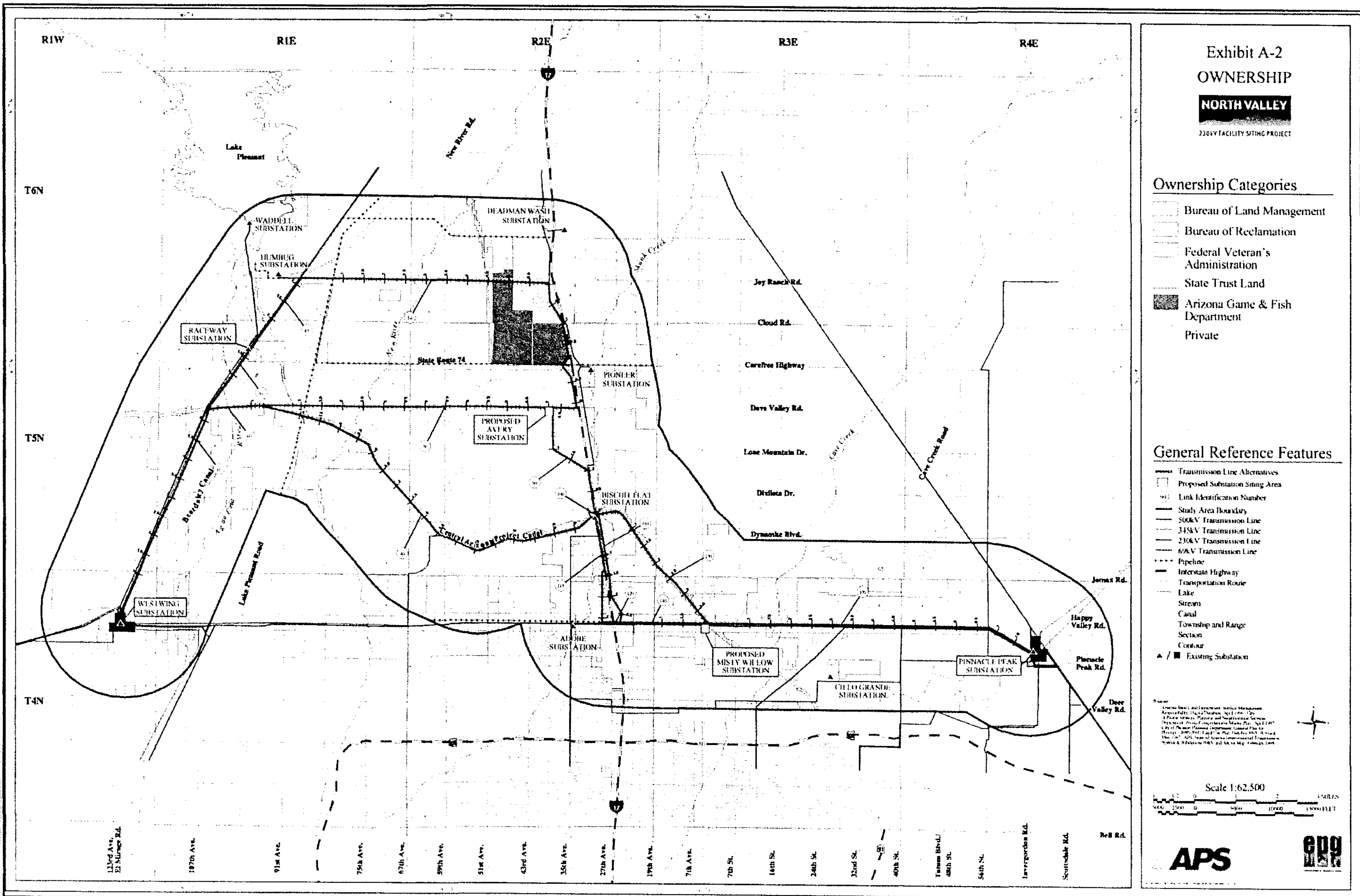


Exhibit A-1
JURISDICTION
NORTH VALLEY
230kV FACILITY SITING PROJECT
Jurisdiction Categories
Peoria
Phoenix
Maricopa County
Scottsdale
General Reference Features
Transmission Line Alternatives
Proposed Substation Siting Area
Link Identification Number
Study Area Boundary
500kV Transmission Line
345kV Transmission Line
230kV Transmission Line
69kV Transmission Line
Pipeline
Interstate Highway
Transportation Route
Lake
Stream
Canal
Township and Range
Section
Contour
Existing Substation
Scale 1:62,500
APS
epg
R1W
R1E
R2E
R3E
R4E
T6N
T5N
T4N
Lake Pleasant
New River Rd.
WADDELL SUBSTATION
HUMBLE SUBSTATION
BEADMAN WASH SUBSTATION
RACTWAY SUBSTATION
State Route 74
PIONEER SUBSTATION
PROPOSED AVERY SUBSTATION
BISCUIT FLAT SUBSTATION
Central Arizona Project Canal
WESTWING SUBSTATION
Lake Pleasant Road
ALBERT SUBSTATION
PROPOSED MISTY WILLOW SUBSTATION
CIELO GRANDE SUBSTATION
PINNACLE PEAK SUBSTATION
Joy Ranch Rd.
Cloud Rd.
Carefree Highway
Dove Valley Rd.
Lone Mountain Dr.
Didieta Dr.
Dynamite Blvd.
Cave Creek Road
Jomax Rd.
Happy Valley Rd.
Pinnacle Peak Rd.
Deer Valley Rd.
Beeline Rd.
Scottsdale Rd.
Tatum Blvd./ 48th St.
Invergordon Rd.
56th St.
40th St.
32nd St.
24th St.
16th St.
7th St.
7th Ave.
19th Ave.
27th Ave.
35th Ave.
43rd Ave.
51st Ave.
59th Ave.
67th Ave.
75th Ave.
91st Ave.
107th Ave.
113rd Ave. El Mirage Rd.



APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

Land Use (cont.)

- Proposed Route and substation sites are incorporated into the general plans of Phoenix and Peoria
- Minimizes impacts to existing or planned land uses by paralleling utility corridors and linear features for the entire route
- Mitigation to further reduce impacts includes
  - Consolidation of facilities where feasible
  - Selective structure placement
  - Use of tubular steel pole structures to minimize footprint

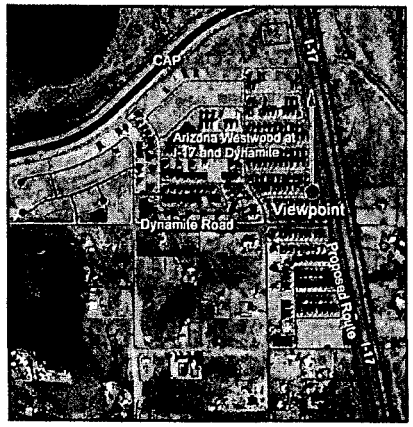
Visual Resources

- Visual resources inventory identified the following:
  - Landscape scenic quality
  - Sensitive viewers
  - Viewer visibility

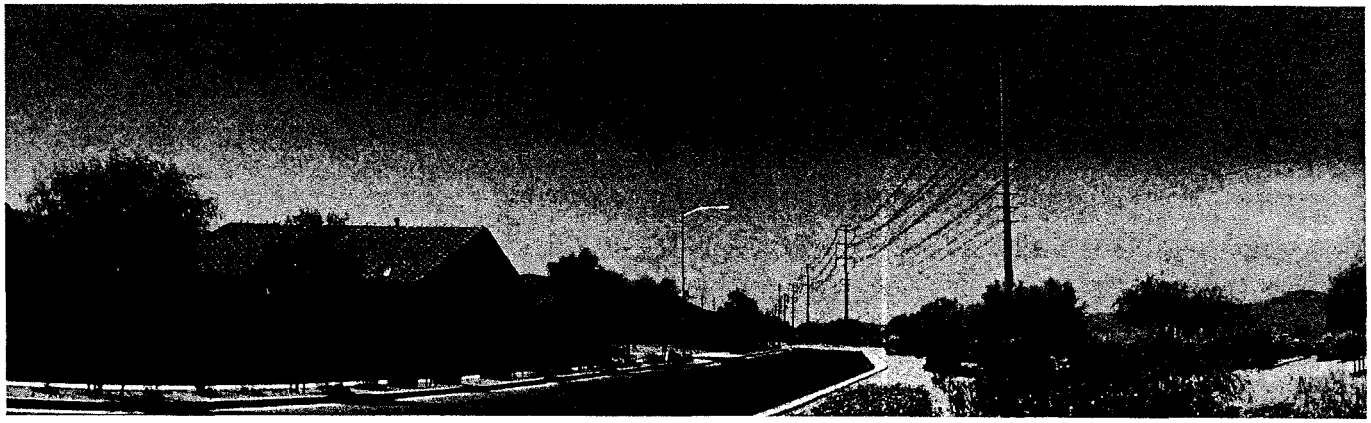
Visual Resources (cont.)

- Project parallels and consolidates existing and proposed APS overhead lines minimizing visual impacts to setting and viewers
- Proposed route parallels existing transmission line crossing at I-17
- Substation locations are adjacent to existing or proposed transmission lines
- Mitigation includes
  - Consolidate APS overhead lines
  - Match existing structures where feasible
  - Use non-reflective surfaces and non-specular conductor for the proposed project
  - Landscaping and block walls for substations

Existing Condition - Single-Circuit 69kV Transmission Line



Viewpoint from inside Arizona Westwood at I-17 and Dynamite Subdivision (looking north towards SR 74)



Simulation of Proposed Route - 230kV Double-Circuit Steel Pole with Double-Circuit 69kV Underbuild

SIMULATION DATA

Date: 05-09-2002
Time: 2:17 pm
Weather: Clear
Simulated Focal Length: 22 mm
Simulated Field of View : 79 degrees

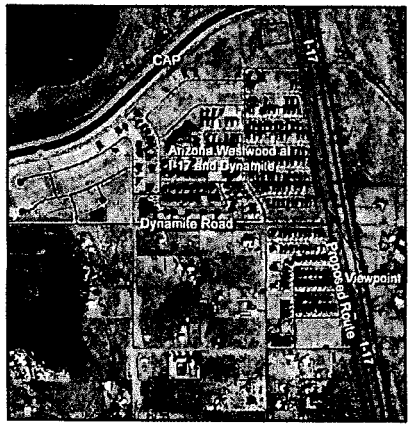
NORTH VALLEY

230kV FACILITY SITING PROJECT

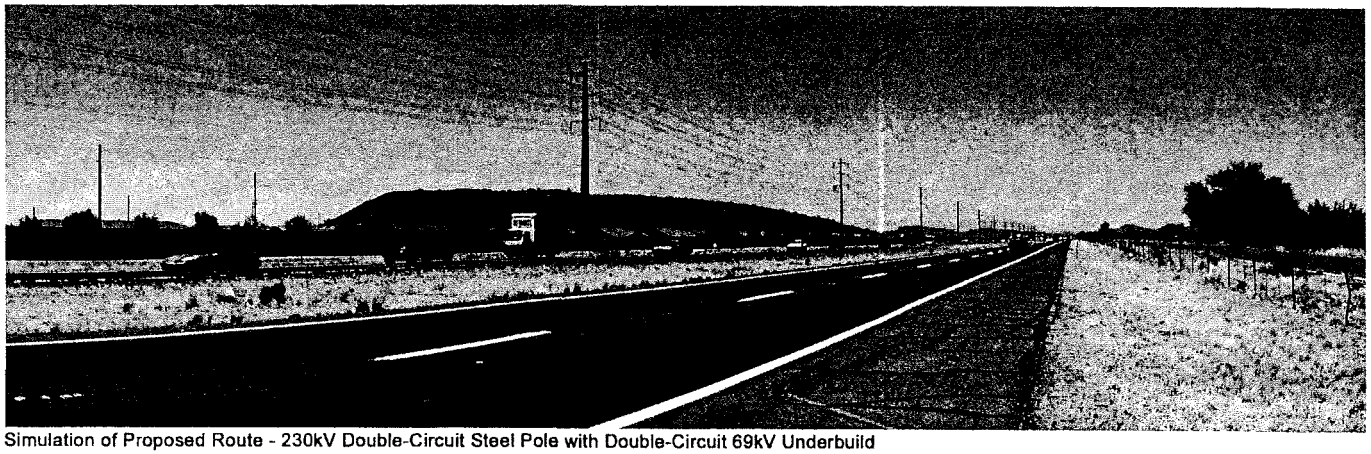
APS

EXHIBIT G-7

Existing Condition - Single-Circuit 69kV Transmission Line



Viewpoint from I-17 (looking northwest toward Arizona Westwood at I-17 and Dynamite Subdivision)



Simulation of Proposed Route - 230kV Double-Circuit Steel Pole with Double-Circuit 69kV Underbuild

SIMULATION DATA

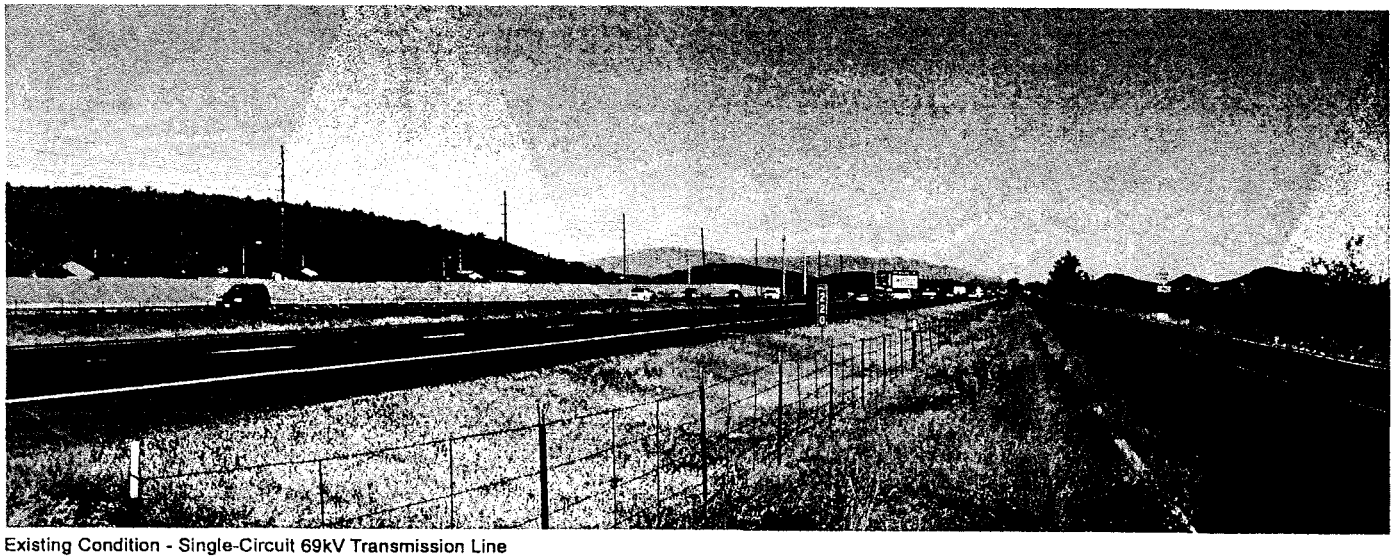
Date: 05-31-2002
Time: 1:05 pm
Weather: Clear
Simulated Focal Length: 16 mm
Simulated Field of View : 95 degrees

NORTH VALLEY

230kV FACILITY SITING PROJECT

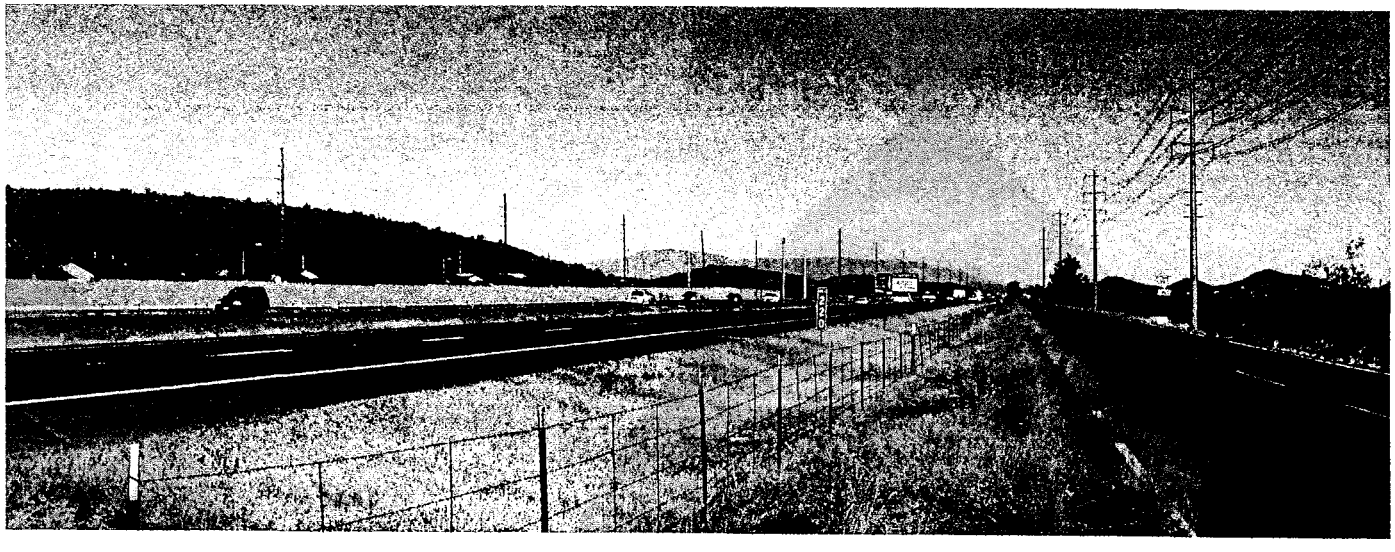
APS

EXHIBIT G-6



Existing Condition - Single-Circuit 69kV Transmission Line

Viewpoint from east frontage road of I-17 looking north



Simulation of Alternative Route #1 - 230kV Double-Circuit Steel Pole with Double-Circuit 69kV Underbuild

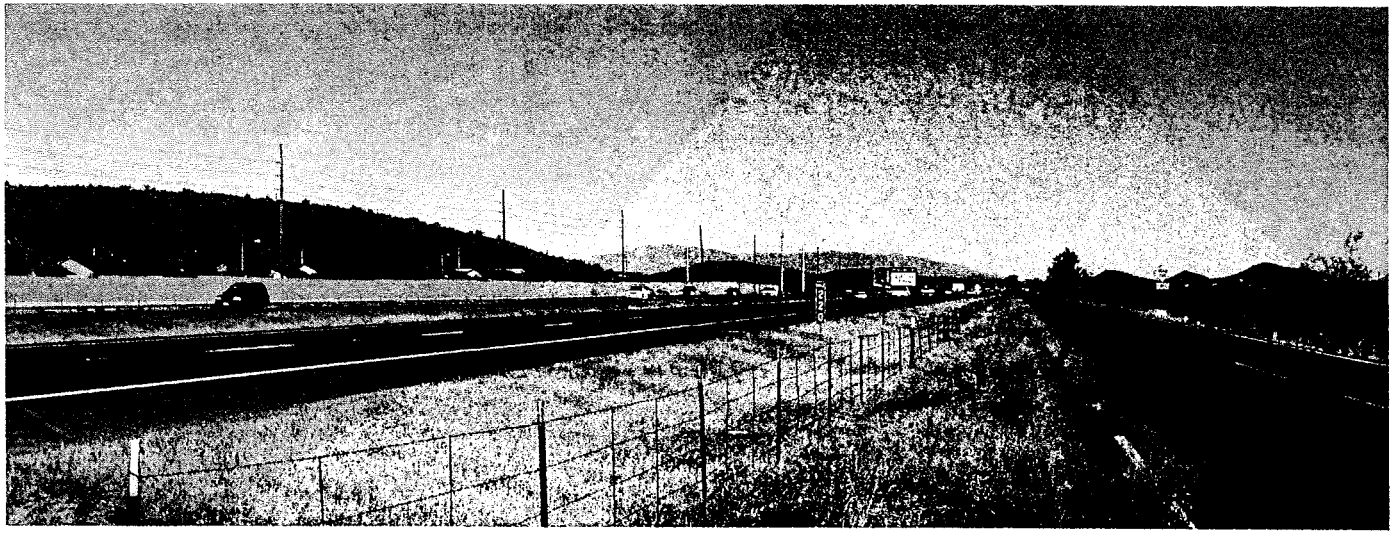
SIMULATION DATA

Date: 11-11-2002
Time: 9:20 am
Weather: Clear
Simulated Focal Length: 31 mm
Simulated Field of View : 61 degrees

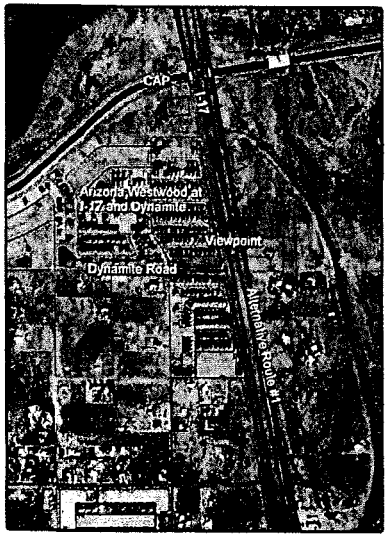
NORTH VALLEY

230kV FACILITY SITING PROJECT

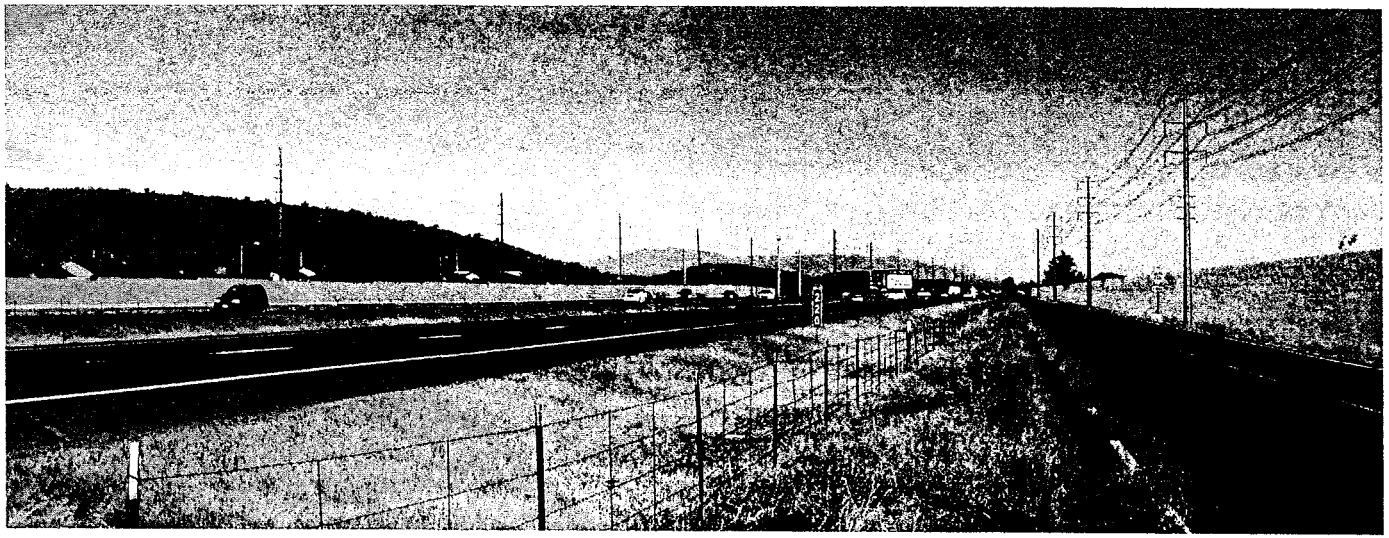
APS



Existing Condition - Single-Circuit 69kV Transmission Line



Viewpoint from east frontage road of I-17 looking north



Simulation of Alternative Route #1 with Development - 230kV *Double-Circuit* Steel Pole with Double-Circuit 69kV Underbuild

SIMULATION DATA

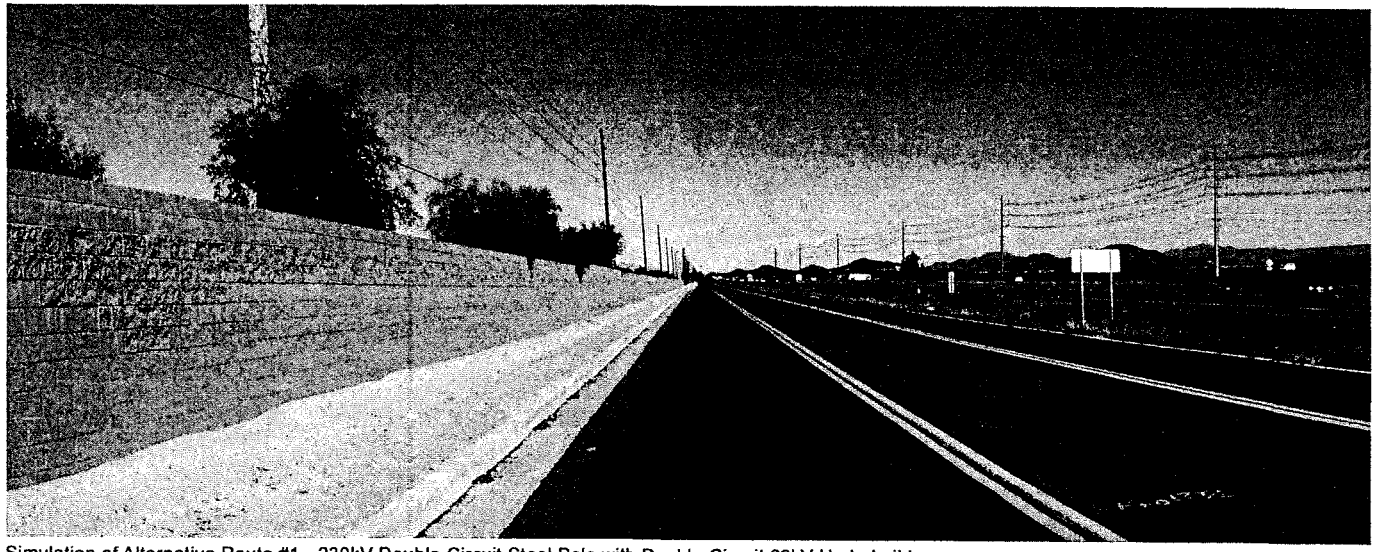
Date: 11-11-2002
Time: 9:20 am
Weather: Clear
Simulated Focal Length: 31 mm
Simulated Field of View : 61 degrees

NORTH VALLEY

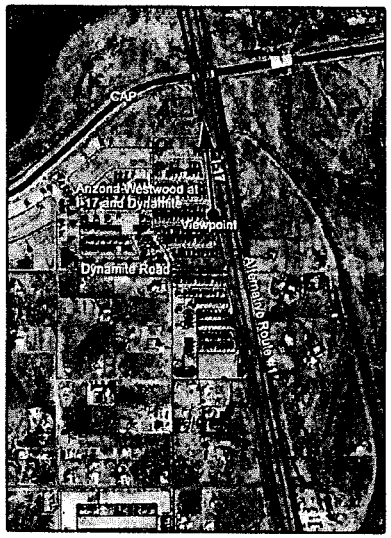
230kV FACILITY SITING PROJECT

APS

Existing Condition - Single-Circuit 69kV Transmission Line



Simulation of Alternative Route #1 - 230kV Double-Circuit Steel Pole with Double-Circuit 69kV Underbuild



Viewpoint from west frontage road of I-17 looking north

SIMULATION DATA

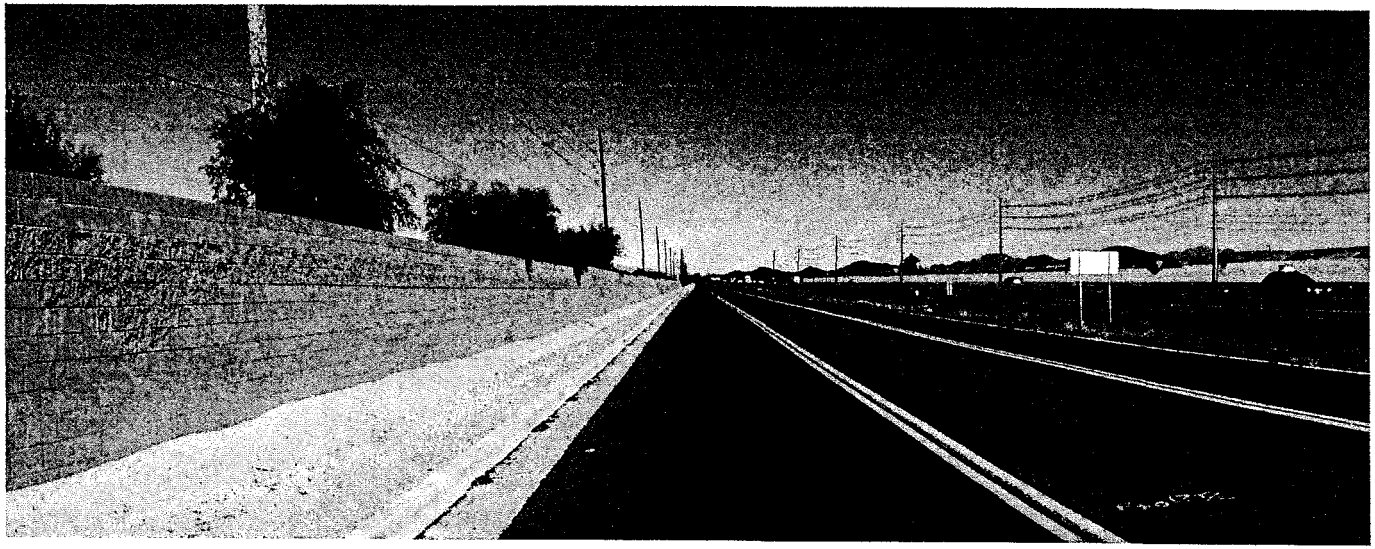
Date: 11-11-2002
Time: 9:55 am
Weather: Clear
Simulated Focal Length: 21 mm
Simulated Field of View : 82 degrees

NORTH VALLEY

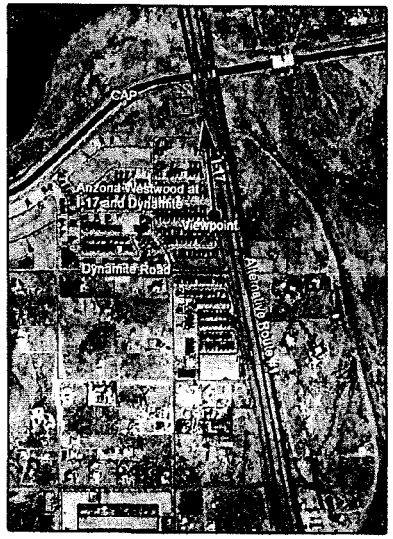
230kV FACILITY SITING PROJECT

APS

Existing Condition - Single-Circuit 69kV Transmission Line



Simulation of Alternative Route #1 with Development - 230kV Double-Circuit Steel Pole with Double-Circuit 69kV Underbuild



Viewpoint from west frontage road of I-17 looking north

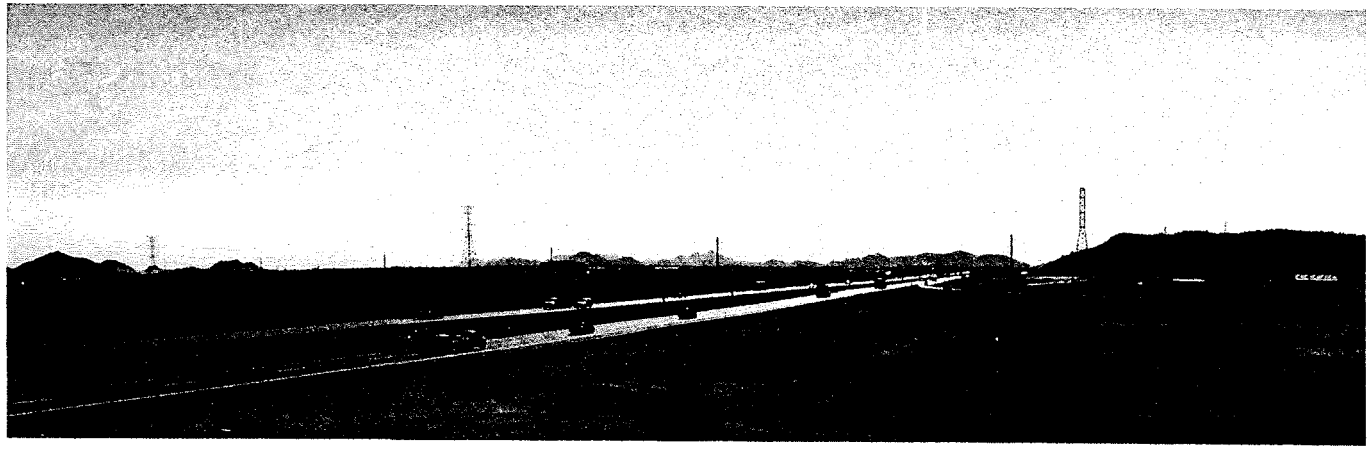
SIMULATION DATA

Date: 11-11-2002
Time: 9:55 am
Weather: Clear
Simulated Focal Length: 21 mm
Simulated Field of View : 82 degrees

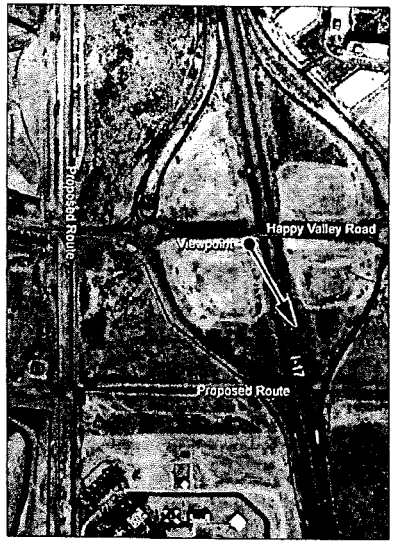
NORTH VALLEY

230kV FACILITY SITING PROJECT

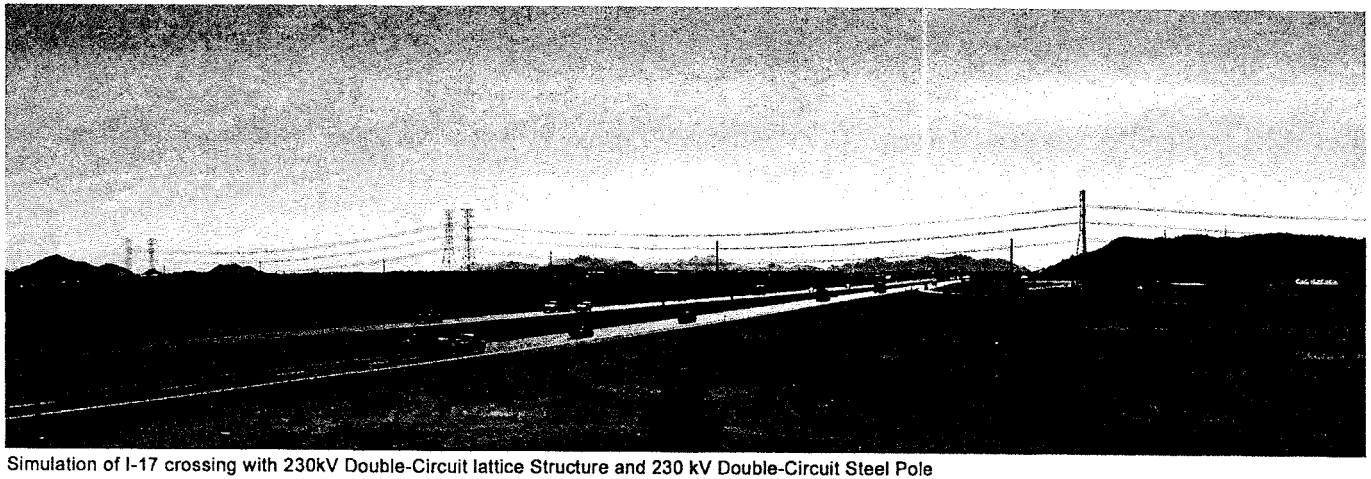
APS



Existing Condition - Double-Circuit 230kV Lattice Structure Paralleling Single-Circuit 69kV Pole



Viewpoint from Happy Valley Road looking southeast towards proposed I-17 crossing



Simulation of I-17 crossing with 230kV Double-Circuit lattice Structure and 230 kV Double-Circuit Steel Pole

SIMULATION DATA

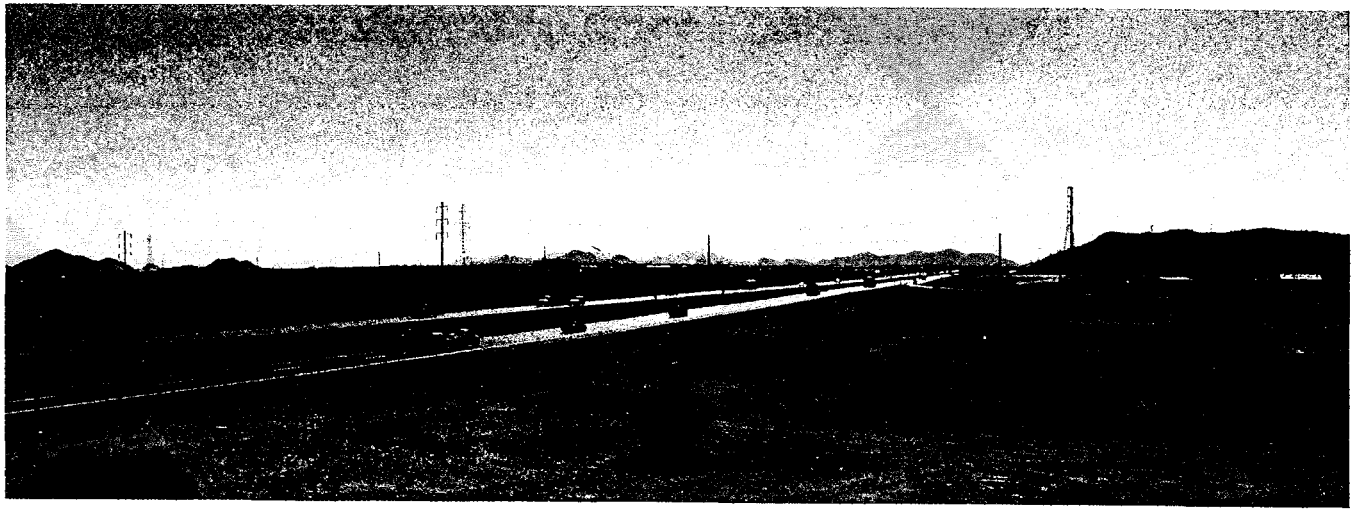
Date: 05-29-2002
Time: 10:14 am
Weather: Clear
Simulated Focal Length: 29 mm
Simulated Field of View : 65 degrees

NORTH VALLEY

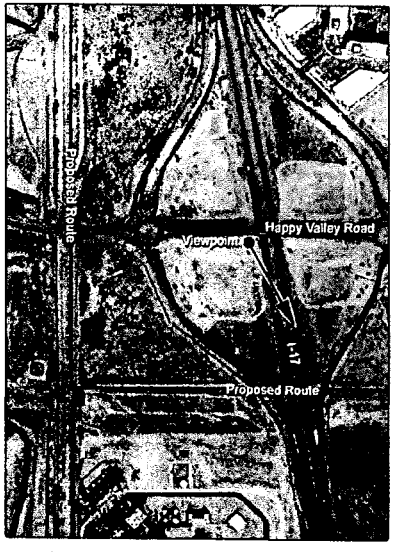
230kV FACILITY SITING PROJECT

APS

Existing Condition - Double-Circuit 230kV Lattice Structure Paralleling Single-Circuit 69kV Pole



Simulation of I-17 Crossing with Double-Circuit 230kV Steel Pole



Viewpoint from Happy Valley Road looking southeast towards proposed I-17 crossing

SIMULATION DATA

Date: 05-29-2002
Time: 10:14 am
Weather: Clear
Simulated Focal Length: 29 mm
Simulated Field of View : 65 degrees

NORTH VALLEY

230kV FACILITY SITING PROJECT

APS

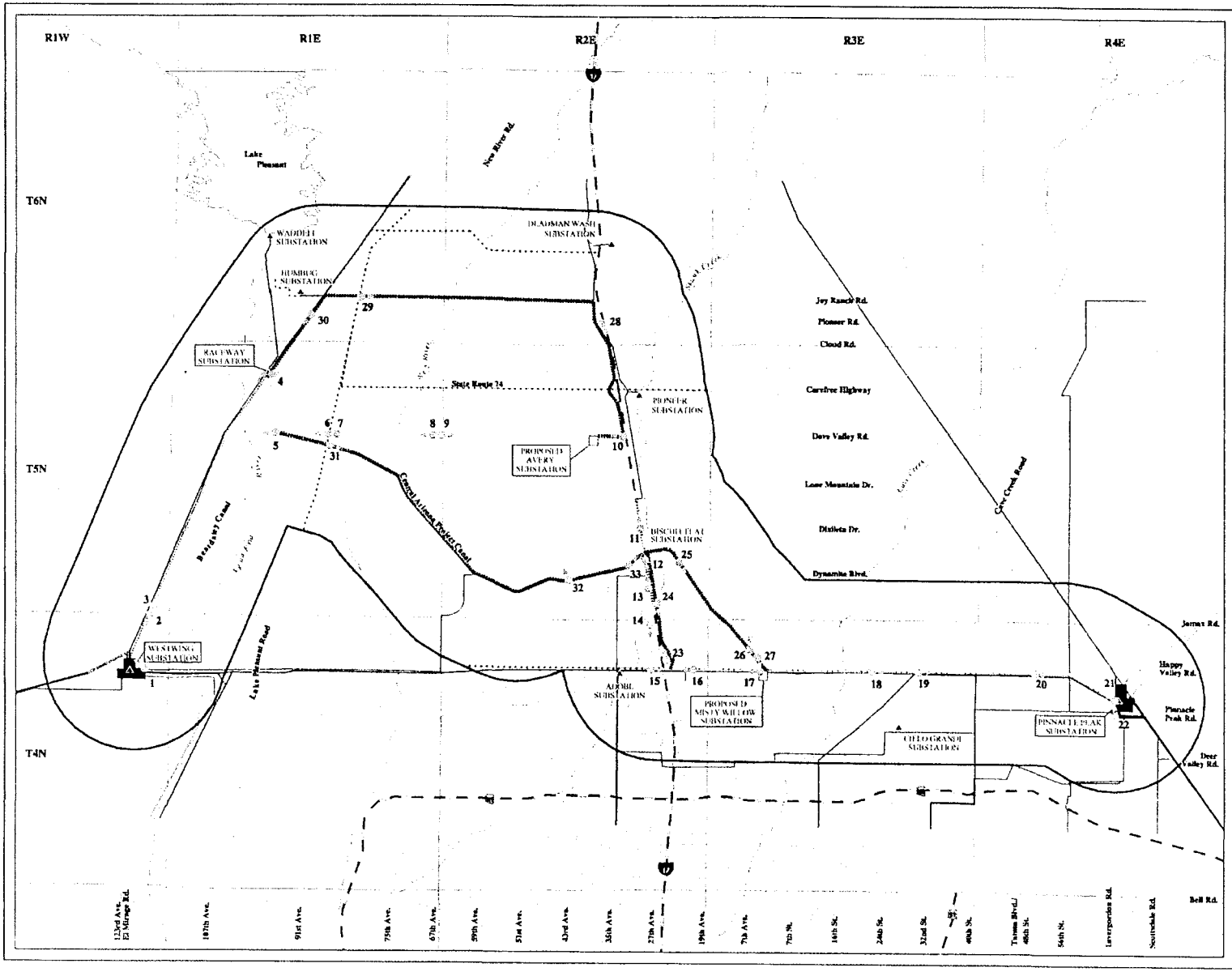


PHOTO POINT LOCATION MAP

NORTH VALLEY

230kV FACILITY SITING PROJECT

Legend

- Photo Points
- Proposed Route
- Alternative Route

General Reference Features

- Proposed Substation Siting Area
- Study Area Boundary
- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- Pipeline
- Interstate Highway
- Transportation Route
- Lake
- Stream River
- Canal
- Township and Range
- Contour
- Existing Substation

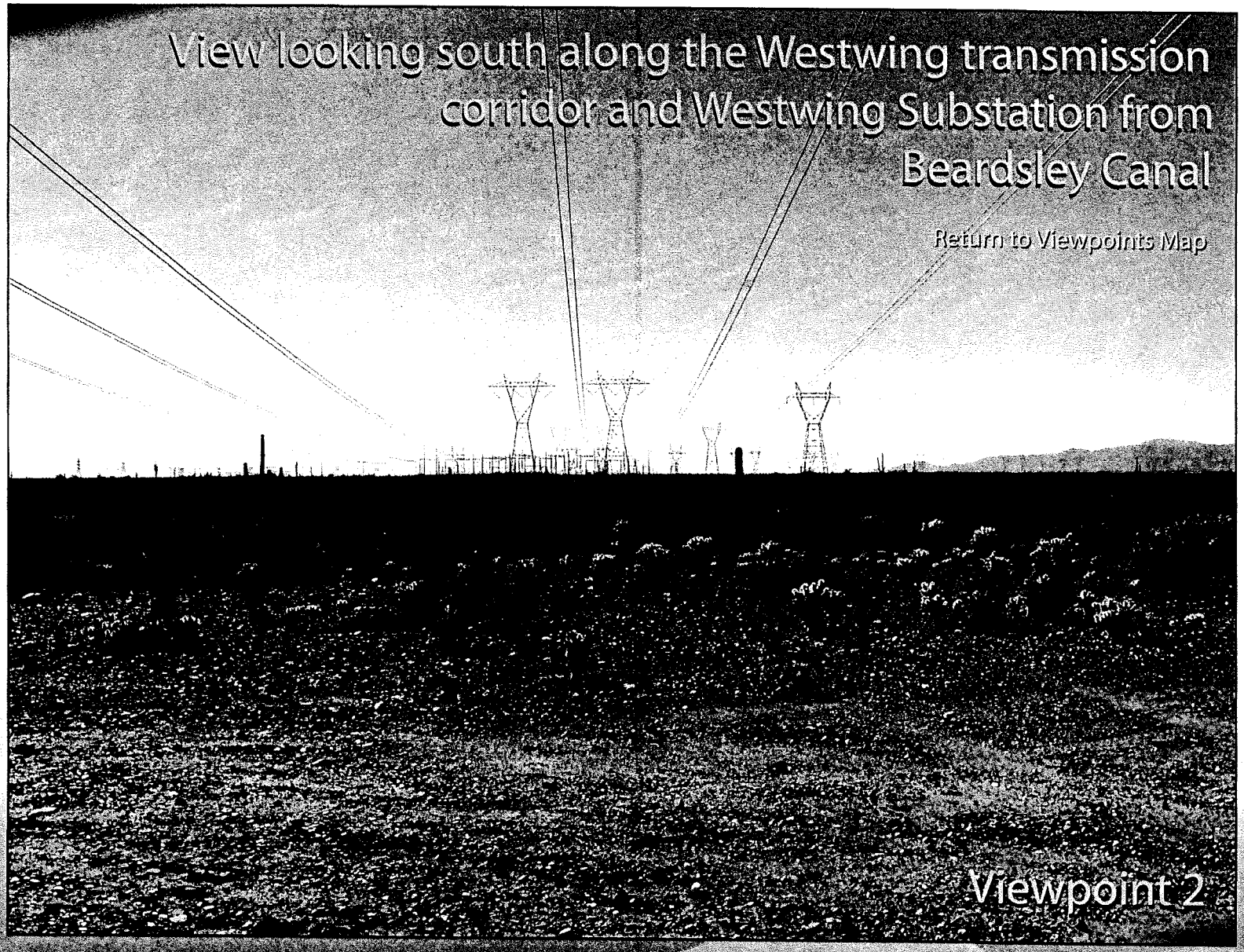
Scale 1:62,500

APS

APS

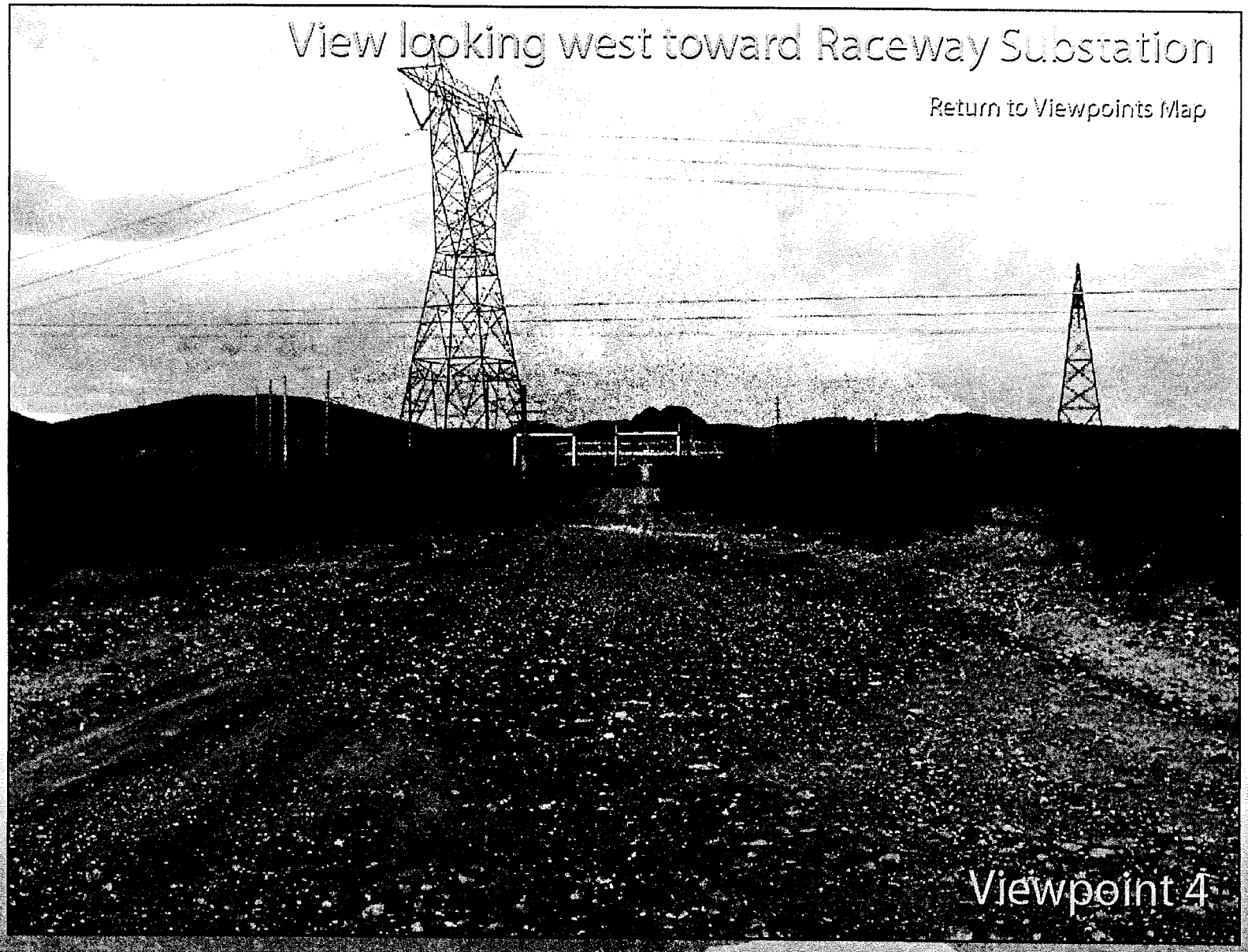
NORTH VALLEY

230kV FACILITY SITING PROJECT



APS

NORTH VALLEY
230kV FACILITY SITING PROJECT

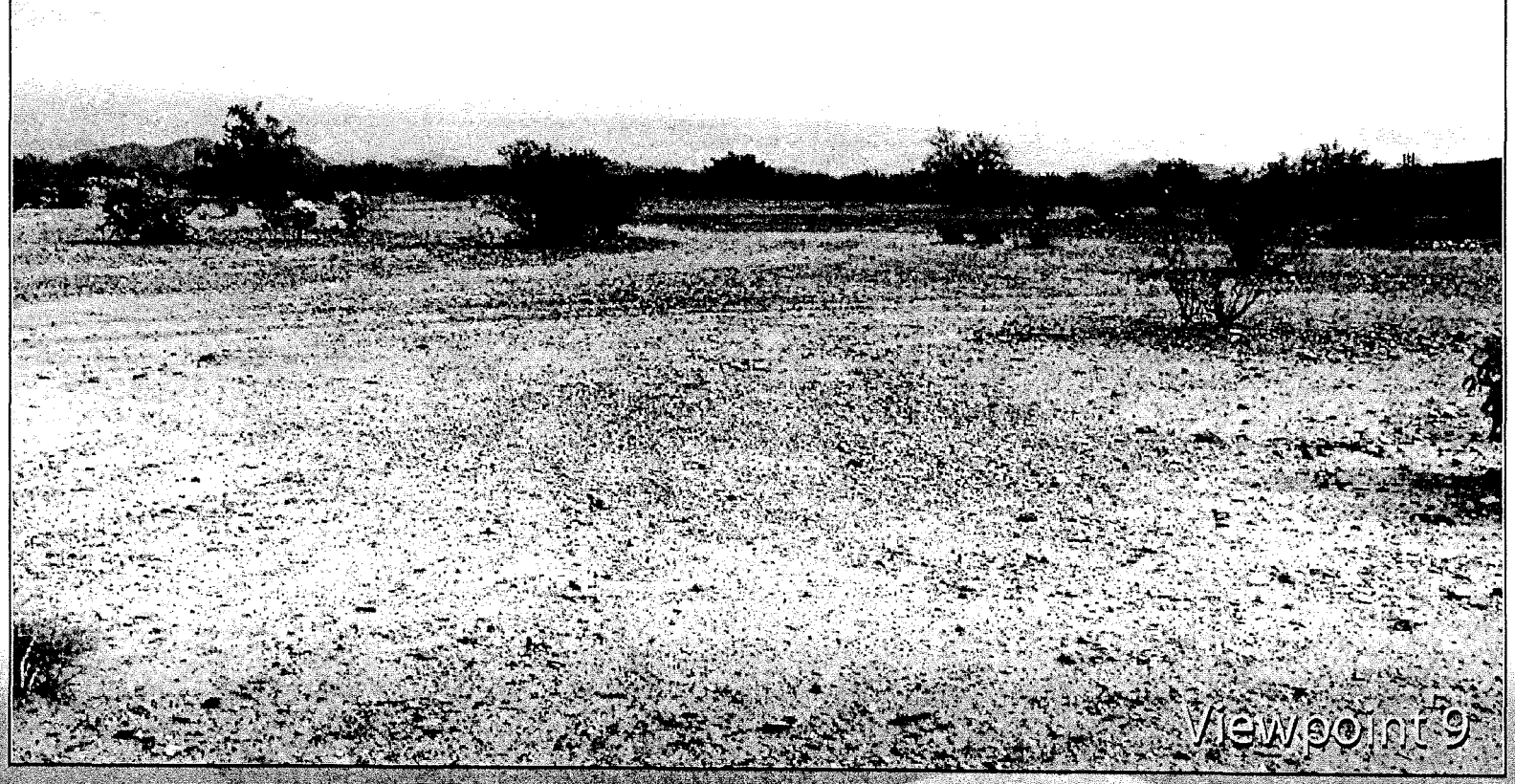


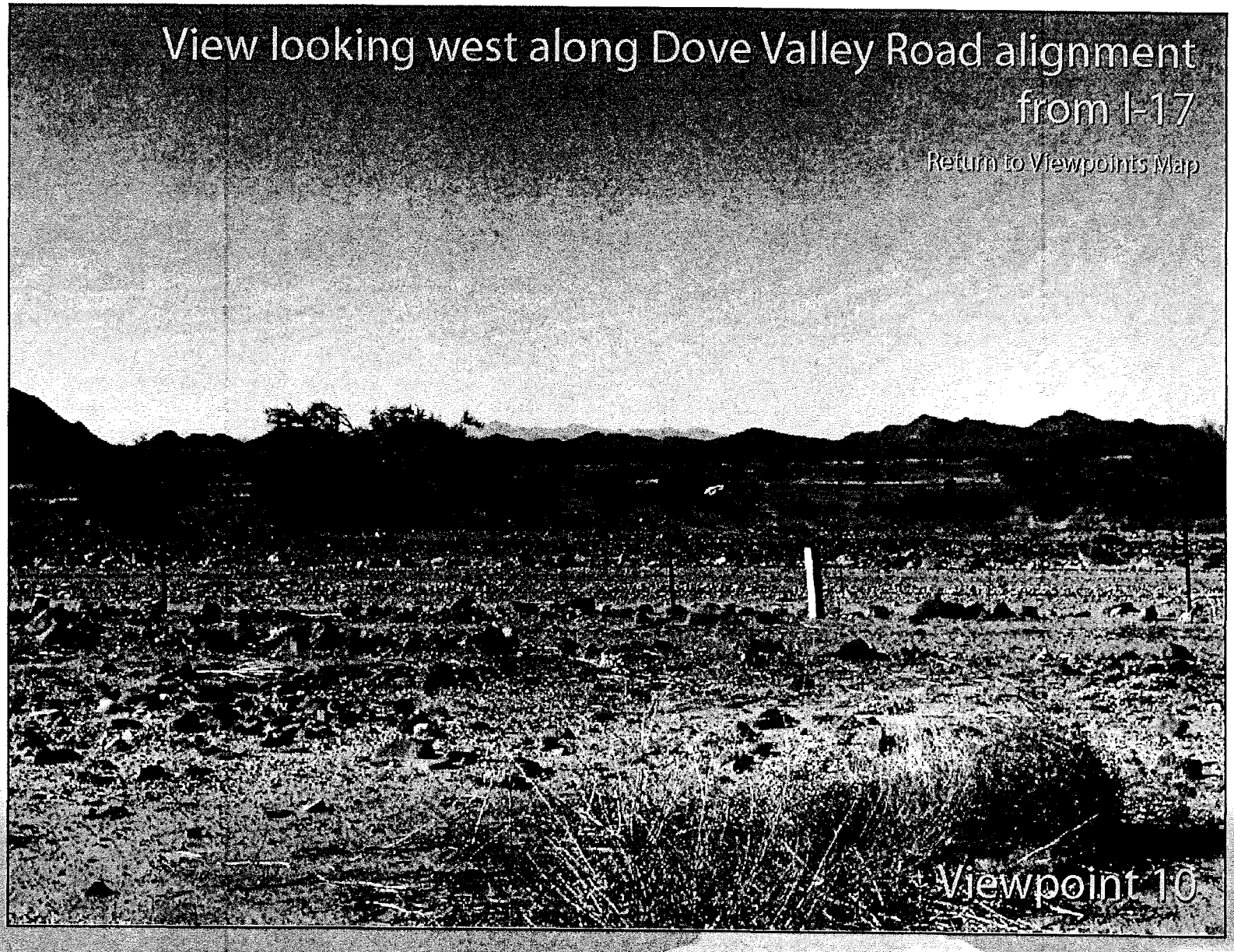
APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

View looking east along Dove Valley Road alignment

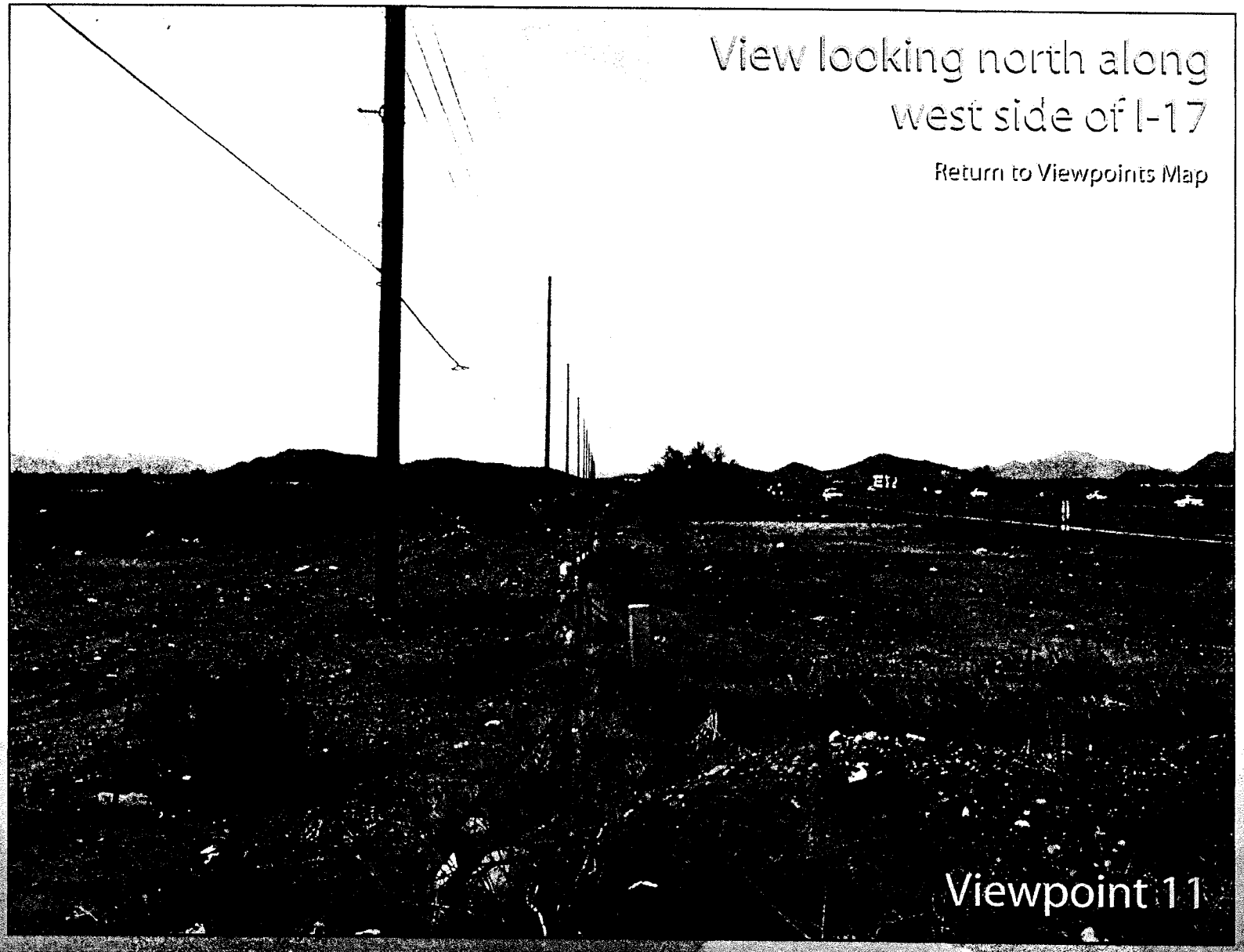
Return to Viewpoints Map





APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

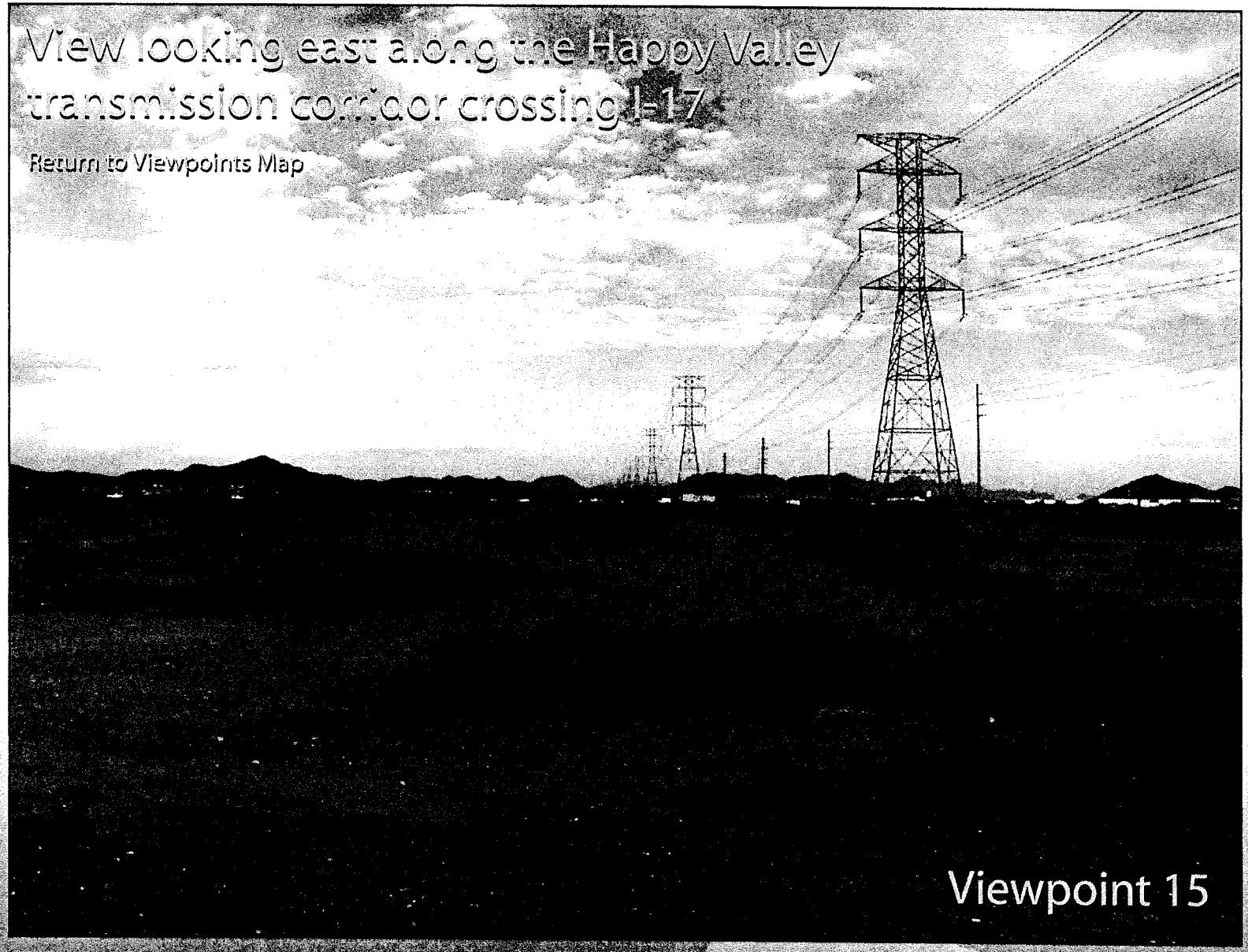

View looking north along
west side of I-17
Return to Viewpoints Map
Viewpoint 11

View looking north along open space corridor west of I-17 from Oberlin Way

Return to Viewpoints Map

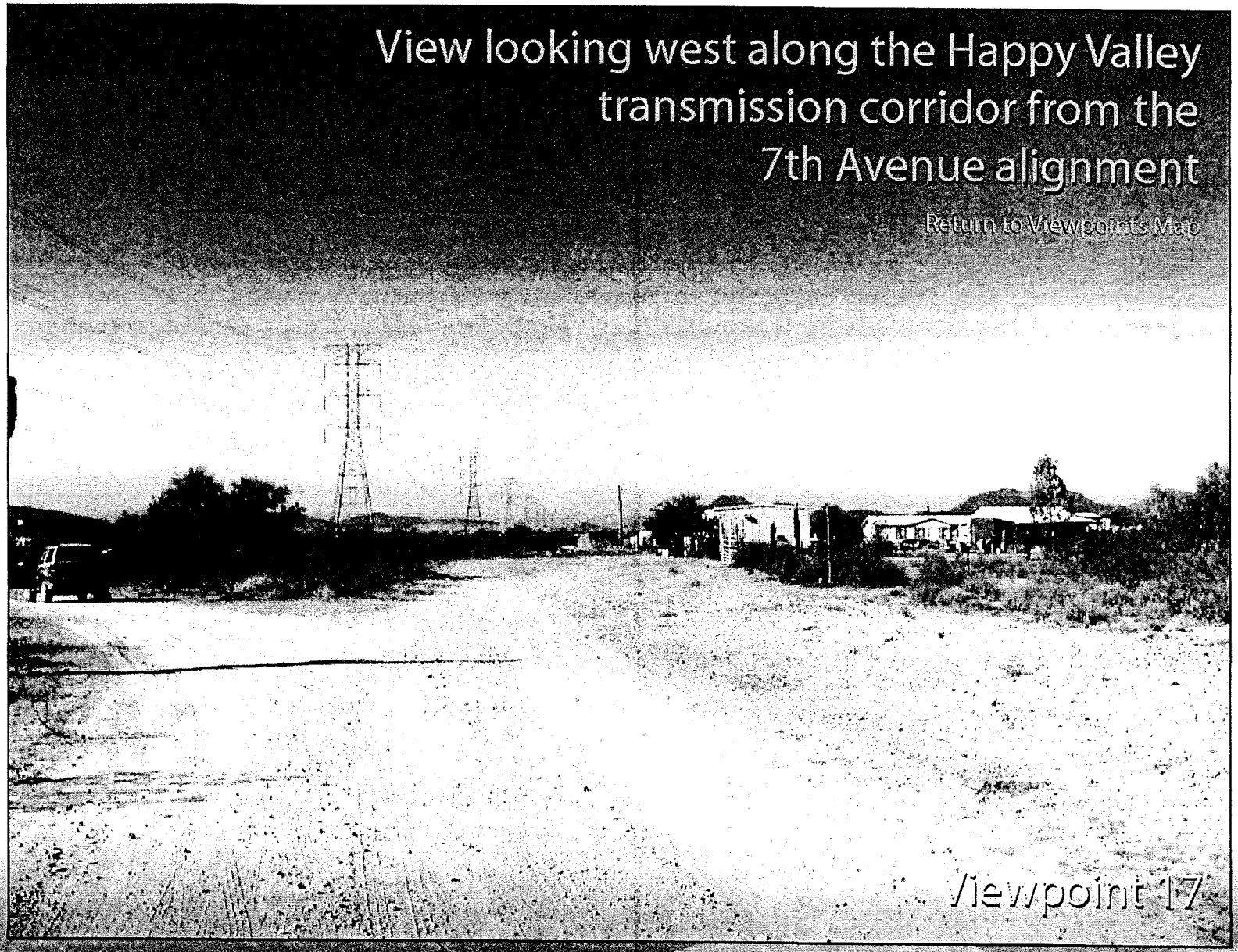
View looking south along the eastern boundary of Skunk Creek Landfill

Return to Viewpoints Map



APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT



APS

NORTH VALLEY
230kV FACILITY SITING PROJECT

View looking east along the Happy Valley transmission corridor west of the 24th Street alignment

Return to Viewpoints Map

APS

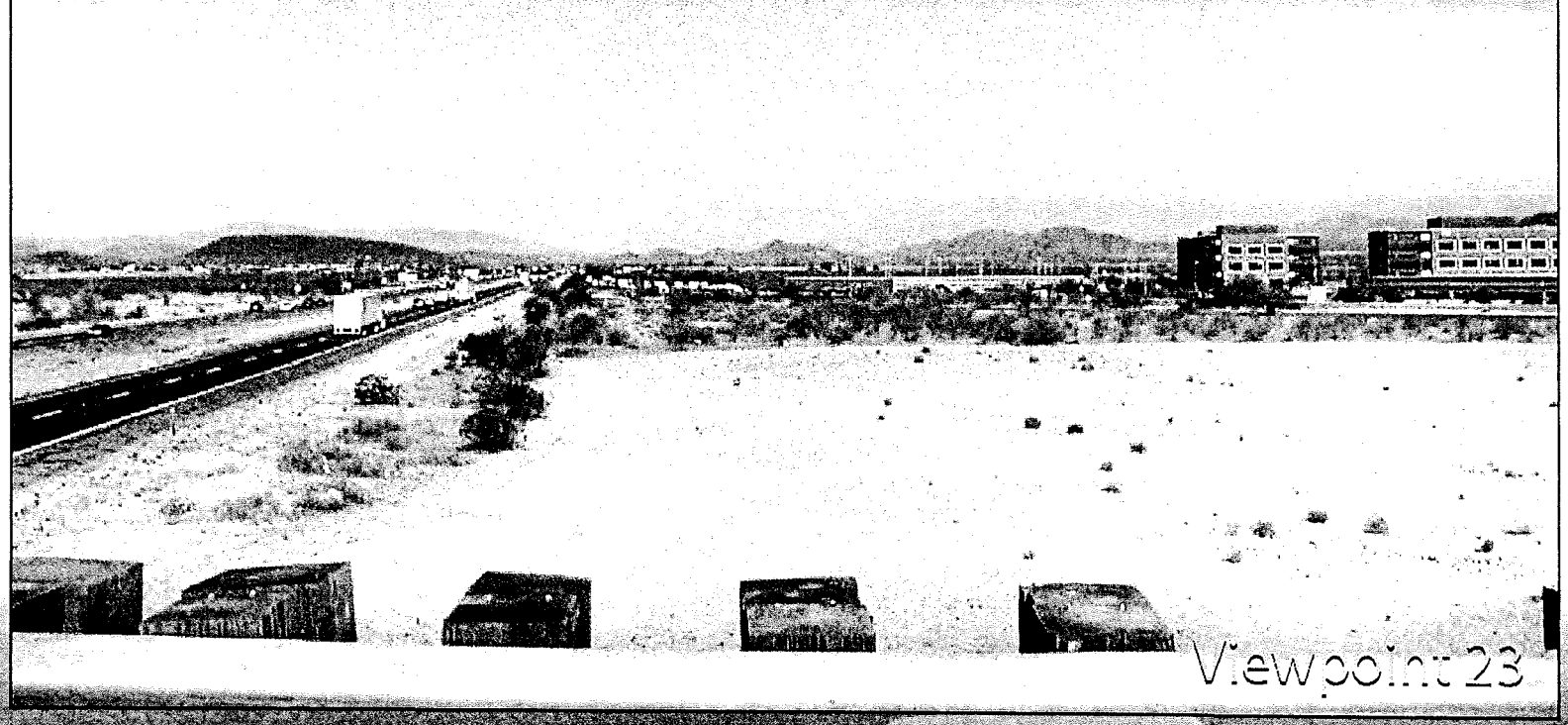
NORTH VALLEY
230kV FACILITY
SITING PROJECT

View looking north at the Pinnacle Peak Substation

Return to Viewpoints Map

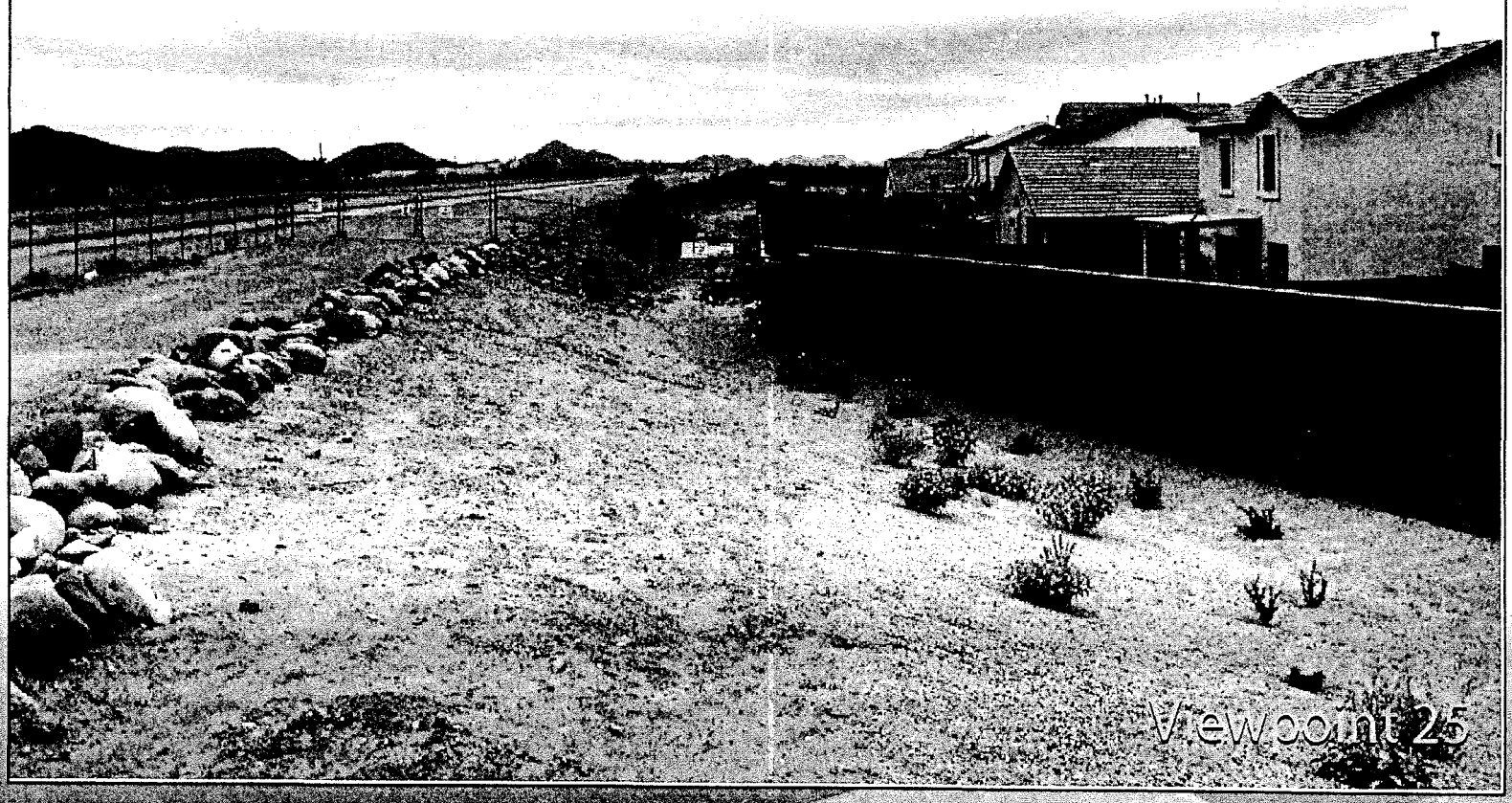
View looking north along the east side of I-17 from Happy Valley Road

Return to Viewpoints Map



View looking southeast along CAP from Dynamite Boulevard

Return to Viewpoints Map



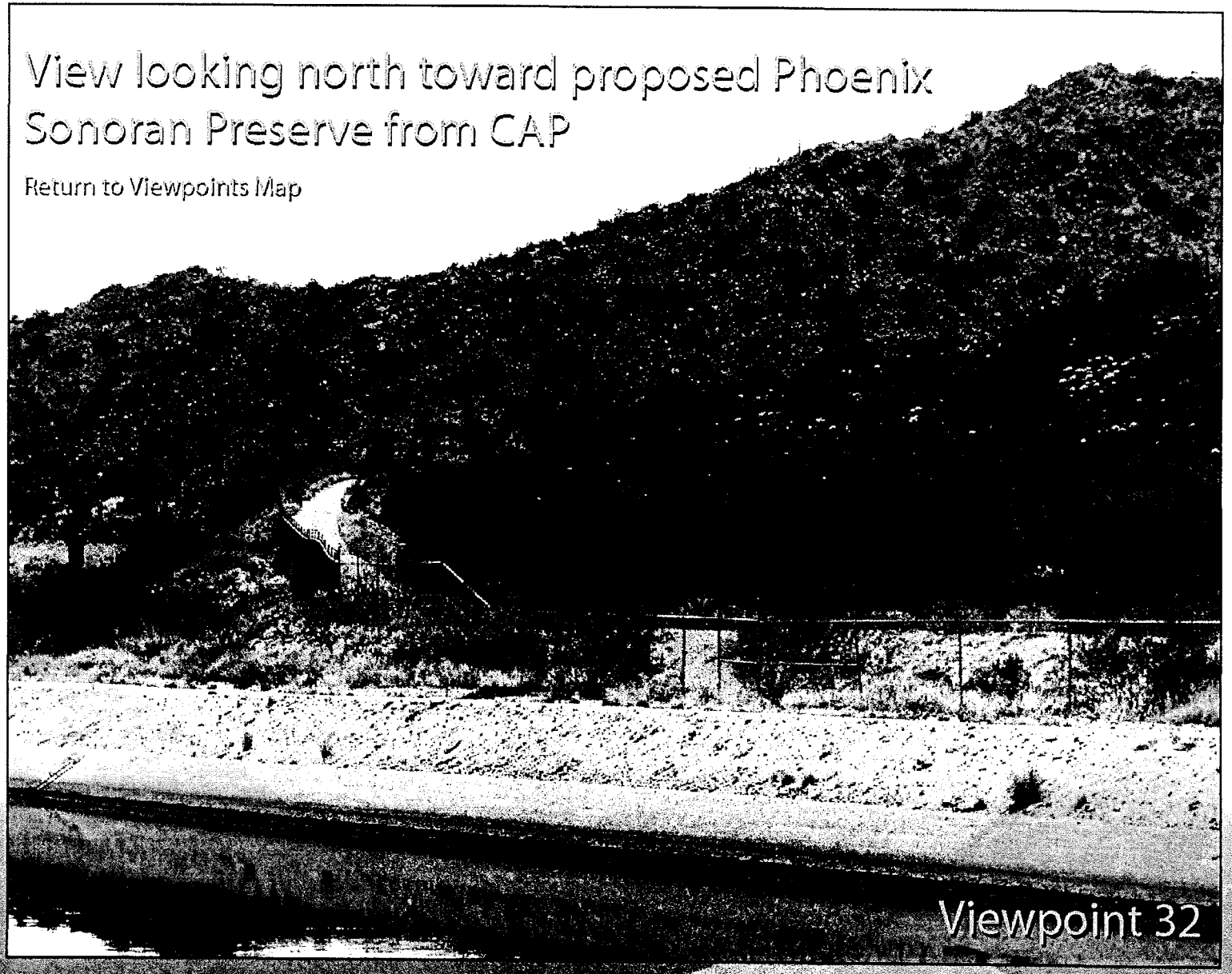
View looking south along I-17 from Pioneer Road

Return to Viewpoints Map

Viewpoint 28

View looking north toward proposed Phoenix Sonoran Preserve from CAP

Return to Viewpoints Map



Viewpoint 32

View looking east along 69kV line south of CAP

Return to Viewpoints Map

Viewpoint 33

APS

NORTH VALLEY
230kV FACILITY
SITING PROJECT

Results of Biological and Cultural Resource Studies

- Biological Resources
  - No adverse effects to special status species, unique habitats, or biological resources
- Cultural Resources
  - Minimal impacts after mitigation

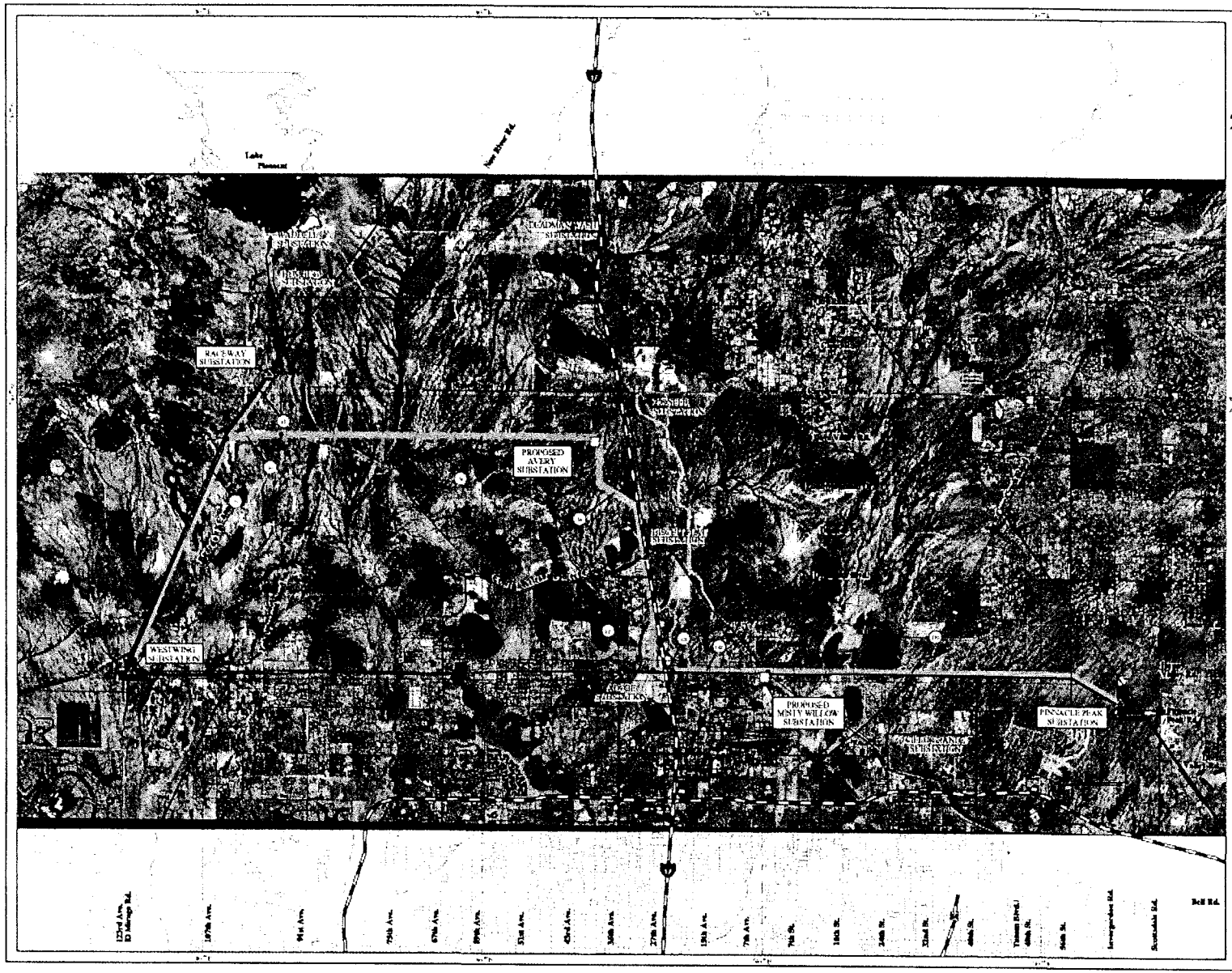


Figure 1
PROPOSED ROUTE

NORTH VALLEY
230kV FACILITY SITING PROJECT

Proposed Route
Links: 15, 35, 60, 70, 90, 115, 120, 140, 170

Proposed Substation Siting Area

Link Identification Number

Link Node

General Reference Features

- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- Interstate/Highway
- Transportation Route
- Lake
- Stream
- Canal
- ▲ / ■ Existing Substation

Scale 1:62,500

APS

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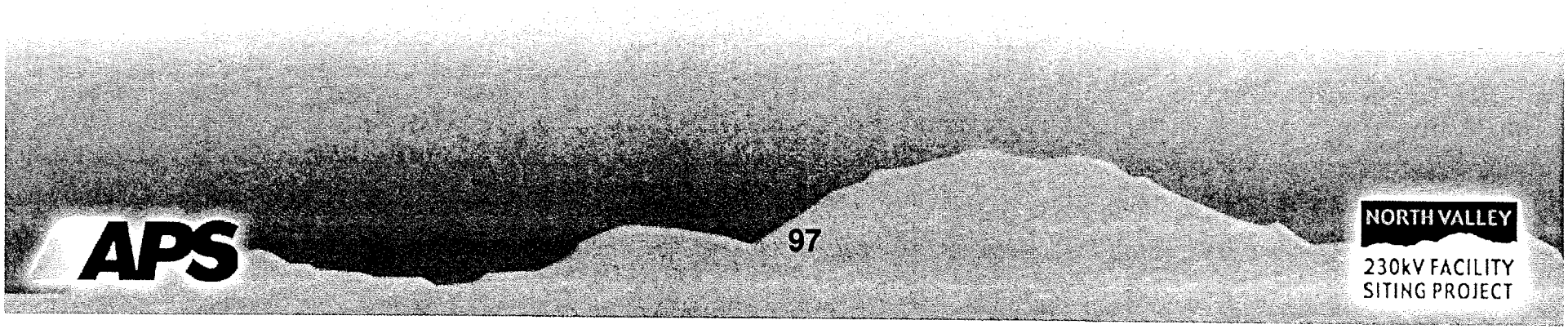
NORTH VALLEY
230kV FACILITY
SITING PROJECT

Environmental Compatibility

- Proposed Route parallels and consolidates existing and proposed overhead transmission lines
- Utilizes effective mitigation minimizing environmental impacts from the transmission line and substations
- Proposed Route and substation sites are identified in the general plans for the cities of Phoenix and Peoria
- Community Working Groups supported the Proposed Route (including the ASLD)
- Project is environmentally compatible

Environmental Studies

E. Linwood Smith, PhD
Environmental Planning Group
Biological Services Director



Witness Background

- Professional Credentials
  - PhD, Zoology, University of Arizona
  - MS, Zoology, University of Arizona
  - BA, Zoology, Central Washington University
  - Over 30 years of experience in conducting or managing ecological, ornithological, and botanical studies throughout the western United States and Alaska
  - Previously testified before the Siting Committee and most recently in the Southwest Valley Project

Biological Resources

- Detailed inventory of biological resources
- Use of existing access will minimize ground disturbance
- Transmission line design will minimize potential electrocution of raptors
- No adverse effects are expected to special status species or unique habitats
- No discernable impacts to biological resources
- Letter from Arizona Game and Fish Department states no concern with the proposed project

Archaeological Studies

Glenn Darrington, PhD
Environmental Planning Group
Cultural Resources Director

Witness Background

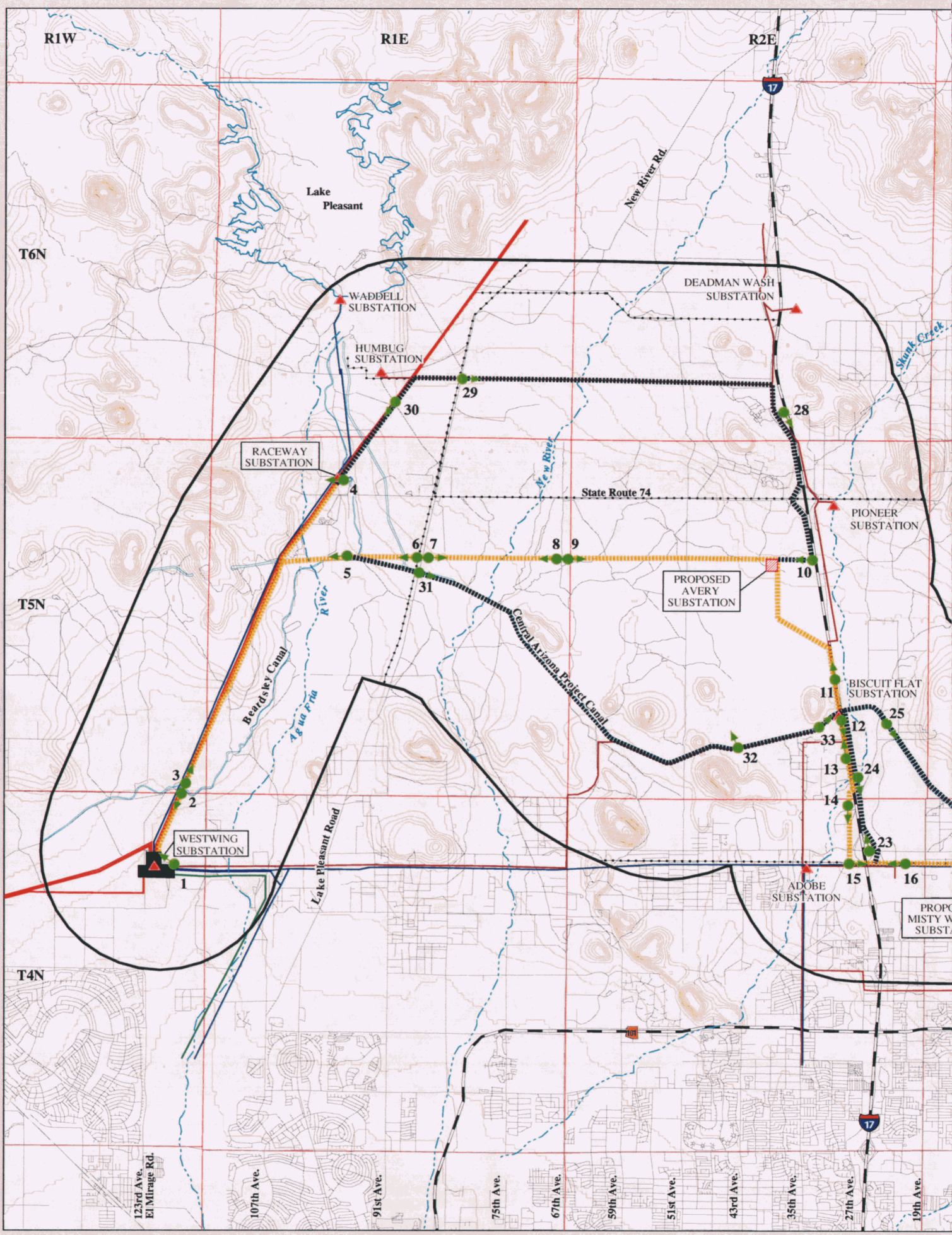
- Professional Credentials
  - PhD, History, University of St. Andrews
  - MA, Anthropology, Texas A&M
  - BA, Anthropology, Arizona State University
  - Over 15 years of experience in archaeology and cultural resource management
  - Previously testified before Siting Committee and most recently in the Southwest Valley Project

Cultural Resources

- Surveys Conducted on Proposed Route
  - Class I survey (all alternatives)
  - Class III survey (proposed route)
- Survey Results
  - A total of five National Register Eligible Sites, three archaeological districts, and two historic structures identified during survey
  - All but one of these cultural resources are avoidable
    - Site AZ T:7:192 (ASM) has three loci which consist of sherd and lithic scatters
    - The three loci within the site can be spanned
- Surveys submitted to SHPO

Cultural Resources (cont.)

- Mitigation plan will be developed
  - SHPO consultation and approval
  - Construction monitoring/site barricading
  - Site avoidance
- Cultural or archaeological impacts will be effectively mitigated
- CEC mitigation condition "lessons learned"


R1W
R1E
R2E
T6N
T5N
T4N
Lake Pleasant
New River Rd.
WADDELL SUBSTATION
HUMBUG SUBSTATION
DEADMAN WASH SUBSTATION
Skunk Creek
RACEWAY SUBSTATION
New River
State Route 74
PIONEER SUBSTATION
PROPOSED AVERY SUBSTATION
Central Arizona Project Canal
Beardsley Canal
Agua Fria River
BISCUIT FLAT SUBSTATION
WESTWING SUBSTATION
Lake Pleasant Road
ADOBE SUBSTATION
PROPO
MISTY W
SUBSTA
1
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16
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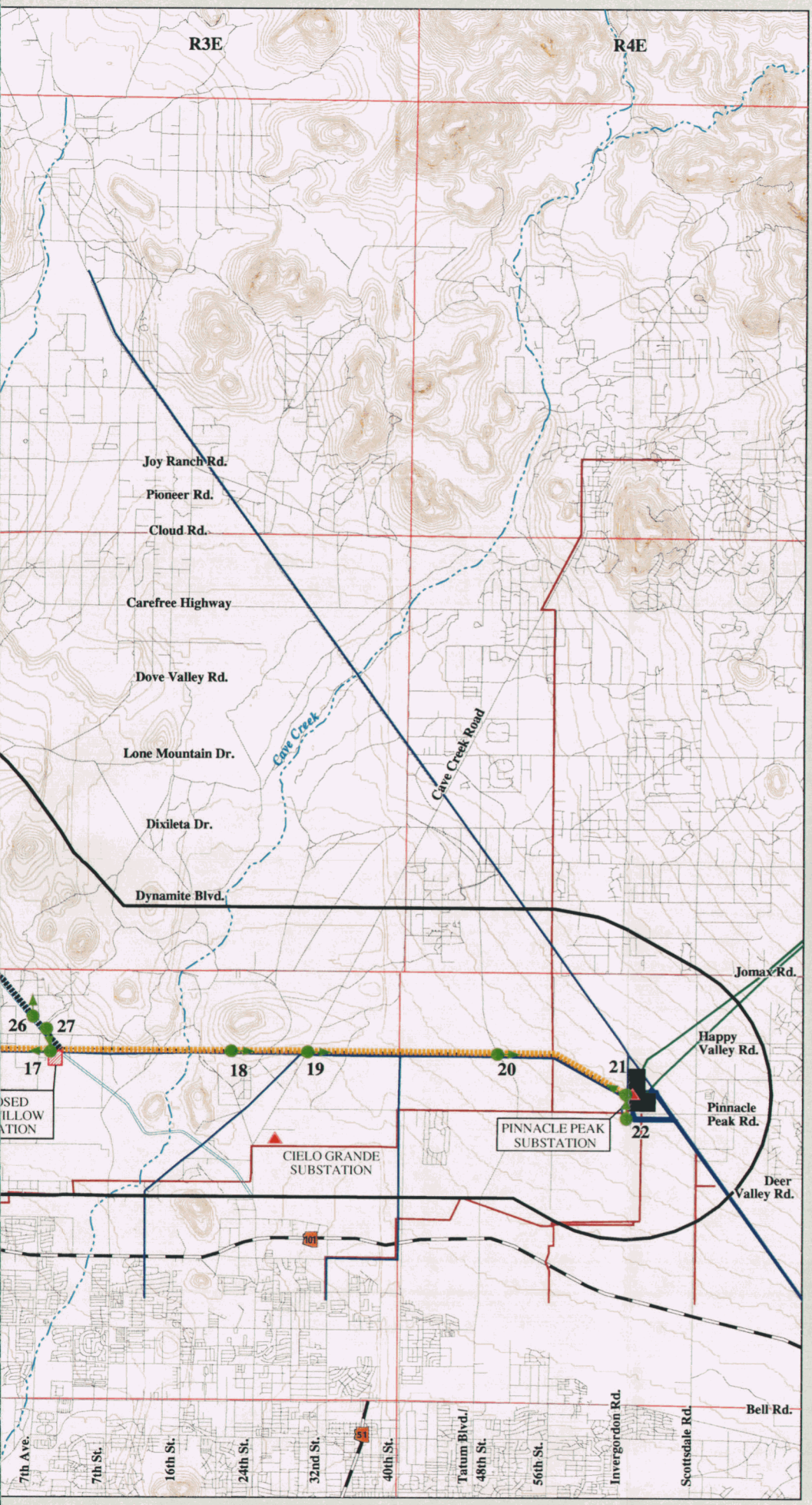
28
29
30
31
32
33
17
101
123rd Ave.
El Mirage Rd.
107th Ave.
91st Ave.
75th Ave.
67th Ave.
59th Ave.
51st Ave.
43rd Ave.
35th Ave.
27th Ave.
19th Ave.

PHOTO POINT LOCATION MAP

NORTH VALLEY

230kV FACILITY SITING PROJECT



Legend

- Photo Points
- Proposed Route
- Alternative Route

General Reference Features

- Proposed Substation Siting Area
- Study Area Boundary
- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 69kV Transmission Line
- Pipeline
- Interstate/Highway
- Transportation Route
- Lake
- Stream/River
- Canal
- Township and Range
- Contour
- Existing Substation

Scale 1:62,500

1 1/2 0 1 2 3 MILES

5000 2500 0 5000 10000 15000 FEET

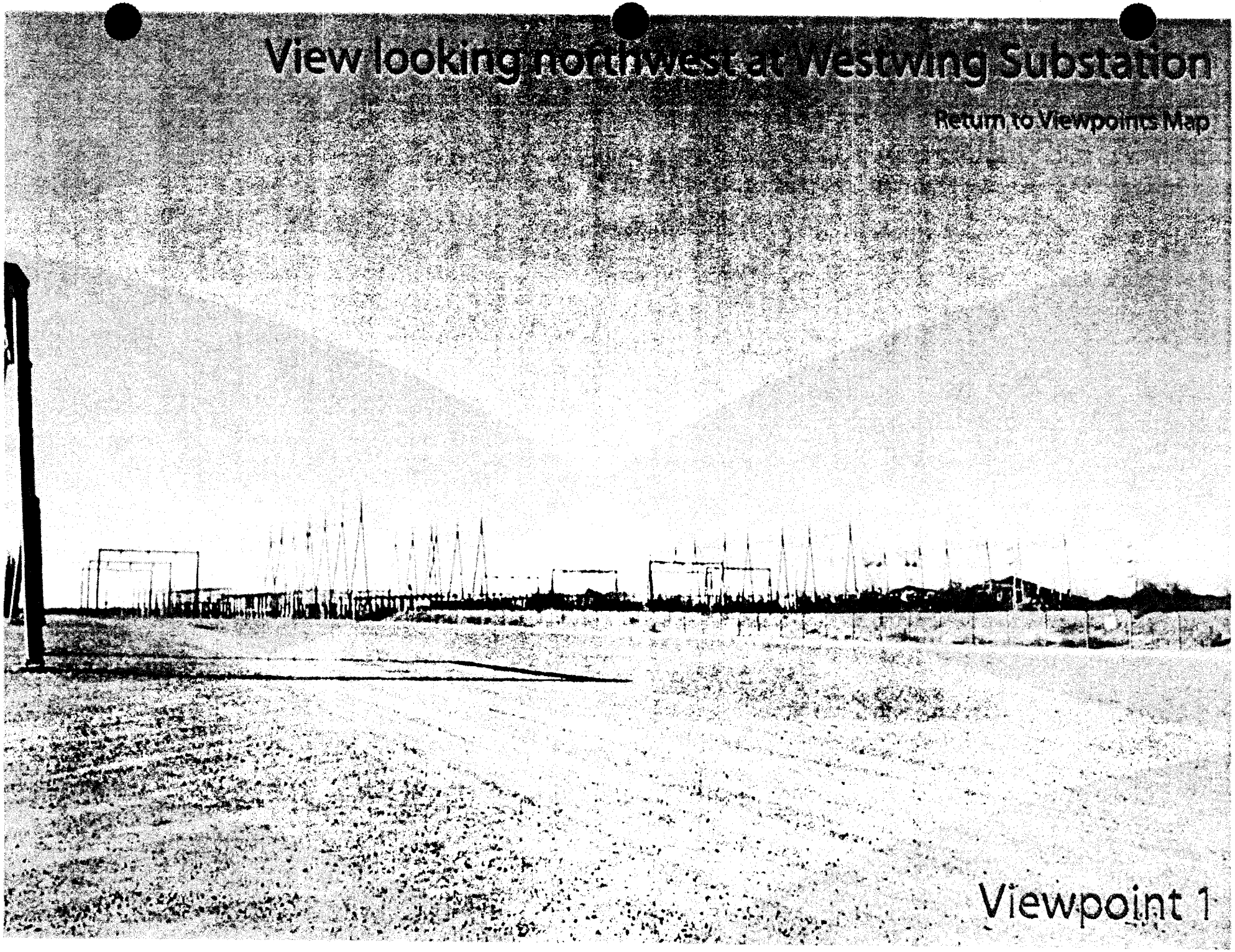
APS

environmental planning group

m:/projects/aps/hcpf/cc/amls/photo_pts.aml November 19, 2002

View looking northwest at Westwing Substation

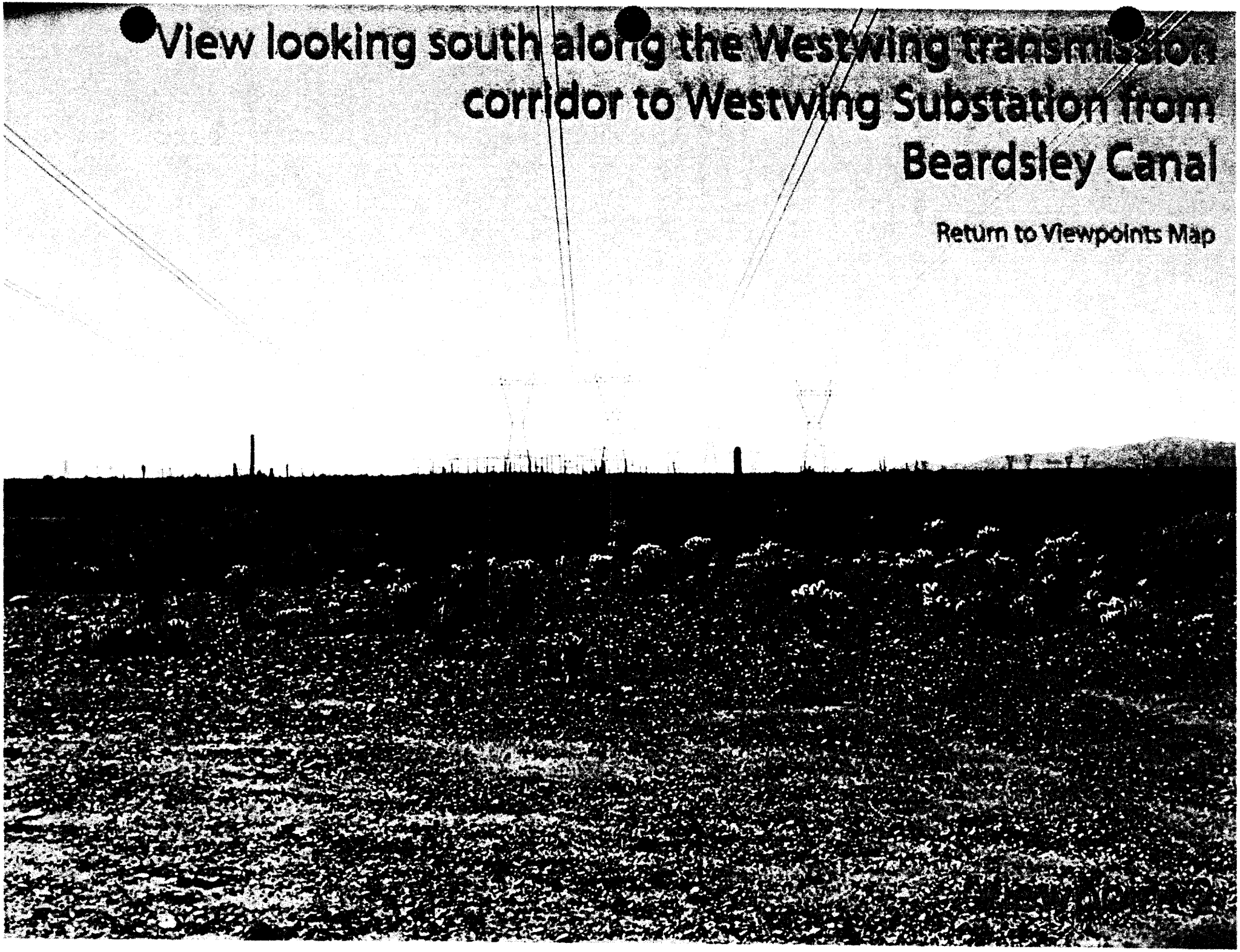
Return to Viewpoints Map



Viewpoint 1

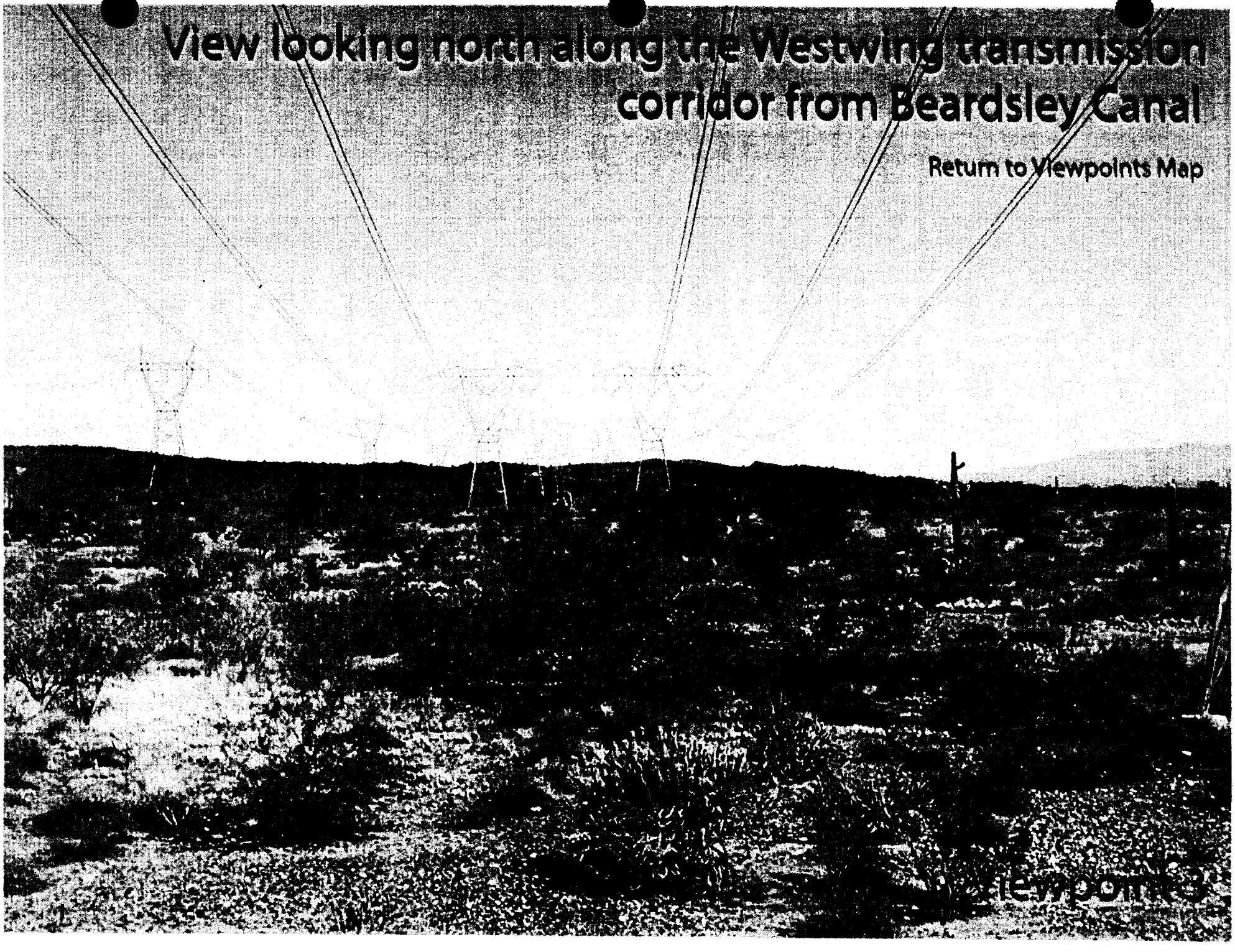
View looking south along the Westwing transmission corridor to Westwing Substation from Beardsley Canal

Return to Viewpoints Map



View looking north along the Westwing transmission corridor from Beardsley Canal

Return to Viewpoints Map

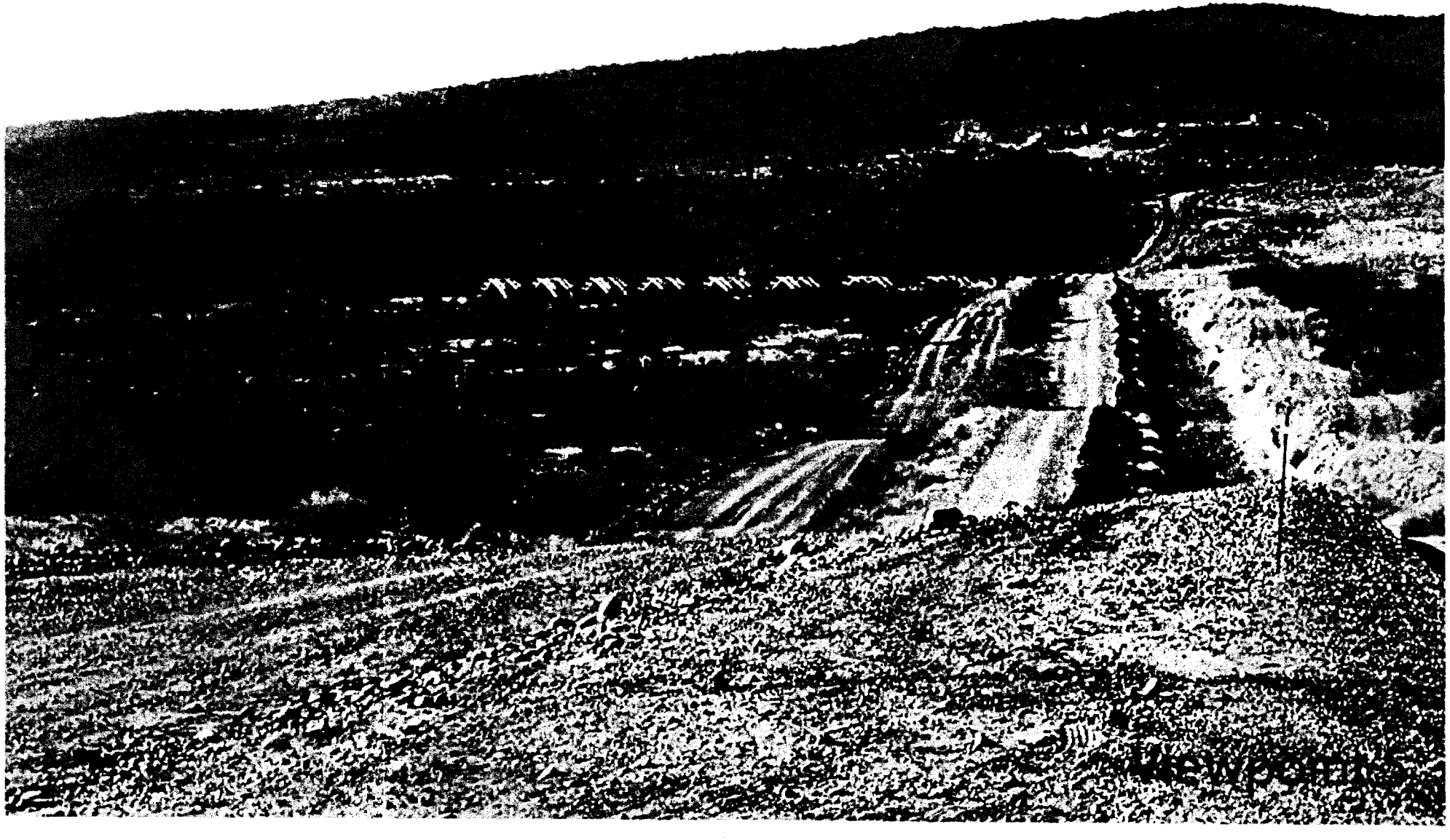


View looking west toward Raceway Substation

Return to Viewpoints Map

View looking west along CAP east of Aqua Fria River

Return to Viewpoints Map



View looking west along Dove Valley Road alignment from Lake Pleasant Road

Return to Viewpoints Map

View looking east along Dove Valley Road alignment from Lake Pleasant Road

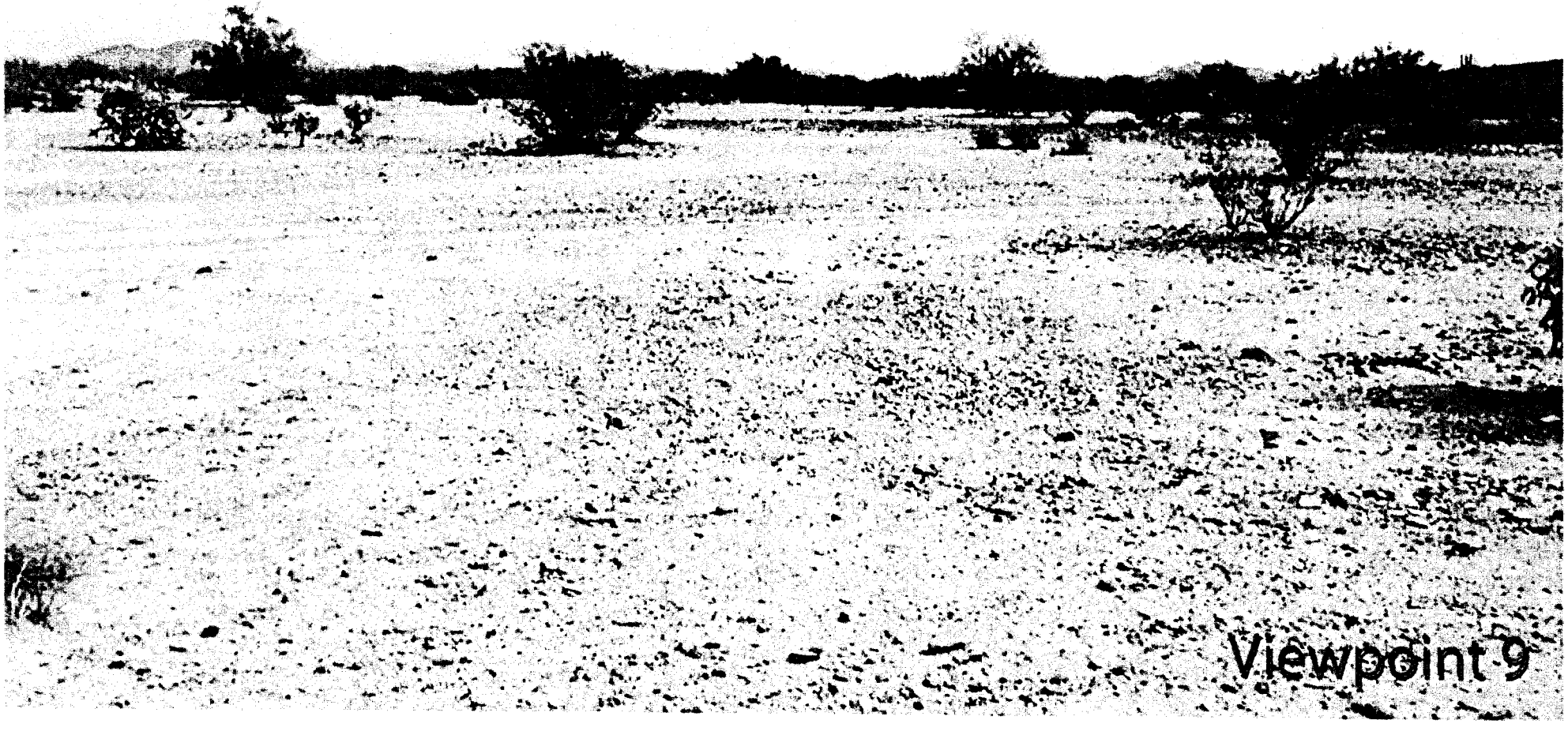
Return to Viewpoints Map

View looking west along Dove Valley Road alignment

Return to Viewpoints Map

View looking east along Dove Valley Road alignment

Return to Viewpoints Map

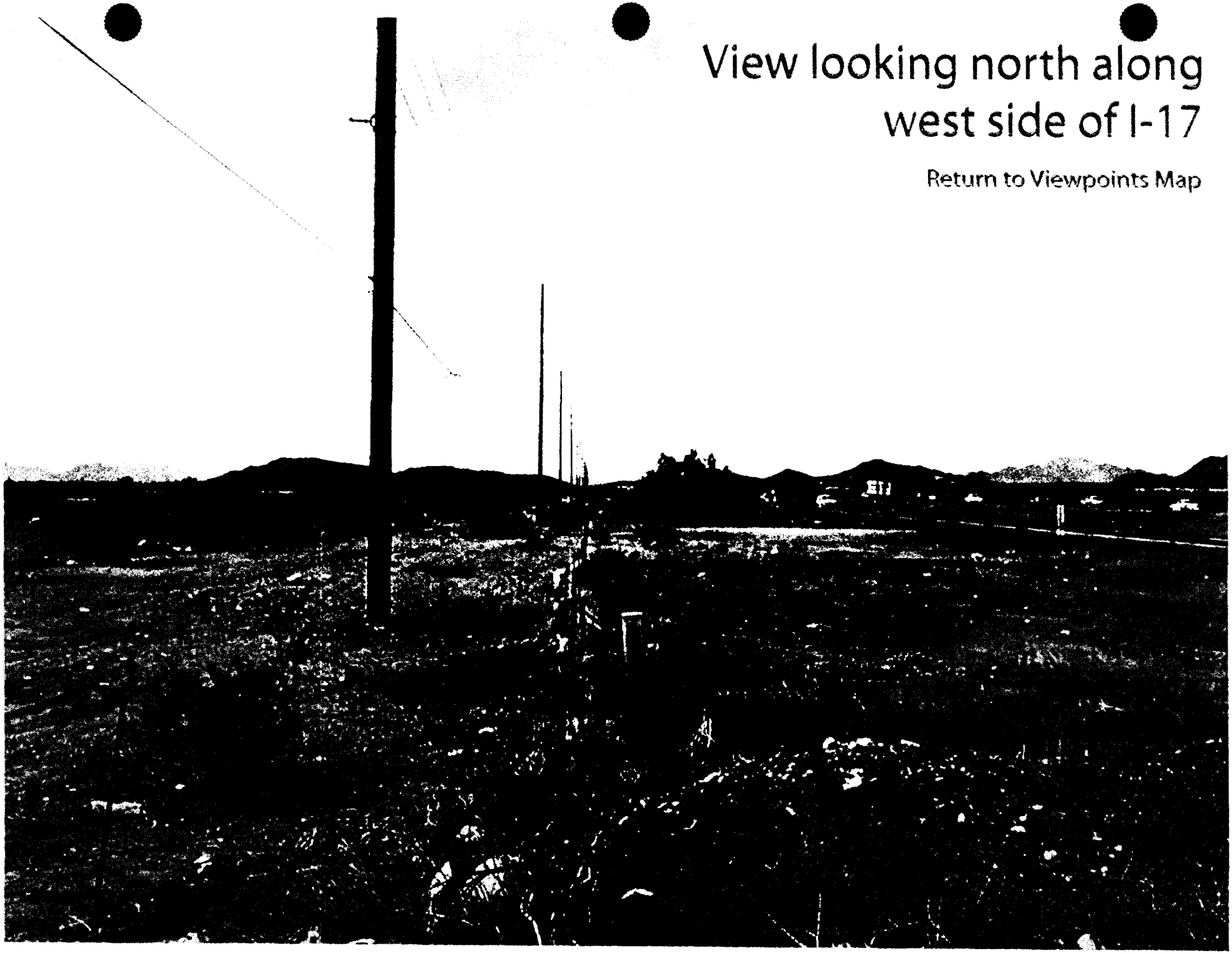


View looking west along Dove Valley Road alignment from I-17

Return to Viewpoints Map

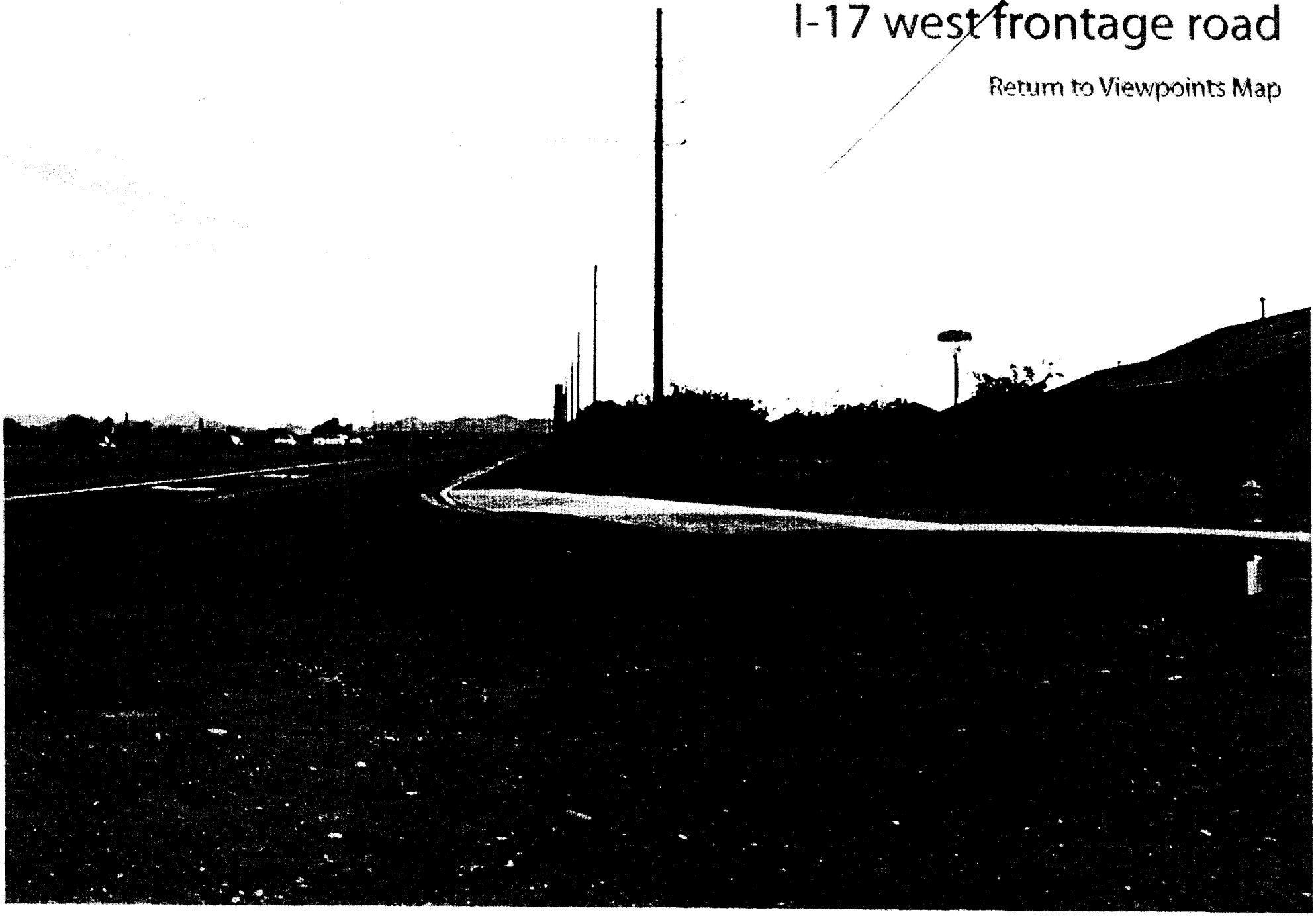
View looking north along west side of I-17

Return to Viewpoints Map



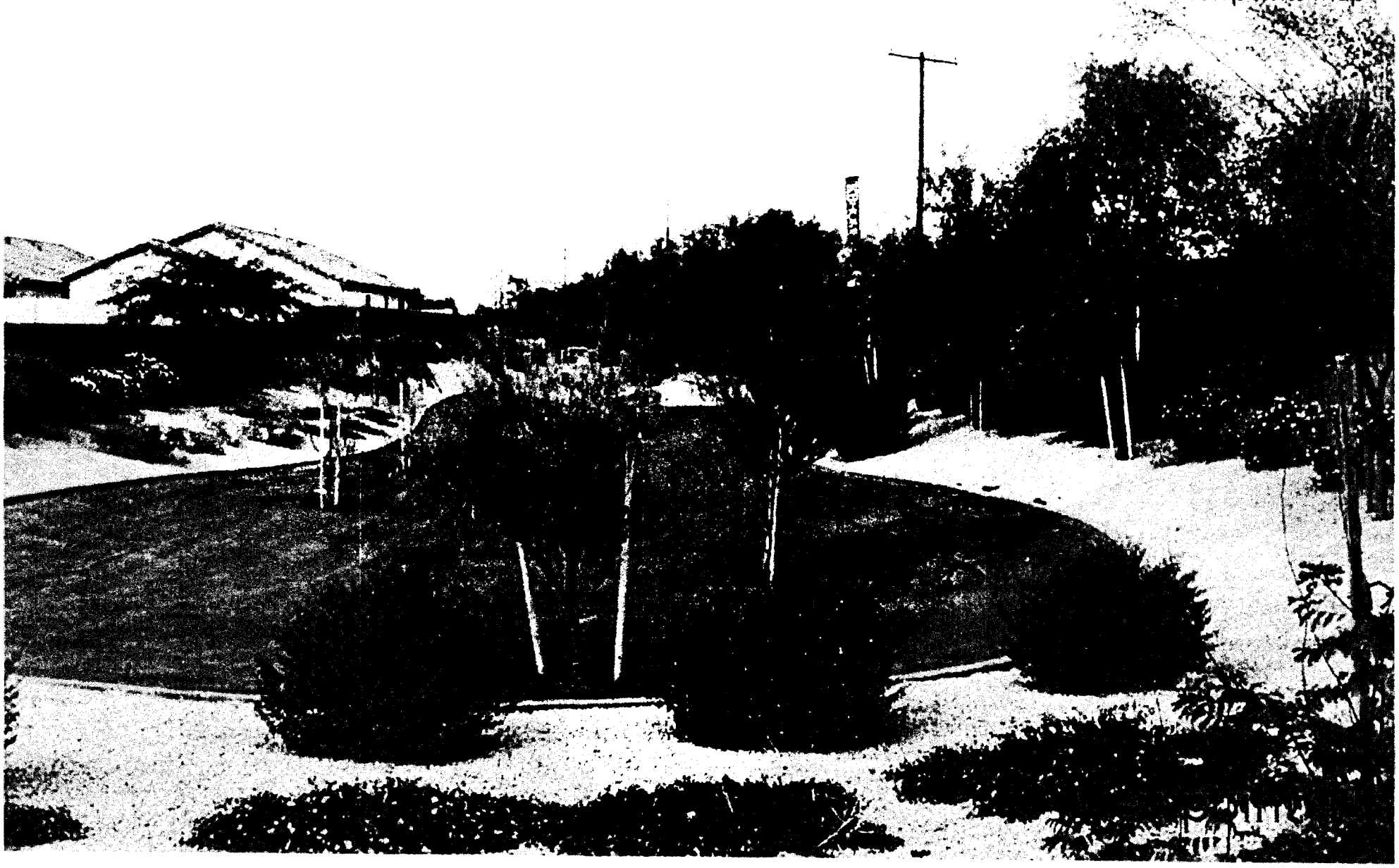
View looking south across Juana Court along I-17 west frontage road

Return to Viewpoints Map



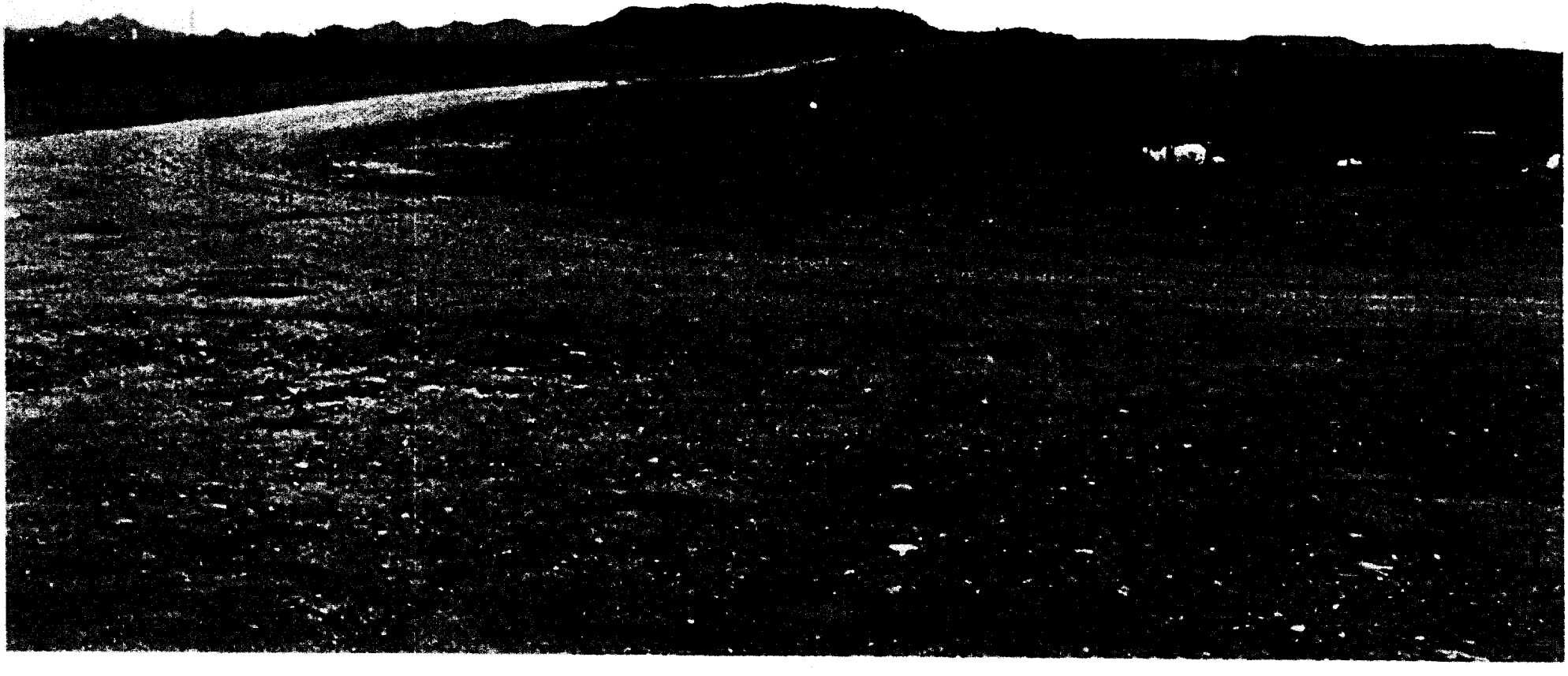
View looking north along open space corridor west of I-17 from Oberlin Way

Return to Viewpoints Map



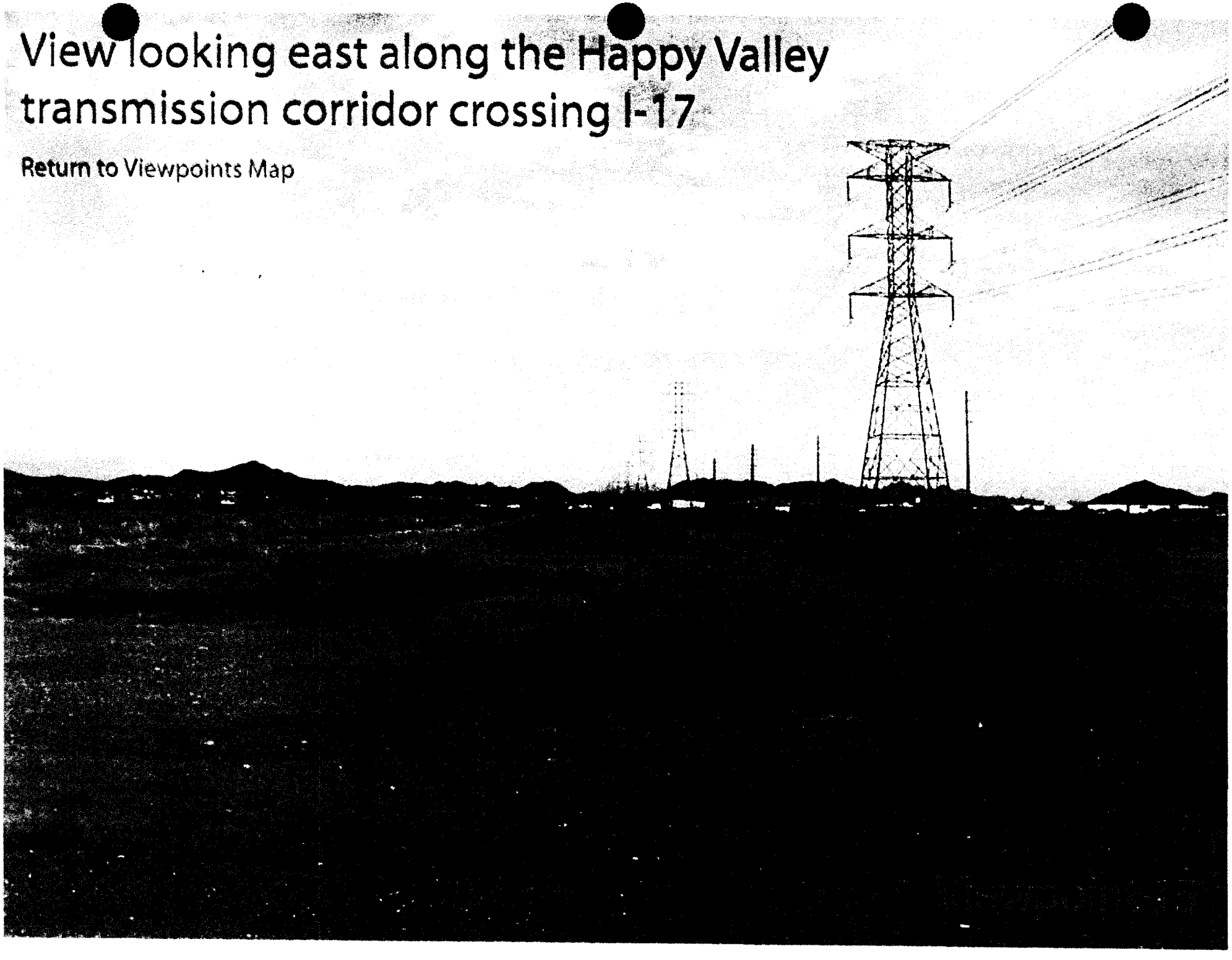
View looking south along the eastern boundary of Skunk Creek Landfill

Return to Viewpoints Map



View looking east along the Happy Valley transmission corridor crossing I-17

Return to Viewpoints Map



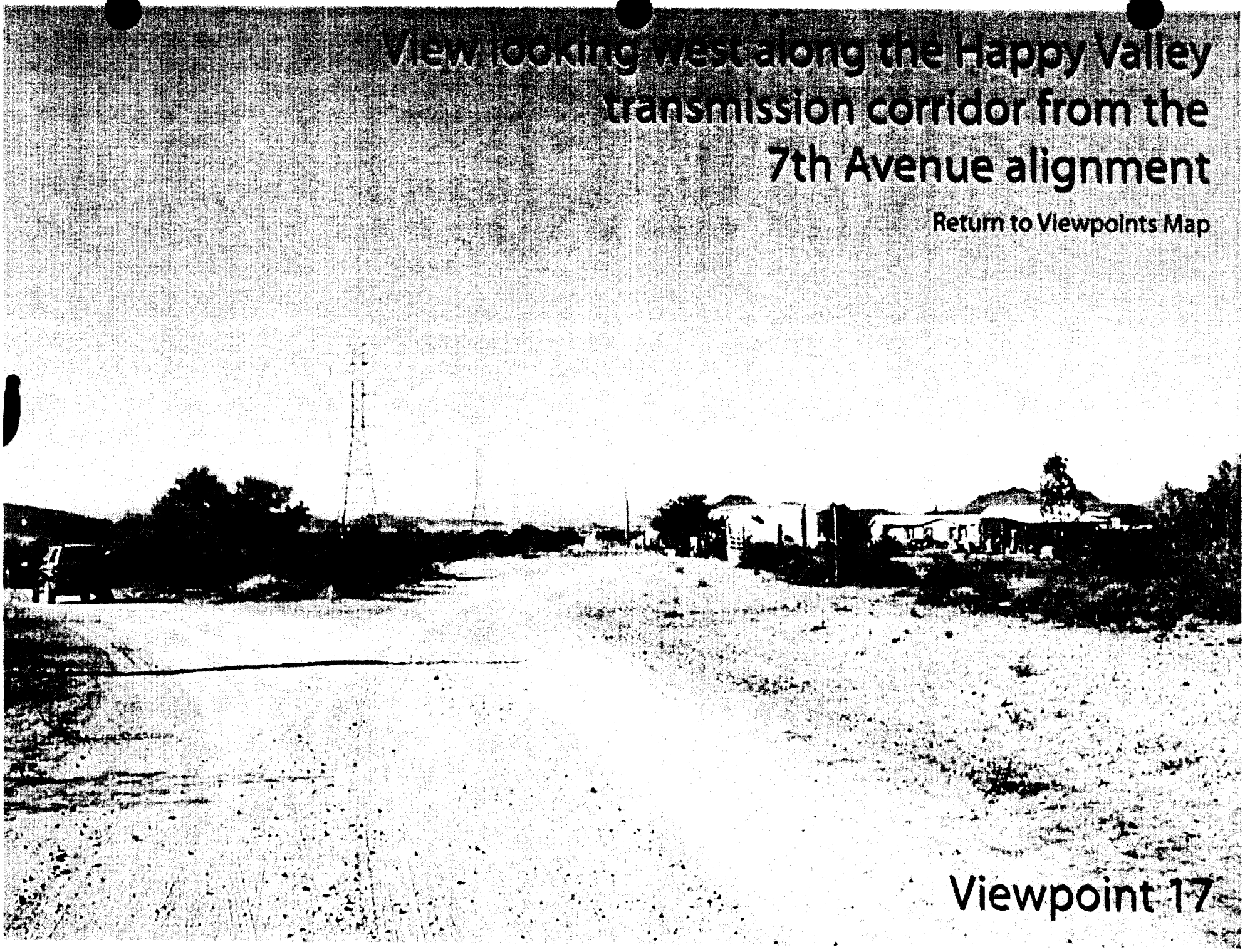
View looking west along the Happy Valley transmission corridor crossing a salvage yard at the 22nd Avenue alignment

Return to Viewpoints Map

Viewpoint 16

View looking west along the Happy Valley transmission corridor from the 7th Avenue alignment

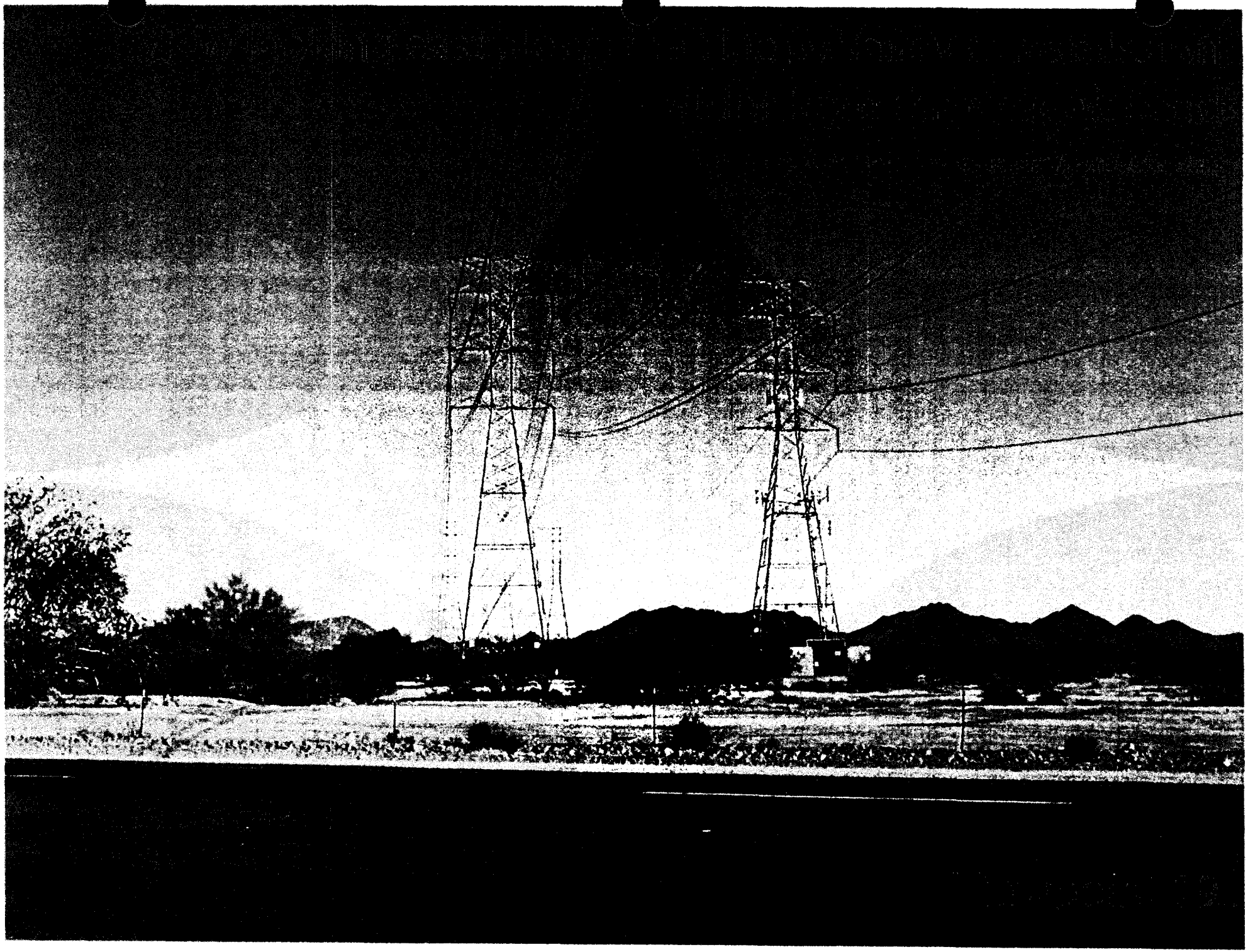
Return to Viewpoints Map



Viewpoint 17

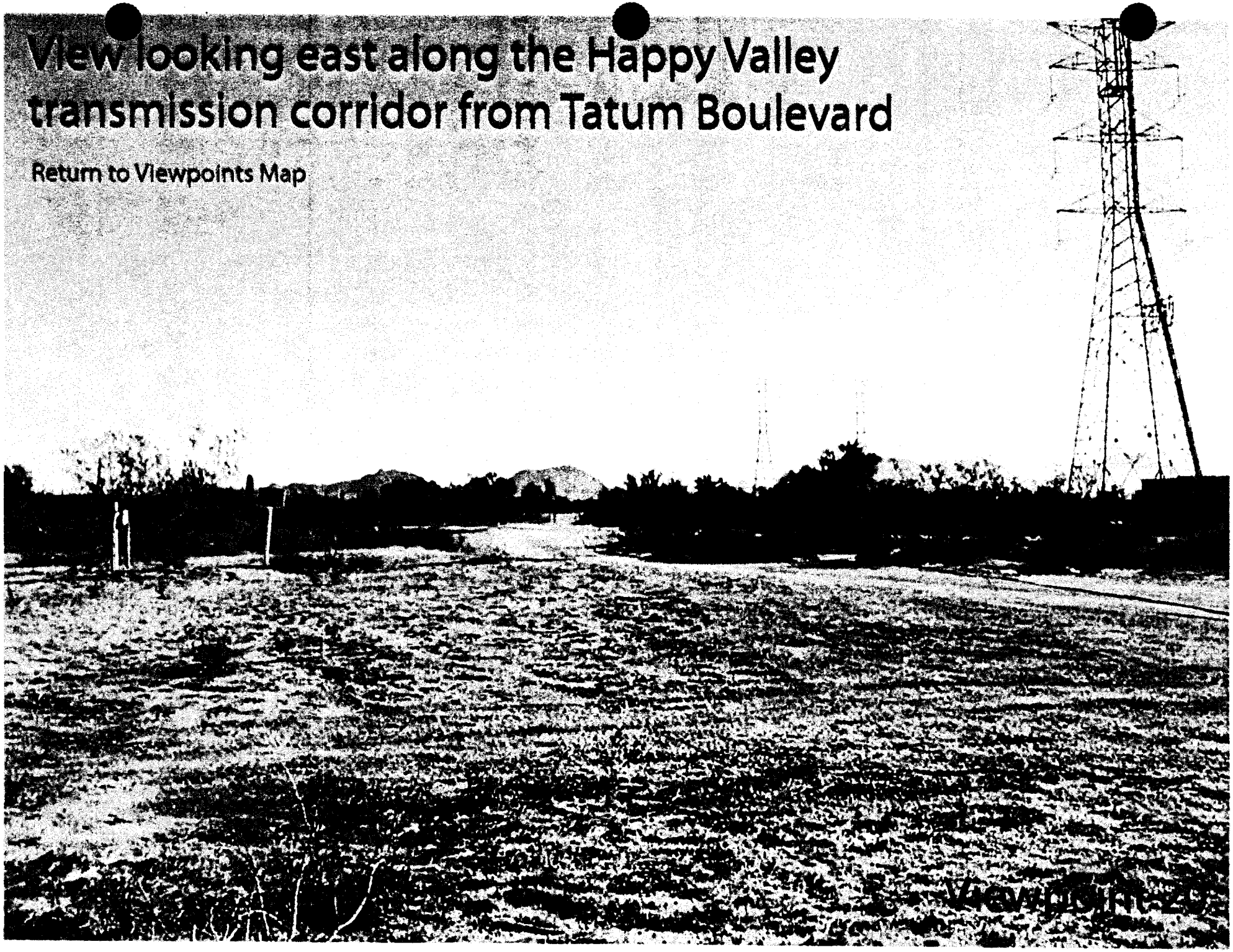
View looking east along the Happy Valley transmission corridor west of the 24th Street alignment

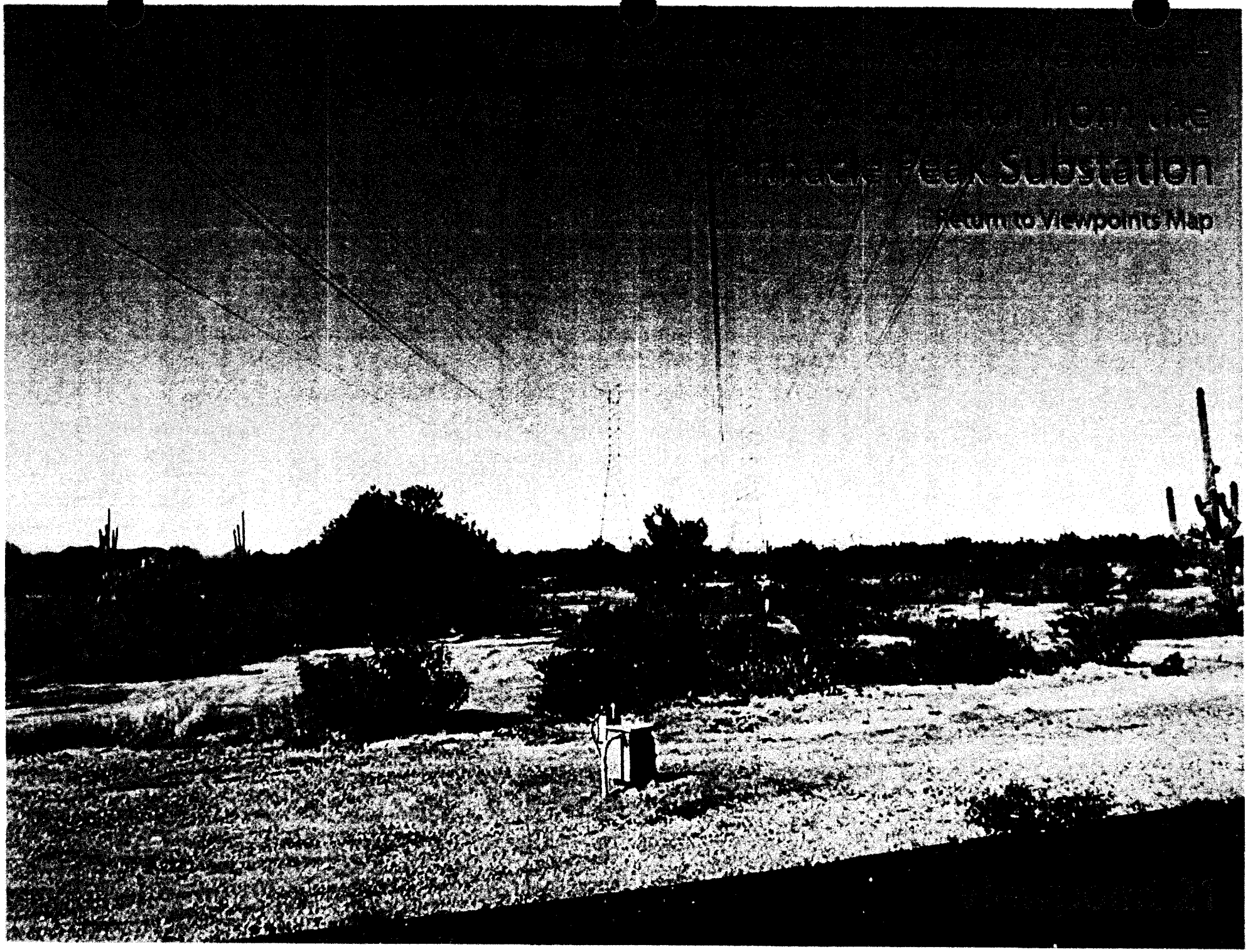
Return to Viewpoints Map

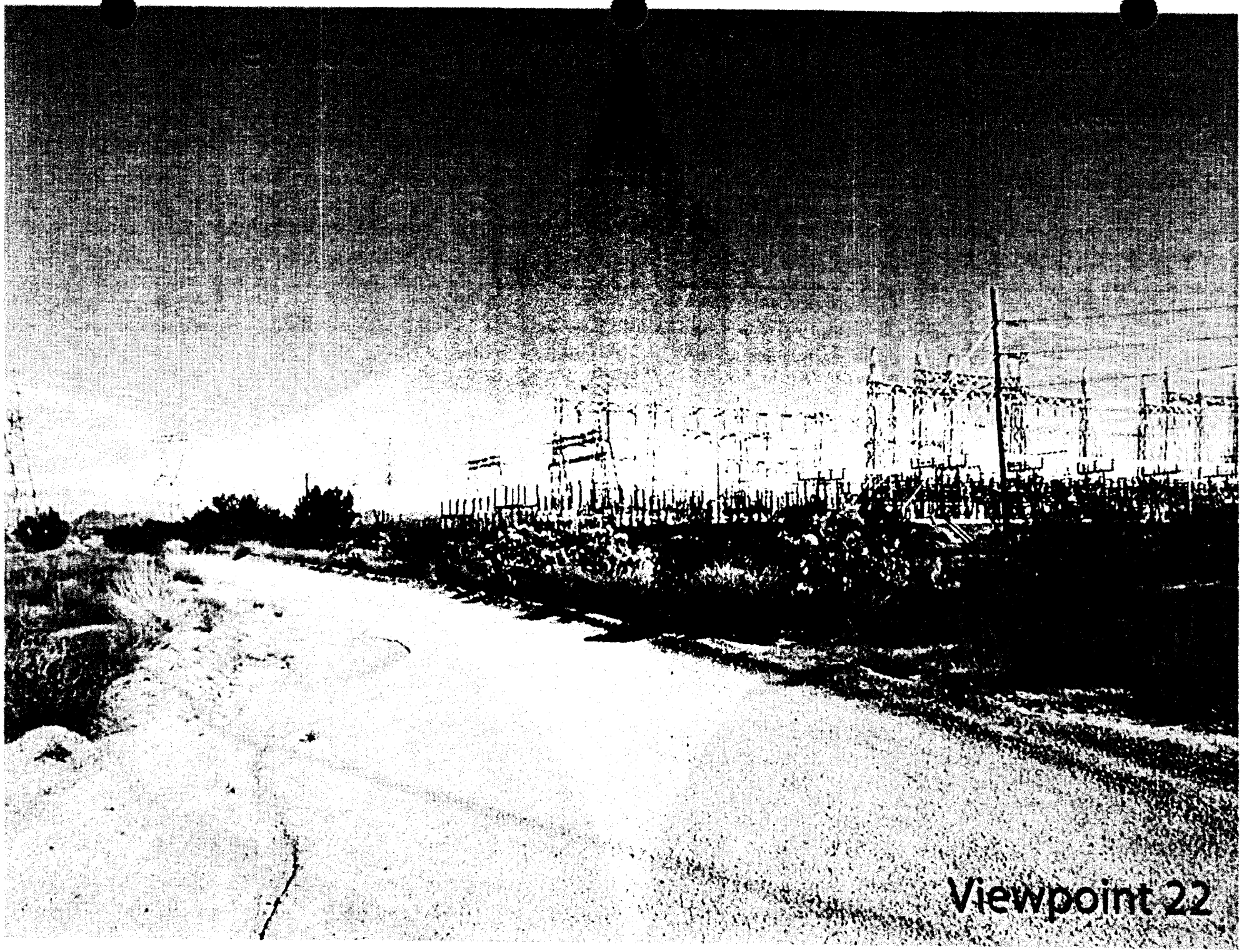


View looking east along the Happy Valley transmission corridor from Tatum Boulevard

Return to Viewpoints Map




Substation
Return to Viewpoints Map


Viewpoint 22

View looking north along the east side of I-17 from Happy Valley Road

Return to Viewpoints Map

Viewpoint 23

View looking south along I-17 east frontage road across Skunk Creek

Return to Viewpoints Map

View looking southeast along CAP from Dynamite Boulevard

Return to Viewpoints Map

View looking north from CAP

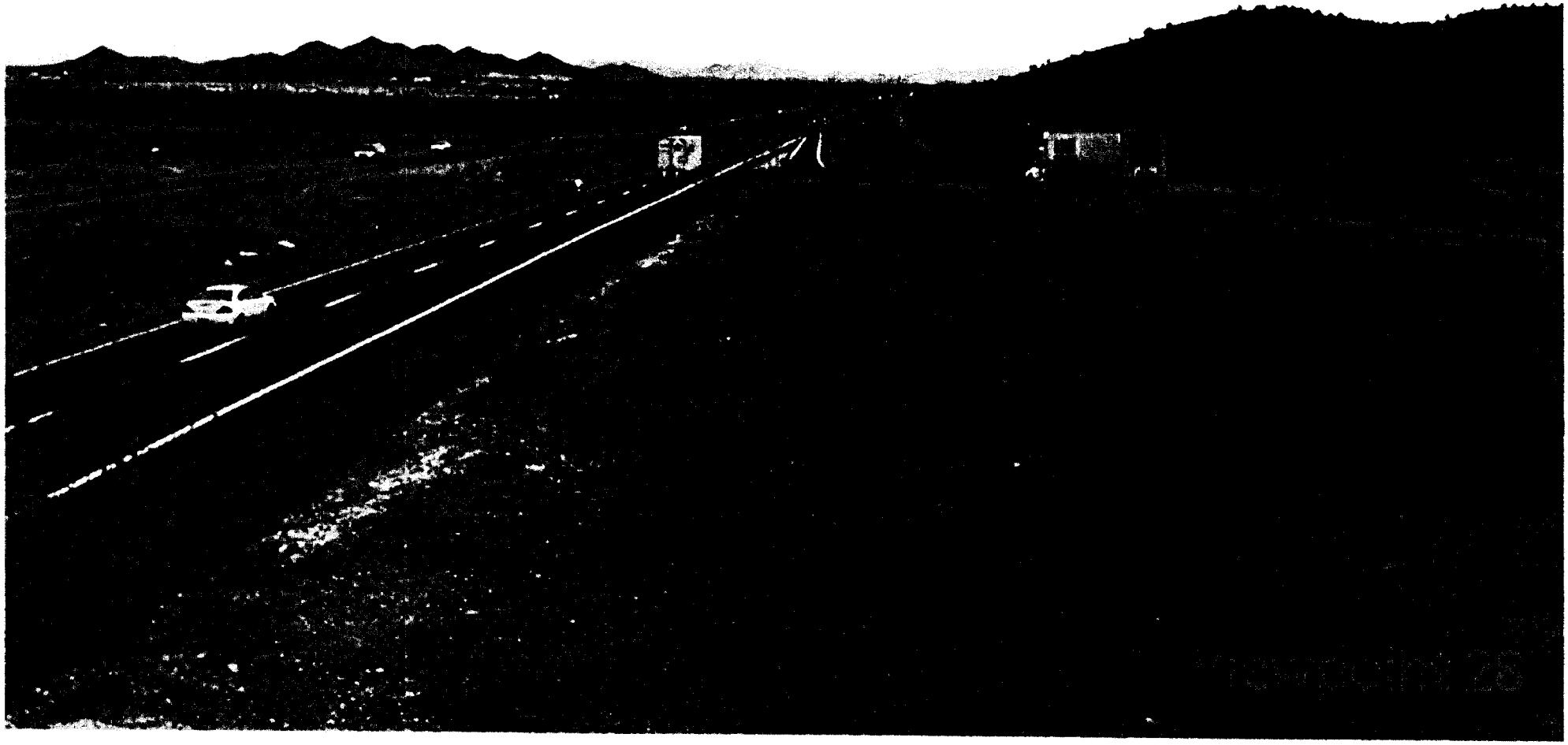
Return to Viewpoints Map

View looking south along CAP from Happy Valley Road

Return to Viewpoints Map

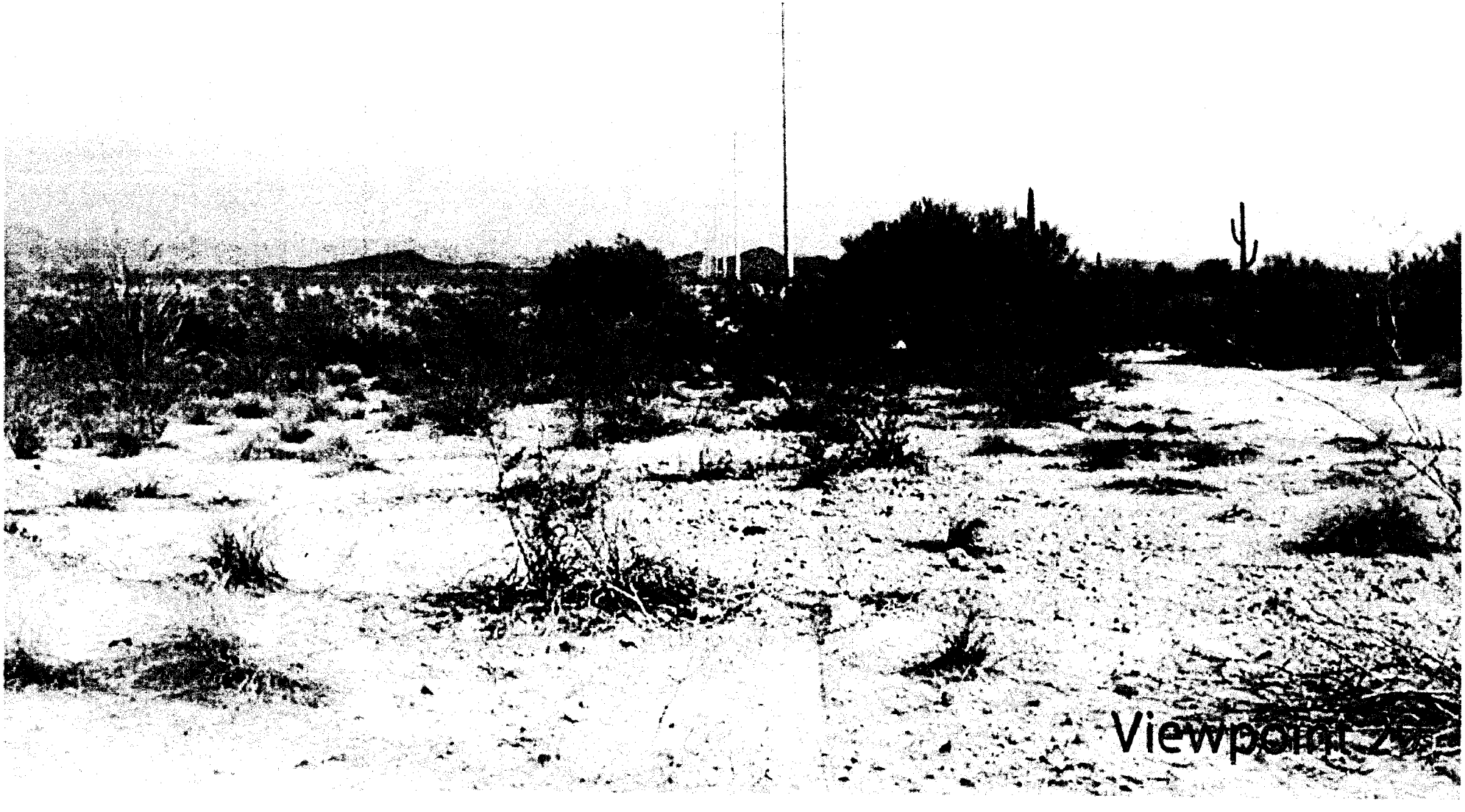
View looking south along I-17 from Pioneer Road

Return to Viewpoints Map



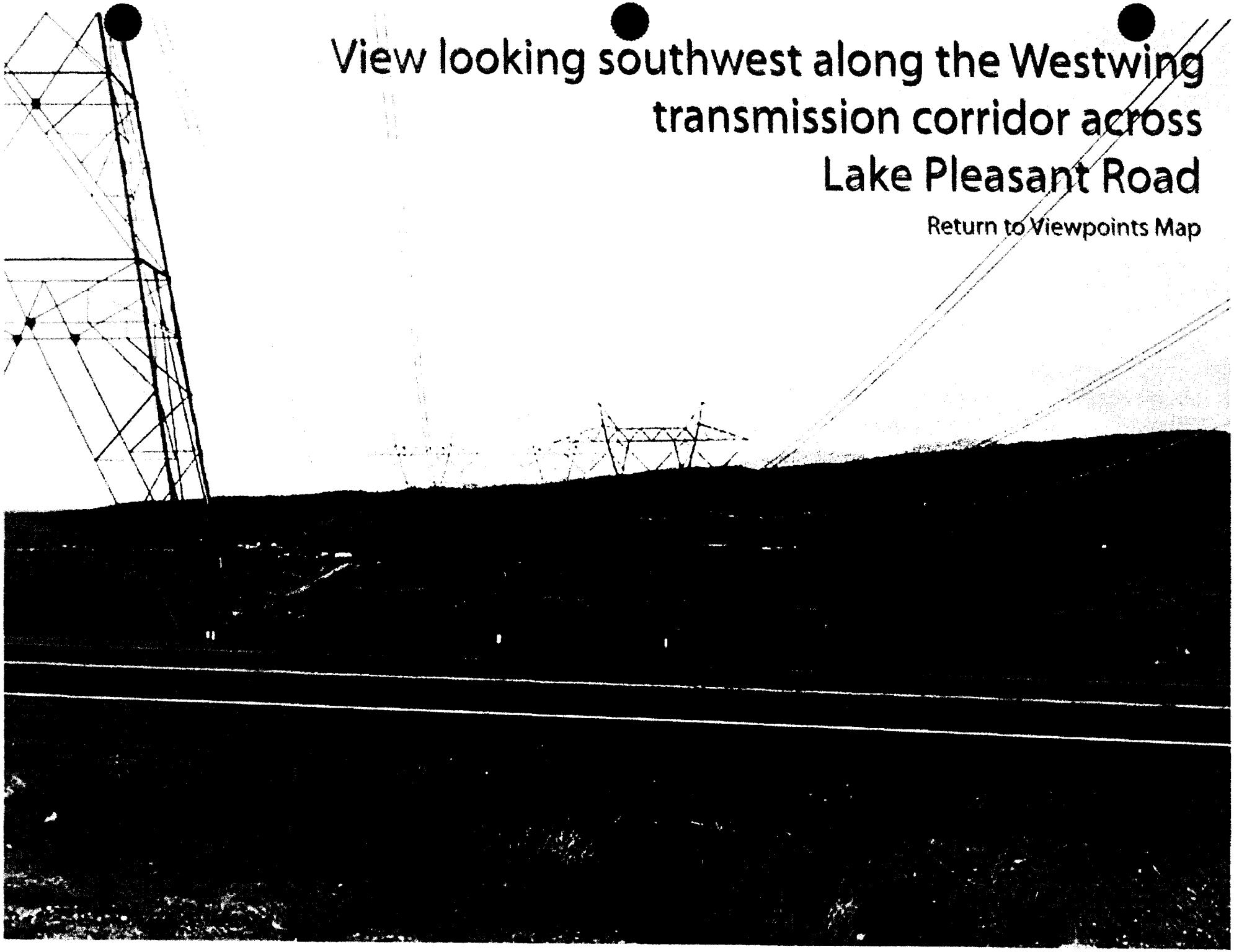
View looking east along the Joy Ranch Road alignment from New River Road

Return to Viewpoints Map



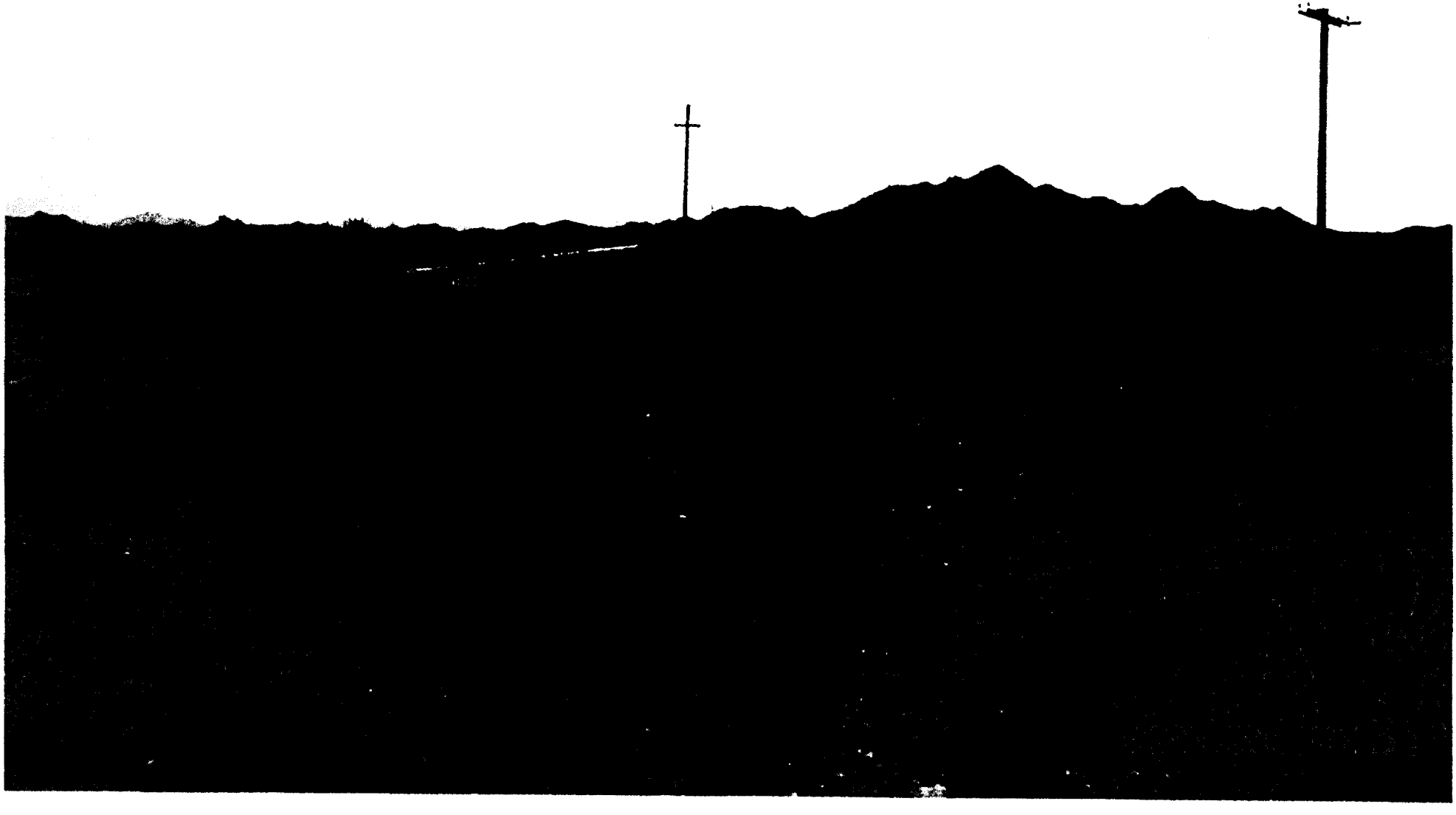
View looking southwest along the Westwing transmission corridor across Lake Pleasant Road

Return to Viewpoints Map



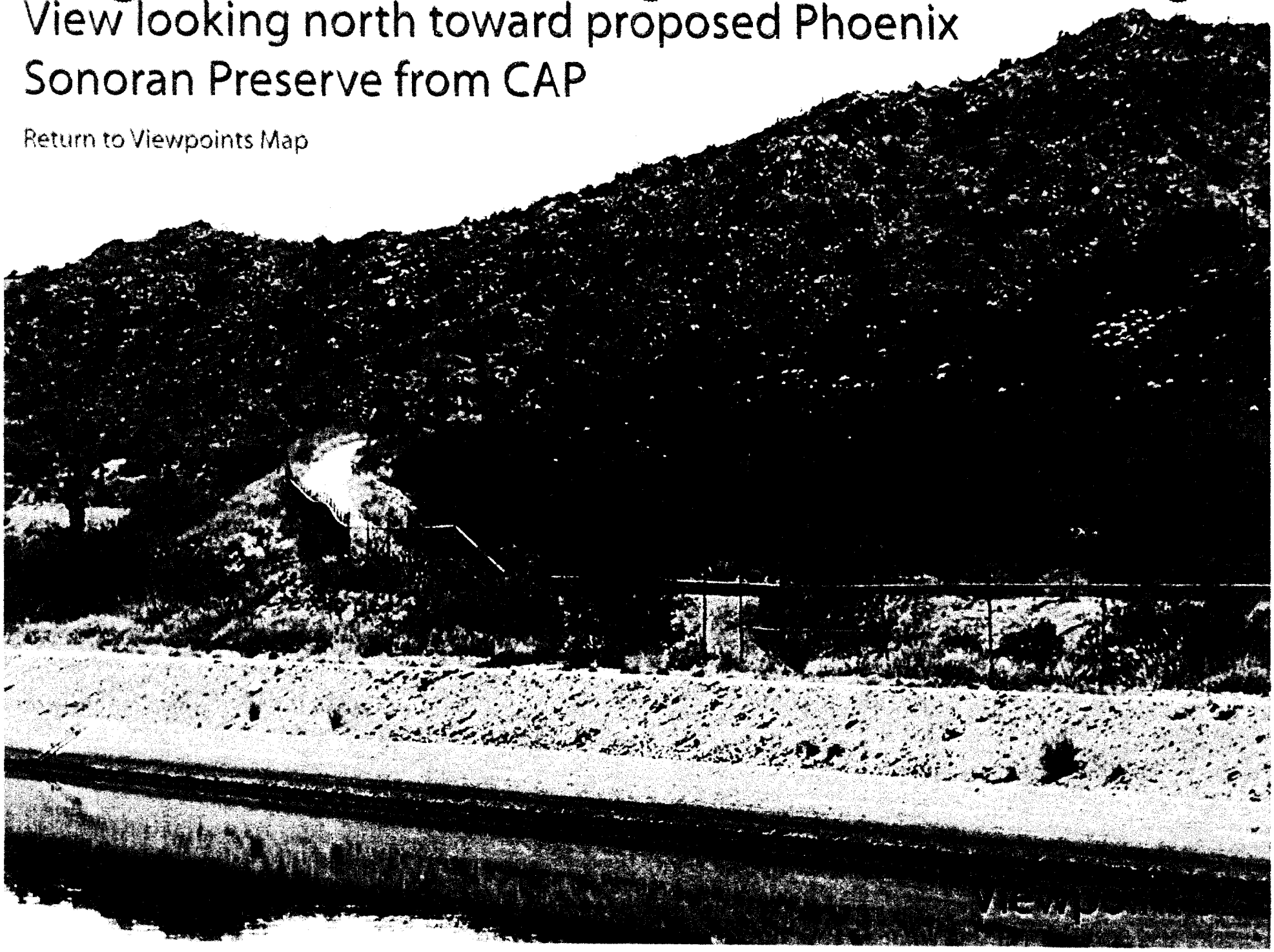
View looking east along CAP from Lake Pleasant Road

Return to Viewpoints Map



View looking north toward proposed Phoenix Sonoran Preserve from CAP

Return to Viewpoints Map



View looking east along 69kV line south of CAP

Return to Viewpoints Map

BEFORE THE ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

DRAFT

IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY IN CONFORMANCE WITH THE REQUIREMENTS OF ARIZONA REVISED STATUTES SECTION 40-360, ET SEQ., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AUTHORIZING THE NORTH VALLEY 230KV FACILITY PROJECT, CASE NO. 120 INCLUDING THE CONSTRUCTION OF APPROXIMATELY 31 MILES OF 230KV TRANSMISSION LINES, TWO 230KV SUBSTATIONS, AND THREE SUBSTATION INTERCONNECTIONS IN MARICOPA COUNTY, ARIZONA, ORIGINATING AT THE WESTWING SUBSTATION IN SECTION 12, TOWNSHIP 4 NORTH, RANGE 1 WEST, G&SRB&M AND INTERCONNECTING AT THE RACEWAY SUBSTATION IN SECTIONS 4 AND 5, TOWNSHIP 5 NORTH, RANGE 1 EAST, G&SRB&M, CONTINUING TO THE PROPOSED AVERY SUBSTATION IN SECTION 15, TOWNSHIP 5 NORTH, RANGE 2 EAST, G&SRB&M AND THE PROPOSED MISTY WILLOW SUBSTATION IN SECTION 8, TOWNSHIP 4 NORTH, RANGE 3 EAST, G&SRB&M, AND TERMINATING AT THE PINNACLE PEAK SUBSTATION IN SECTION 10, TOWNSHIP 4 NORTH, RANGE 4 EAST, G&SRB&M.	Docket No. L-00000D-02-0120 CASE NO. 120

CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

Pursuant to notice given as provided by law, the Arizona Power Plant and Transmission Line Siting Committee (the "Committee") held public hearings on

November 25, 2002 and November 26, 2002, all in conformance with the requirements of Arizona Revised Statutes § 40-360, *et seq.*, for the purpose of receiving evidence and deliberating on the Application of Arizona Public Service Company ("Applicant") for a Certificate of Environmental Compatibility in the above-captioned case.

The following members and designees of members of the Committee were present for the deliberations and vote on the Application at the November 26, 2002 hearing:

Laurie Woodall	Chairman, Designee for Arizona Attorney General, Janet Napolitano
Ray Williamson	Arizona Corporation Commission
Richard Tobin	Arizona Department of Environmental Quality
Mark McWhirter	Department of Commerce
Pat Schiffer	Department of Water Resources
Jeff McGuire	Appointed Member
Margaret Trujillo	Appointed Member
A. Wayne Smith	Appointed Member
Michael Whalen	Appointed Member
Michael Palmer	Appointed Member
Sandie Smith	Appointed Member

The Applicants were represented by Jeffrey B. Guldner, Lisa A. Coulter and Faraz Sanei of Snell & Wilmer L.L.P., attorneys for the Applicant. The following parties were granted intervention pursuant to A.R.S. § 40-360.05: Arizona Corporation Commission Staff, represented by Janice M. Alward and Jason D. Gellman; Arizona

Utilities Investors Association, represented by Walter Meek; United Services Automobile Association, represented by C. Webb Crockett of Fennemore Craig; Roles Inc., represented by Roger K. Ferland and Laura Raffaelli of Quarles & Brady Streich Lang L.L.P.; and Beverly Jackson.

At the conclusion of the hearings, the Committee, having received the Application, the appearances of the parties, the evidence, testimony and exhibits presented at the hearings, and being advised of the legal requirements of Arizona Revised Statutes §§ 40-360 to 40-360.13, upon motion duly made and seconded, voted to grant the Applicants the following Certificate of Environmental Compatibility (Case No. 120):

> The North Valley project route will originate at the Westwing Substation in Section 12, Township 4 North, Range 1 West and parallel an existing 500/230kV transmission line corridor northeast to approximately the Dove Valley Road alignment. At that point, a radial line will extend northeast interconnecting with the 230/69kV Raceway Substation in Sections 4 and 5, Township 5 North, Range 1 East. This portion of the route will include a 1,500-foot corridor that will extend to the east from the westernmost edge of the exiting transmission line right-of-way. The route continues east along the section line associated with the Dove Valley Road alignment to the proposed Avery Substation, located approximately ½ mile west of I-17 in Section 15 Township 5 North, Range 2 East. There will be a 1,000-foot corridor on each side of the Dove Valley Road alignment. From that point the line will continue south along the 39th Avenue alignment to the Lone Mountain Road alignment and cross Sections 22 and 23, Township 5 North, Range 2 East on the diagonal to meet I-17, and continue south paralleling the west side of I-17 to the south side of Skunk Creek. There will be a 1,000-foot corridor on each side of the proposed centerline from the Avery

Substation to I-17. There will also be a 1,000-foot corridor west of the freeway controlled access of I-17. The route parallels the south side of Skunk Creek to the 29th Avenue alignment where it turns south and parallels the 29th Avenue alignment to a point approximately ¼ mile south of Happy Valley Road. Along Skunk Creek and the 29th Avenue alignment there will be a 1,000-foot corridor on either side of the proposed centerline. The route will turn east and cross I-17 approximately ¼ mile south of Happy Valley Road and parallel an existing 230kV transmission line corridor, interconnecting with the proposed Misty Willow Substation located south of the existing transmission corridor and west of the CAP in Section 8, Township 4 North, Range 3 East. The route then continues east and parallel to the 230kV transmission line corridor, terminating at the Pinnacle Peak Substation in Section 10, Township 4 North, Range 4 East. From I-17 east to the Pinnacle Peak Substation there will be a 1,000-foot corridor north of the existing Salt River Project (SRP) transmission line.

This Certificate is granted upon the following conditions:

1. The Applicant shall obtain all required approvals and permits necessary to construct the Project.

2. The Applicant shall comply with all existing applicable air and water pollution control standards and regulations, and with all existing applicable ordinances, master plans and regulations of the State of Arizona, the County of Maricopa, the United States, and any other governmental entities having jurisdiction.

3. This authorization to construct the Project shall expire ten (10) years from the date the Certificate is approved by the Arizona Corporation Commission unless construction is completed to the point that the transmission lines are capable of operating by that time; provided, however, that prior to such expiration the Applicant or its assignees may request that the Commission extend this time limitation.

4. The Applicant shall make every reasonable effort to identify and correct, on a case-specific basis, all complaints of interference with radio or television signals from operation of the transmission line and related facilities addressed in this Certificate. In addition to any transmission repairs, relevant corrective actions may include adjusting or modifying receivers; adjusting, repairing, replacing or adding antennas, antenna signal amplifiers, filters, or lead-in cables; or other corrective actions.

The Applicant shall maintain written records for a period of five (5) years of all complaints of radio or television interference attributable to operation, together with the corrective action taken in response to each complaint. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action or for which there was no resolution shall be noted and explained. The record shall be signed by the Applicant and also the complainant, if possible, to indicate concurrence with the corrective action or agreement with the justification for a lack of action.

Affected parties may submit complaints to the Applicant or the ACC when they believe the Project is creating noise in excess of applicable standards or causing interference with communications signals in excess of applicable FCC standards. The Applicant shall maintain records of complaints and corrective actions taken for the North Valley Project, for a period of five (5) years, which records shall be available for public inspection.

5. The North Valley Project shall comply with applicable noise standards of the federal Department of Housing and Urban Develòpment and the Environmental Protection Agency.

6. The Applicant shall continue to consult with the State Historic Preservation Office ("SHPO") to reach a determination of any cultural or archeological impacts as a result of construction activities. The Applicant will provide

a treatment plan, to minimize impacts, for SHPO review and approval and shall continue to consult with SHPO to resolve any such impacts. The Applicant shall avoid or minimize impacts to properties considered eligible for inclusion in the State and National Register of Historic Places to the extent practicable.

7. If human remains and/or funerary objects are encountered during the course of any ground disturbing activities relating to the development of the subject property, Applicant shall cease work on the affected area of the Project and notify the Director of the Arizona State Museum in accordance with A.R.S. § 47-1685.

8. Applicant shall retain an archeologist on site during construction activities in applicable areas, as determined by SHPO, to advise them in connection with any additional archeological studies that may be required and any mitigation efforts for archeological sites that may be affected by the construction of the Project.

9. After construction, the Applicant, in conjunction with any applicable land managing agency, shall allow Arizona Site Stewards, a volunteer-staffed SHPO program, to periodically inspect the sites within the corridor for vandalism or other damage.

10. The Applicant shall follow the Arizona State Land Department's instructions, if any, regarding eligible properties situated on Arizona State Land in consultation with SHPO.

11. The Applicant shall design the transmission lines so as to minimize impacts to raptors.

12. Where practicable, the Applicant shall use existing roads for construction and access and the Applicant shall revegetate or restore areas of construction disturbance.

13. The Applicant shall use non-specular conductor and dulled surfaces for transmission line structures.

14. Within 45 days of securing easement or right of way for the Project, the Applicant shall erect and maintain signs providing public notice that the property is the site of a future transmission line. Such signage shall be no smaller than a normal roadway sign. The Applicant shall place signs in prominent locations at reasonable intervals such that the public is notified along the full length of the transmission line. There must also be signs at the location of the proposed substations. Copies of this Certificate shall be provided by the Applicant to city and county planning agencies. The signs shall advise:

- that the site has been approved for the construction of Project facilities including a 230 kV transmission line, as applicable to the individual site;
- the expected date of completion of the Project facilities; and
- a phone number for public information regarding the Project.

15. In the event that the Project requires an extension of the term of this Certificate prior to completion of construction, Applicants shall use reasonable means to directly notify all landowners and residents within a one-mile radius of the Project facilities for which the extension is sought. Such landowners and residents shall be notified of the time and place of the proceeding in which the Commission shall consider such request for extension.

16. Before construction on this Project may commence, the Applicant must file a construction mitigation and restoration plan with ACC Docket Control. The Applicant shall, within one year of completion of the Project, rehabilitate to its original state any area disturbed by construction of the Project, except for any road that may be necessary to access the transmission lines for maintenance and repair.

The goals of the Plan will be to:

- Avoid impacts where practical;
- Where impacts are unavoidable, minimize impacts; and
- Focus on site preparation to facilitate natural processes of revegetation

Other key elements of the Plan are to:

- Emphasize final site preparation to encourage natural revegetation
- Avoid (i.e., preserve), where practical, mature native trees;
- Stipulate a maximum construction corridor width;
- Reserve topsoil and native plan materials from right-of-way before grading, and respread over the right-of-way after construction is complete;
- Imprint the restored right-of-way to provide indentations to catch seed and water;
- Implement best management practices to protect the soil;
- Apply restoration methods that have been shown to work in the desert environment;
- Prevent the spread of noxious weeks or other undesirable species; and
- Apply methods to discourage unauthorized off-highway-vehicle (OHV) use of right-of-way.

17. Applicants shall retain a qualified biologist to monitor all ground clearing/disturbing construction activities that may affect sensitive habitat. The biological monitor will be responsible for ensuring proper actions are taken if a special status species is encountered.

18. Applicants shall salvage mesquite, ironwood, saguaro and palo verde trees removed during project construction activities consistent with Arizona' s Native Plant Law and

use the vegetation for reclamation in or near its original location.

19. APS shall implement landscaping for the substation sites in accordance with the applicable municipal planning and zoning requirements.

20. The Applicant shall submit a self-certification letter annually, identifying which conditions contained in the CEC have been met. Each letter shall be submitted to the Utilities Division Director on December 1, beginning in 2004. Attached to each certification letter shall be documentation explaining, in detail, how compliance with each condition was achieved. Copies of each letter, along with the corresponding documentation, shall also be submitted to the Arizona Attorney General and the Directors of the Arizona Department of Environmental Quality, Department of Water Resources, and Department of Commerce Energy Office.

GRANTED this _____ day of November, 2002 .

THE ARIZONA POWER PLANT AND
TRANSMISSION LINE SITING COMMITTEE

By:_____
Laurie A. Woodall, Chairman

APPROVED BY ORDER OF THE ARIZONA CORPORATION COMMISSION

_____	_____	_____
Chairman	Commissioner	Commissioner
_____	_____	
Commissioner	Commissioner	

In Witness Hereof, I, Brian C. McNeil, Executive Secretary of the Arizona Corporation Commission, set my hand and cause the official seal of this Commission to be affixed, this ____ day of _____, 200_.

By _____
Brian C. McNeil
Executive Secretary

Dissent:_____

1247375.1

Arizona Department of Transportation
Intermodal Transportation Division
206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Jane Dee Hull
Governor

Victor M. Mendez
Director

Dick Wright
State Engineer

November 19, 2002

Paul Trenter, Project Manager
Environmental Planning Group
4350 E. Camelback Rd. Suite G-200
Phoenix, Arizona 85018

RE: APS North Valley 230kV Facility Siting Project – CEC Application

Dear Mr. Trenter:

Thank you for meeting with us yesterday to discuss issues and concerns the Department has regarding your siting project. After discussing our concerns the Arizona Department of Transportation (ADOT) is no longer in opposition to your project. The Department is motivated by the necessity to maintain the integrity of the highway system and to facilitate public safety. For these reasons our concerns can be met if the following elements were included into the final alignment and design plans for the siting project:

- Placement of all new poles and foundations shall be outside the future right of way needs of the proposed I-17 widening. APS will work closely with ADOT as the right of way needs for the I-17 widening and the initial designs for the new traffic interchanges at Jomax Rd. and Dixileta Dr. are developed.
- It is desirable to ADOT to have the new 250 kv power lines located not over the future frontage road travel way. APS and ADOT will continue to work toward establishing a pole alignment suitable to both parties that would seek to prevent the standard at rest position or "blow-out" condition of the power lines from overhanging the travel way.
- During the initial construction of the new line or during future maintenance ADOT will allow APS vehicle access to the poles from off the frontage road in the area fronting the developed parcels. At these locations APS will work with the Homeowners Groups to reconstruct the right of way wall Westward around the new poles. Access to poles in undeveloped areas, at the time of this letter, may or may not be from the frontage road side depending on placement of the final right of way wall. APS shall follow all MUTCD guidelines for safe traffic control when utilizing frontage road access. Flagging service or use of a pilot car will be utilized when one lane is shut down for any reason. Permitted time of day lane closures shall be by the permitting authority.
- APS shall acquire a permit for the final agreed upon overhang width along with permits as needed for maintenance access.

Arizona Governor's Award for Quality
2001 Award Recipient

Thank you again for meeting and working with ADOT on these issues and we look forward to continuing discussions with you to complete your project. Please feel free to contact me if you have any further questions.

Sincerely,

Bruce D. Vana P.E., Engineer - Manager
ADOT Utility & Railroad Engineering Section
602-712-8681
205 S. 17th Ave. Mail-drop 618E
Phoenix, AZ 85007-3212

cc: Mike De Witt, APS Project Manager
Vince Li, ADOT
Jackie Noblitt, Stanley Consultants
Don Herp, City of Phoenix, Deputy Director Streets Trans. Dept.

Arizona Governor's Award for Quality
2001 Award Recipient

Office of the City Council

8401 West Monroe Street
Peoria, Arizona 85345
(623) 773-7306
Fax (623) 773-7301

November 12, 2002

Mr. Larry Krueger, Manager
Transmission & Facility Siting
Mail Station 4030
P.O. Box 53999
Phoenix, AZ 85072-3933

Dear Mr. Krueger:

I appreciate the time and effort APS staff has taken to present the facts on the North Valley 230kV Transmission Line Project.

Certainly, as our communities continue to grow, electrical facilities are paramount to that growth. Reliable energy is one of our top concerns, and I appreciate the responsibility you have to provide this product to us.

I believe that APS has done a good job of informing stakeholders of the project, and giving the public sufficient opportunity for input on their preferred route along the Dove Valley Road alignment and I-17 corridor.

I know these facilities will benefit all of us in Peoria directly and help the metropolitan area by increasing the reliability of our local transmission system. Paralleling an existing corridor in Peoria and then following the Dove Valley Road alignment to build the 230 kV power line makes a lot of sense to me.

For the reasons stated above, please consider this as my support for APS' recommended route in their application to the Arizona State Siting Committee.

Sincerely,

Ken Forgia

Ken Forgia, Councilor
Mesquite District

KCF/fam

To: The Environmental Planning Group
4350 E. Camelback Road G 200
Phoenix, AZ 85018

received
10.31.02

From: Beverly Jackson
27011 N. 31st Drive
Phoenix, AZ 85085
623-434-3222

To Whom It May Concern:

Attached is a copy of a letter that I wrote to you 18 months ago. I never received an acknowledgement of the letter nor did I receive a response. I have been in contact with the Arizona Corporation Commission and they don't have record of this letter.

I am sending this to you again. Please make sure the appropriate person/s receives it.

In Appreciation.....

Beverly Jackson

Beverly Jackson

To: Paul Prenter
The Environmental Planning Group
4350 E. Camelback Road G200
Phoenix, AZ 85018

From: Beverly Jackson
5738 N. 34th Drive
Phoenix, AZ 85017

Date: April 9th, 2001

Re: North-Central Power-Line Routes

It is with great concern and opposition I write this letter to you. I was sick to my stomach while reading the newspaper article regarding the new 230kV power line placement in the North Valley I-17 Frontage road area. This concerns me because I just recently purchased a home in that area that won't be built until July. It was disclosed that there would be some utility activity going on but nothing regarding the 230-kV lines/poles that are mentioned in the Republic article. Nor did I receive any information up until now regarding the utility line placement.

This Kaufman & Broad development is new. There are not many homes that are occupied at this present time but there are many homes that have begun the construction process. The development I'm referring to is Hillcrest at Westland at 31st Avenue and Pinnacle Vista. Therefore, I cannot gather together a GROUP of residents to help with the opposition process.

It appears that no decisions have been formally made to locate the 115 ft. tall, 230-kilovolt line/poles on the West side of the I-17 or the East side of the I-17. I am writing this letter in hopes that the location of the poles be placed on the **EAST side of the I-17**. This community is new, therefore, I feel like I am at a disadvantage in fighting this placement of poles. Please take in to consideration that there will be a new community with many new homes on the West side of I-17 close to the frontage road. On the East side there is only one business going up at the moment and the remaining is designated industrial. Wouldn't it be in the best interest/health of the people to have the lines on the East side? Where there are fewer homes!

There is only ONE access in to this community and that is the I-17 frontage road that means all of the people in this new community would have to drive by and under your lines/poles.

My home was very expensive. I have a lot of money to lose if I back out now. I am so sick over this latest information regarding the 230-kV lines/poles that I don't know what to do. I am not an electricity expert so I can't argue about our safety and the safety of others. I'm not sure which direction to go at this moment. There are many custom homes going in within blocks of where these poles would be placed. I am sure that once these poles have been placed they will surely decrease the value of our property, so you see we have much to loose.

By looking at the map that was in last weeks newspaper, it seems odd that APS would want to **cross over** the I-17 from the East side to the West side and then have to **cross back over** the I-17 from the West side to the East side when they get to the Carefree Highway. This is silly and I'm sure very expensive.

Looks to me like existing power poles and all other tall cement power supply lines are already in place **on the East side of I-17 from Bethany Home Rd. north to Happy Valley**.

I know that APS' first choice for the power pole placement is the West side frontage road from Happy Valley Rd to the Carefree Highway. This is not in the best interest of the homeowners in that area. I am asking you to please reconsider this placement to their (APS) alternative, which is on the **EAST side frontage road of the I-17.**

In the mean time, I will go door to door in the newly developed area and stir up as many interested parties for the opposition and pass on your address. As I said, Westland at Hillcrest is new and I don't believe any one is occupying their new homes as of yet. This is perfect for APS. No one is in there so no one hollers. This will make it more difficult for me to fight this placement I'm sure.

Of course no lines will be placed along Carefree Highway, they had the most vocal opposition because there are currently many residents of Carefree. Let's not pick on the area that has no one in it to shout.

Please, please consider my letter and pass it on to whomever who would be willing to back me up.

Sincerely Yours,

~~Beverly Jackson~~
~~5738 North 34th Drive~~
~~Phoenix, AZ 85017~~
~~work 602-336-2975~~
My new address will be:
27011 North 31st Drive
602-336-2975 work
623-434-3222

Docket

INTERVENTION

To: Director of Utilities
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

ARIZONA CORPORATION COMMISSION
RECEIVED
OCT 31 2002
Director of Utilities

From: Bev Jackson
27011 N. 31st Drive
Phoenix, AZ 85085
623-434-3222

Date: October 29, 2002

Re: Request to be an Intervenor

L-00000D-02-0120

To Whom It May Concern:

Let this be my formal request to be an **Intervenor** and appear at the public hearing before the Arizona Power Plant and Transmission Line Siting Committee at the Embassy Suites, 1515 North 44th Street on November 25, 2002 at 9:30 a.m.

My appearance will be in opposition of the Proposed Route as shown on the map. I am acting as the spokesperson for our Community. I would also like to bring an opposition petition that has been signed by the members of our new community.

I've never been involved in anything like this before so I will need some guidance from your office in preparing for the hearing.

In Appreciation,

Beverly Jackson

Bev Jackson

RECEIVED
2002 NOV -5 A 10:51
AZ CORP COMMISSION
DOCUMENT CONTROL

To: Arizona Corporation Commission
1200 W. Washington
Phoenix, AZ 85007-2927
Docket # 120

RECEIVED

2002 OCT -7 P 12: 27

AZ CORP COMMISSION
DOCUMENT CONTROL

From: Beverly & Dan Jackson
27011 N. 31st Drive
Phoenix, AZ 85085
623-434-3222 – home
602-336-2975 – work, Bev

Date: October 3, 2002

Re: **North Valley 230kV Facility Siting Project** **L-00000D-02-0120**

To Whom It May Concern:

We are writing this letter today in opposition of the Proposed Route (gold) for the 230kV lines which would follow the west side frontage road between Dixileta Dr. south to Happy Valley Road. In reviewing the Proposed Route Map, the area of installation will affect many residendents/residences in this growing community. These are many concerned community members in this area who oppose the gold route. Although we all agree that Phoenix needs to do something in order to provide continued service because of increased growth, there are other alternative routes, the proposed alternative (red), #1 (green) and #3 (black) that we feel would be best for us, our children and our rapidly growing communities.

One of our reasons for concern is that the west side frontage road of the I-17 is our **ONLY** access **into and out of** our community. Not only is it our only source of entrance, it is an extremely dangerous road to travel. There are no street lights in this area and the oncoming southbound I-17 traffic lights are blinding during non-daylight hours. We believe that these lines installed on the west side frontage road would add further risk to our safety and the safety of our young drivers. This is a narrow two way street which already is a dangerous stretch of road with many obstacles that obstruct our view therefore it is already a very dangerous road. Adding more poles, we believe, will only make driving on the **only road available to us** a more dangerous entrance in to our young community. There are many cars & school buses filled with children that must travel this road each and every day. We believe that this would be putting our community at risk by forcing us to enter and exit under the power lines of the proposed route (gold). Again, I must add, this is our **ONLY** entrance in to our community.

In looking at your Alternative Routes, and taking all communities into consideration, it is our opinion that the **Proposed Alternative (red)**, or **Alternative Route #1 (green)** would be in our community and surrounding communities' best interest. Both Proposed Alternative (red) & Alternative Route # 1 (green) crosses the I-17 to the east, north of Dynamite Blvd., therefore, it would not interfere with **ANY** of the new communities' entrances or exits. # 1 (green) continues east for a short distance and cuts south towards Happy Valley Rd at an angle on the east side of new developments. Red follows the I-17 frontage road on the east side where there are no developments built to date. There are no entrances to communities on the east side of the I-17 that would be affected by these powerful lines, therefore placing all of our communities in a much safer environment.

Another Alternative Route would be # 3 (black). This route would also be acceptable to our community. I must add that the best route for all concerned is the Proposed Alternative (red) or Alternative Route # 1 (green).

It is with utmost importance that you consider this a formal request to select an appropriate route for all members of our growing community. We are a new, young community. Most homeowners are busy moving in and these power lines are the farthest from their minds therefore leaving our community at a disadvantage. If you have any questions or would like to speak to me, please call one of the numbers listed above.

I would also like to know if I need to know about further action that I can take to make all of you aware of our community's great concern regarding this project. Should we put together a petition to be signed?

I would appreciate a confirmation to our request. Please send it to our home address listed above.

Sincerely,

Beverly Jackson
Dan Jackson

Beverly & Dan Jackson

Arizona Department of Transportation

Intermodal Transportation Division

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Jane Dee Hull
Governor

Victor M. Mendez
Director

Dick Wright
State Engineer

10/16/2002

Received 10-18-02

Paul Trenter, Project Manager
Environmental Planning Group
4350 E. Camelback Rd. Suite G-200
Phoenix, Arizona 85018

RE: APS North Valley 230kV Facility Siting Project – CEC Application

We received a copy of the Certificate of Environmental Compatibility application and do not believe that the proposed overhead alignment that parallels I-17 is feasible. There is inadequate space to accommodate the new transmission line while maintaining the ultimate freeway width.

- There is inadequate space to accommodate new transmission lines adjacent to residential development along the west side of I-17 from Skunk creek to the CAP.
- The proposed alignment should swing west to accommodate a new traffic interchange at Jomax Road. Adequate space is needed to accommodate all future interchanges, ramps and relocated frontage roads.
- The crossing of I-17 south of Happy Valley Road should allow for the widening of I-17, relocated frontage roads and the future widening of Happy Valley Road.
- Applicant is invited to re-meet with ADOT personnel to discuss alignment issues.

While locating this transmission line is extremely complex, the integrity of I-17 must be maintained. Accommodation must not adversely affect the safety, design, construction, operation, maintenance or integrity of the highway.

Please feel free to contact me if you have any questions.

Respectfully,

Bruce D. Vana P.E., Engineer - Manager
ADOT Utility & Railroad Engineering Section
602-712-8681
205 S. 17th Ave. Mail-drop 618E
Phoenix, AZ 85007-3212

cc: Mike De Witt, APS Project Manager
Steven A Jimenez, Tami Wollaston, ADOT
Jackie Noblitt, Stanley Consultants
Don Herp, City of Phoenix, Deputy Director Streets Trans. Dept.

Arizona Governor's Award for Quality
2001 Award Recipient

ATI PROPERTIES, INC.
REAL ESTATE SERVICES

220 South River Drive ❖ Tempe, Arizona ❖ 85281 ❖ (480) 446-9555 ❖ fax (480) 446-9615

October 15, 2002

received
10-16-02

Paul Trenter, Project Manager
Environmental Planning Group (EPG)
4350 E. Camelback Road, Suite G-200
Phoenix, Arizona 85018

RE: Proposed 230 KV Line.

Dear Mr. Trenter:

Following up on our conversation this week, I am sending you a copy of Vestar's site plan with the existing gas and electrical easements. Additional easements on this site or tower placement within the existing easement are of great concern. The Salt River Project electrical easement on this property does not allow for additional tower placement. The Arizona State Land Department and current lessee (Ray Roles) would have to approve any modification to the easement.

Vestar is planning an 800,000 square foot power center at the location. I look forward to working with you to allow this quality development to continue to move forward.

Please send any information pertaining to this project.

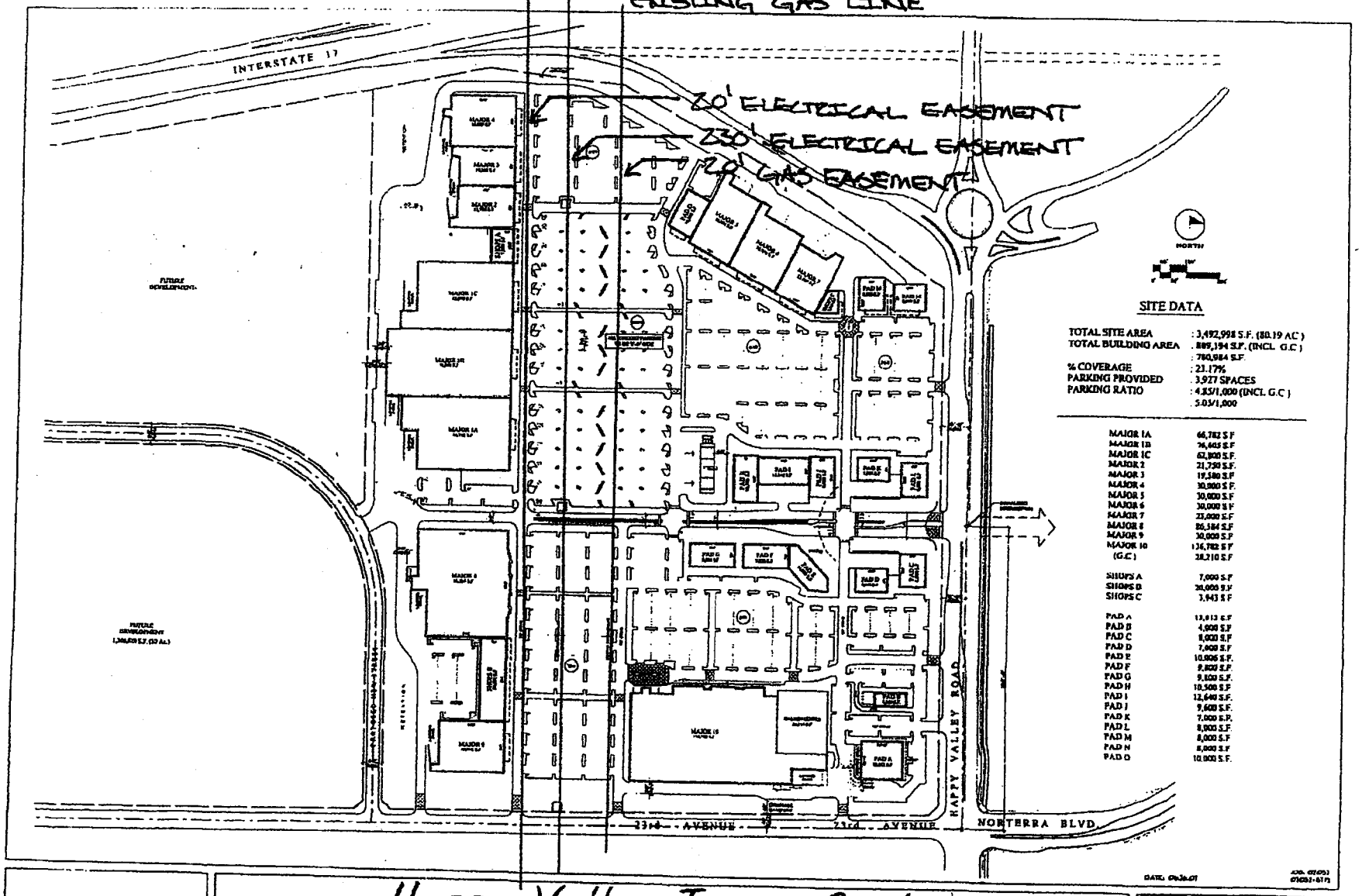
Sincerely,

Mark L. Wirth

EXISTING ELECTRIC POLE

EXISTING ELECTRIC TOWER

EXISTING GAS LINE



VESTAR DEVELOPMENT

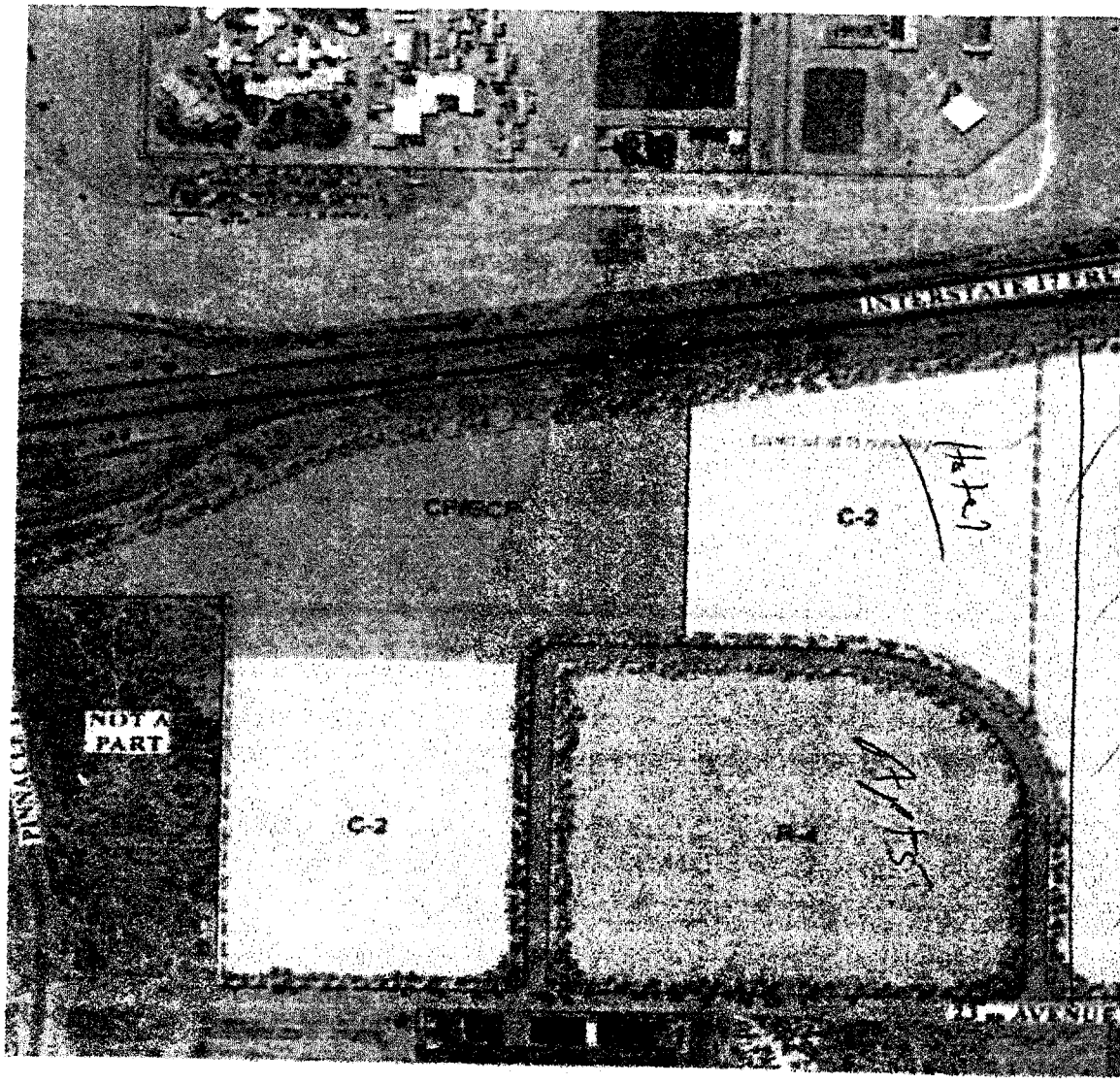
Happy Valley Towne Center

Interstate 17 and Happy Valley Road

Phoenix, Arizona

Butler Design Group

Architects & Planners



I-17 AND HAPPY

PROPOSED
PHOEN
J

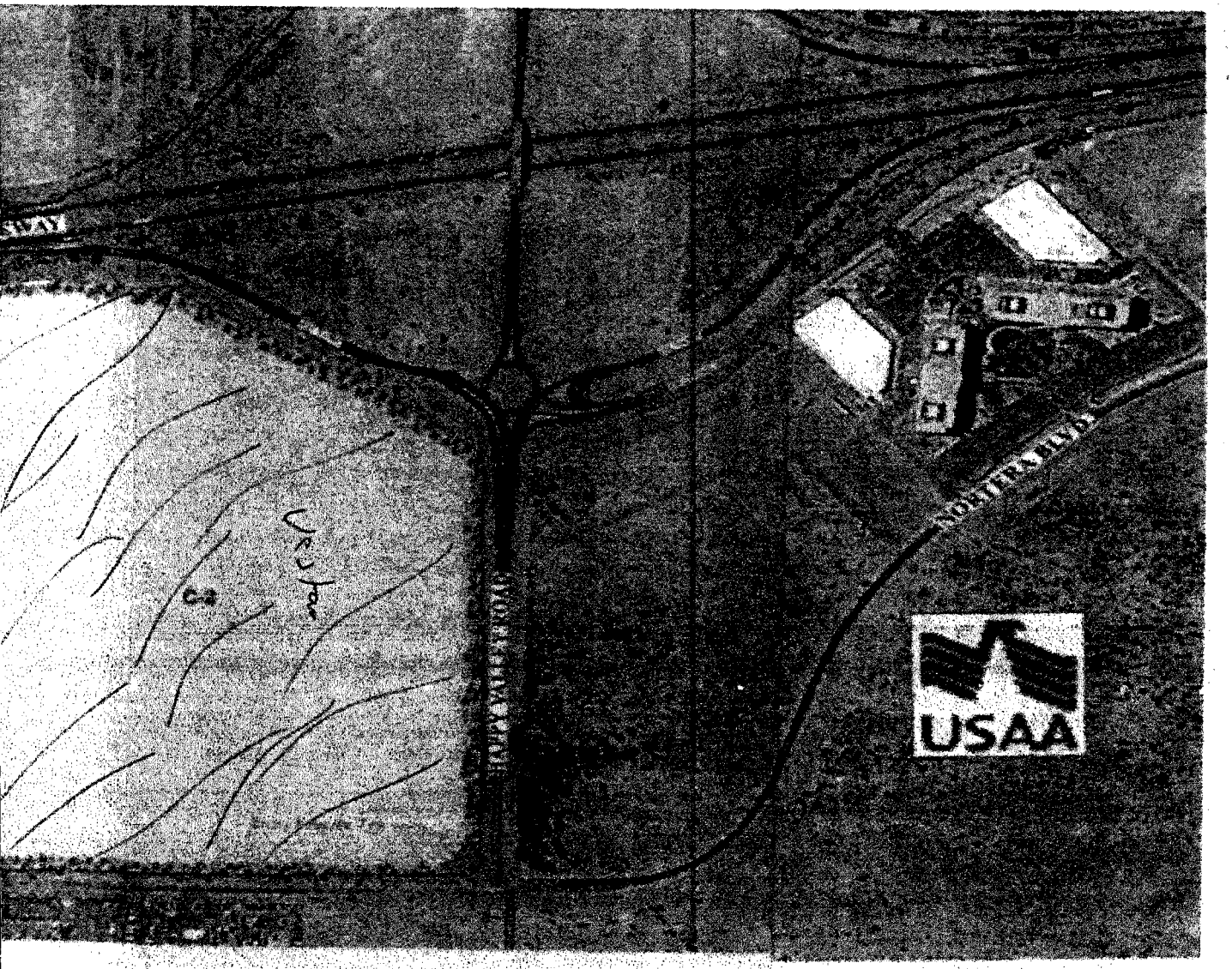


Exhibit LUP-1

Y VALLEY ROAD

) LAND-USE PLAN

NIX, ARIZONA

une 19th 2002

01131

ORIGINAL

To: Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007-2927

RE: North Valley 230k V Facility
Siting Proposal

(Docket Number 120)

From: Jon and Karen Shaul
3118 W. Redbird Road
Phoenix, Az. 85085
623-780-8281

Arizona Corporation Commission
DOCKETED
SEP 30 2002
DOCKETED BY CAR

L-00000D-02-0120

To whom it may concern,

I am writing this letter with the hopes of inputting my feelings about the power lines that are in proposal for the North Valley 230k V Facility Sitting Project.
I am a resident residing approximately 31st ave and Pinnacle Vista. The proposed site for the power lines , your first choice (GOLD) I think should be reconsidered due to the space issue that this area already faces and **the only entrance into our area for 4 miles north is the West Side Frontage Road.** It appears looking at your plans and plan sites that the (GREEN or BLACK) routes would best serve this area and in doing so not effect surrounding homes and views and safety etc...

I am asking that APS would **PLEASE** consider **The GREEN Alternate Route,** This looks to be better direction for all home owners involved. We have talked to many in this area that feel the same way , although as you are aware only a select few will take the time to sit down and write a letter of concern, but believe me I speak for many in our neighborhood.

You have asked for homeowner input and I only hope you will consider this option with great thought.

Sincerely, Jon & Karen Shaul

Jon and Karen Shaul

RECEIVED
2002 SEP 30 A 11:52
AZ CORP COMMISSION
DOCUMENT CONTROL

ATI PROPERTIES, INC.
REAL ESTATE SERVICES

220 South River Drive ❖ Tempe, Arizona ❖ 85281 ❖ (480) 446-9555 ❖ fax (480) 446-9615

September 30, 2002

Mr. Mike Dewitt
Arizona Public Service
PO Box 53933, No. 4030
Phoenix, AZ 85072

RE: Proposed 230 KV Line.

COPY

Dear Mr. Dewitt:

Following up on our conversation last week, I am sending you a copy of Vestar's site plan with the existing gas and electrical easements. Additional easements on this site or tower placement within the existing easement are of great concern. The Salt River Project electrical easement on this property does not allow for additional tower placement. The Arizona State Land Department and current lessee (Ray Roles) would have to approve any modification to the easement.

Vestar is planning an 800,000 square foot power center at the location. I look forward to working with you to allow this quality development to continue to move forward.

Please send any information pertaining to this project.

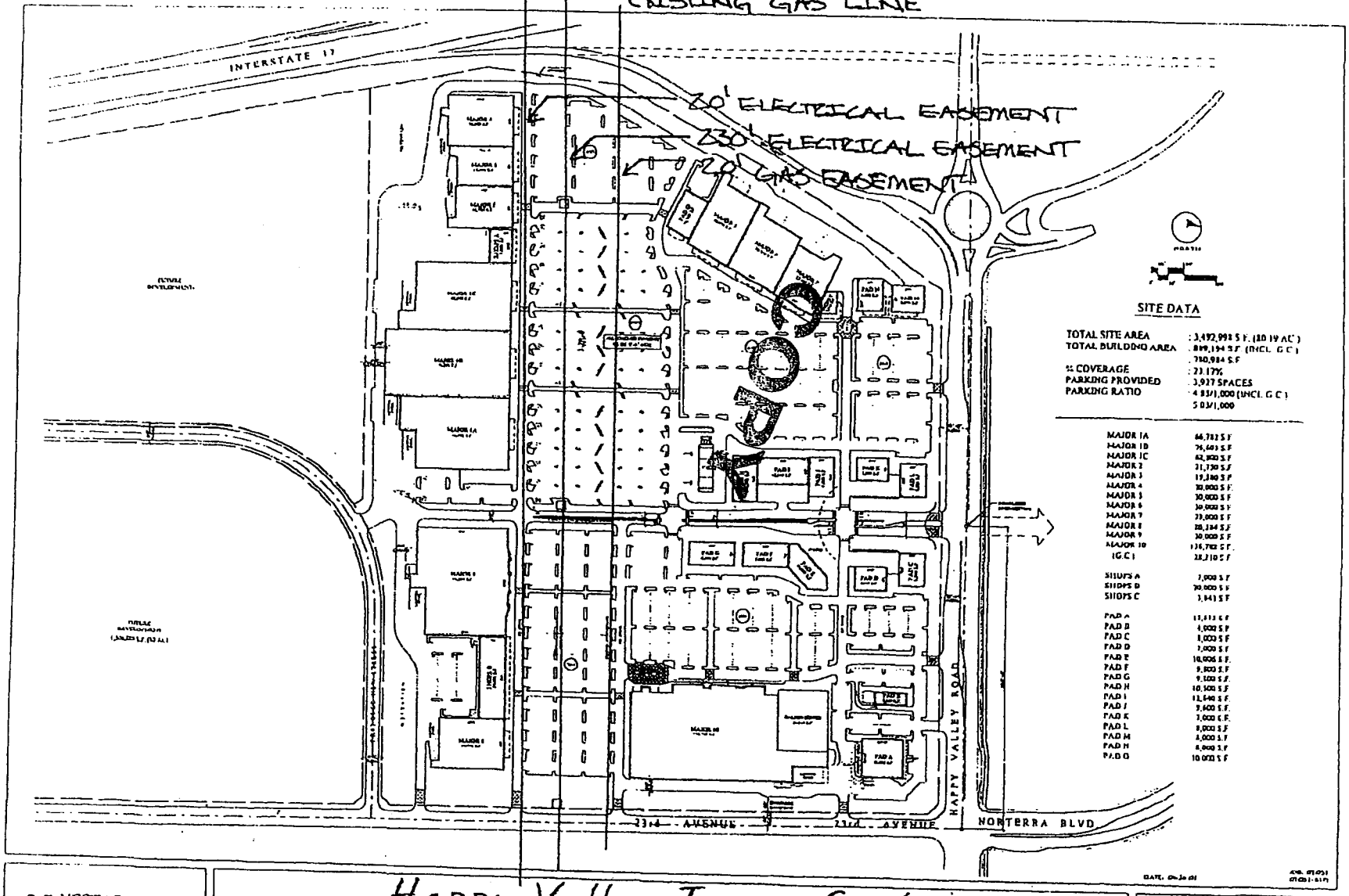
Sincerely,

Mark L. Wirth

EXISTING ELECTRIC POLE

EXISTING ELECTRIC TOWER

EXISTING GAS LINE



VESTAR DEVELOPMENT

Happy Valley Towne Center

Interstate 17 and Happy Valley Road
Phoenix, Arizona

Butler Design Group
Architects & Planners

Arizona Department of Transportation

Intermodal Transportation Division

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Jane Dee Hull
Governor

Victor M. Mendez
Director

Dick Wright
State Engineer

September 18, 2002

Mr. Mike DeWitt
APS, Project Manager, Transmission and Facility Siting
Mail Station 4310, P.O. Box 53933
Phoenix, Arizona 85072-3933

RE: Proposed APS 230 kV Transmission Line
I-17 Widening Study: 101L to Black Canyon City
TRACS No. 17 MA 215 H5162 01L

Dear Mr. DeWitt:

Thank you for meeting with us on September 11, 2002 to discuss your proposed 230 kV powerline adjacent to I-17 between Happy Valley Road and approximately Lone Mountain Road. We are willing to work with you to locate the transmission line alignment in its best location considering our ultimate freeway widening.

In response to your September 12 correspondence, we take exception to the 2nd and 3rd bullets listed in your letter:

- "Should APS be able to meet design setback criteria, placement of the structures in the ADOT ROW would be acceptable.
- The portion of the ADOT ROW that is currently being looked at (for placement of the structures) is between the CAP and Skunk Creek on the west side and the CAP and Happy Valley Road on the east side."

Placement of the new transmission line within ADOT's current ROW is not acceptable since ADOT is planning the widening of the existing I-17 facility. The widened section will consist of five general use lanes in each direction, plus HOV lanes and auxiliary lanes. The frontage roads will require relocation outward in some sections to accommodate the widened section. As presented to you in the meeting, the draft typical sections for the ultimate widening reflect acquisition of ROW by ADOT for the proposed widening. If APS wishes to locate its new facility adjacent to I-17, ADOT will request that APS place the transmission line outside the future widened mainline and relocated frontage roads. Also, the 3rd bullet should reflect that the powerline is being examined on the west side between CAP and approximately Lone Mountain Road.

It appears that APS' construction schedule will precede ADOT's ROW acquisition and construction. Should APS desire to share ROW with ADOT, APS could plan to acquire an easement for the transmission line facilities that could be incorporated into ADOT's ultimate ROW. We look forward to continuing coordination and cooperation on our respective projects. Please let me know if you have questions or need additional information.

Sincerely,

Vincent W. Li

Vincent W. Li, P.E.

cc: John Louis, Steve Jimenez, Mary Viparina, Bruce Vana, Tami Wollaston: ADOT
Jackie Noblitt, Stanley Consultants

Arizona Governor's Award for Quality
2001 Award Recipient

United States Department of the Interior

BUREAU OF RECLAMATION
Phoenix Area Office
PO Box 81169
Phoenix, Arizona 85069-1169

IN REPLY REFER TO:

PXAO-4000 LND-5.00

Mr. Clark Van Epps
Director, General Services
Administration, Region IX
Phillip Burton Federal Building
450 Golden Gate Avenue, 4th Floor East
San Francisco, CA 94102-3400

AUG 28 2002

Subject: Disposal of Two Parcels of Surplus Reclamation Property – Arizona Public Service Land Sale – Agreement No. 3-07-32-L0387 between Reclamation and the General Services Administration (GSA) – Agua Fria River - Central Arizona Project (CAP)

Dear Mr. Van Epps:

In accordance with the subject agreement dated September 10, 1993, between Reclamation and GSA, we request that GSA dispose of the land described within in a manner most advantageous to the Government. The land is located in Peoria, Arizona, 3 miles south of the New Waddell Dam and Reservoir at the junction of the Agua Fria River and the Carefree Highway. The land was acquired to provide mineral materials for the construction of New Waddell Dam, and this 10 acre parcel is no longer required for project purposes. We also request that your office perform the appraisal for this site. This parcel is just a small part of approximately 579.35 acres which have been identified for sale in this area. Please find the enclosed Report of Excess Real Property (Standard Form 118) and Excess Property Checklist for information on the property. Arizona Public Service Company (APS) has initiated this land sale request for development of a new substation to service the northwest portion of the city. Mr. James W. Dugan, Senior Land Agent is the contact person for APS. You may reach Mr. Dugan at his office at 602-371-7948, or on his mobile phone at 602-684-4710.

Thank you for your assistance, and if you have any questions or require additional information, please contact Mr. Larry A. Koontz, of our Water and Lands Division, at 602-216-3852.

Sincerely,

Acting For Carol Lynn Erwin
Area Manager

Enclosures

cc: Mr. James W. Dugan, Senior Land Agent, Arizona Public Service Company, Mail Station: 3016, P.O. Box 53933, Phoenix, AZ 85072
Mr. David S. "Sid" Wilson, Jr., General Manager, Central Arizona Water Conservation District, P.O. Box 43020, Phoenix, AZ 85080
Attention: Ms. Sharon Hood

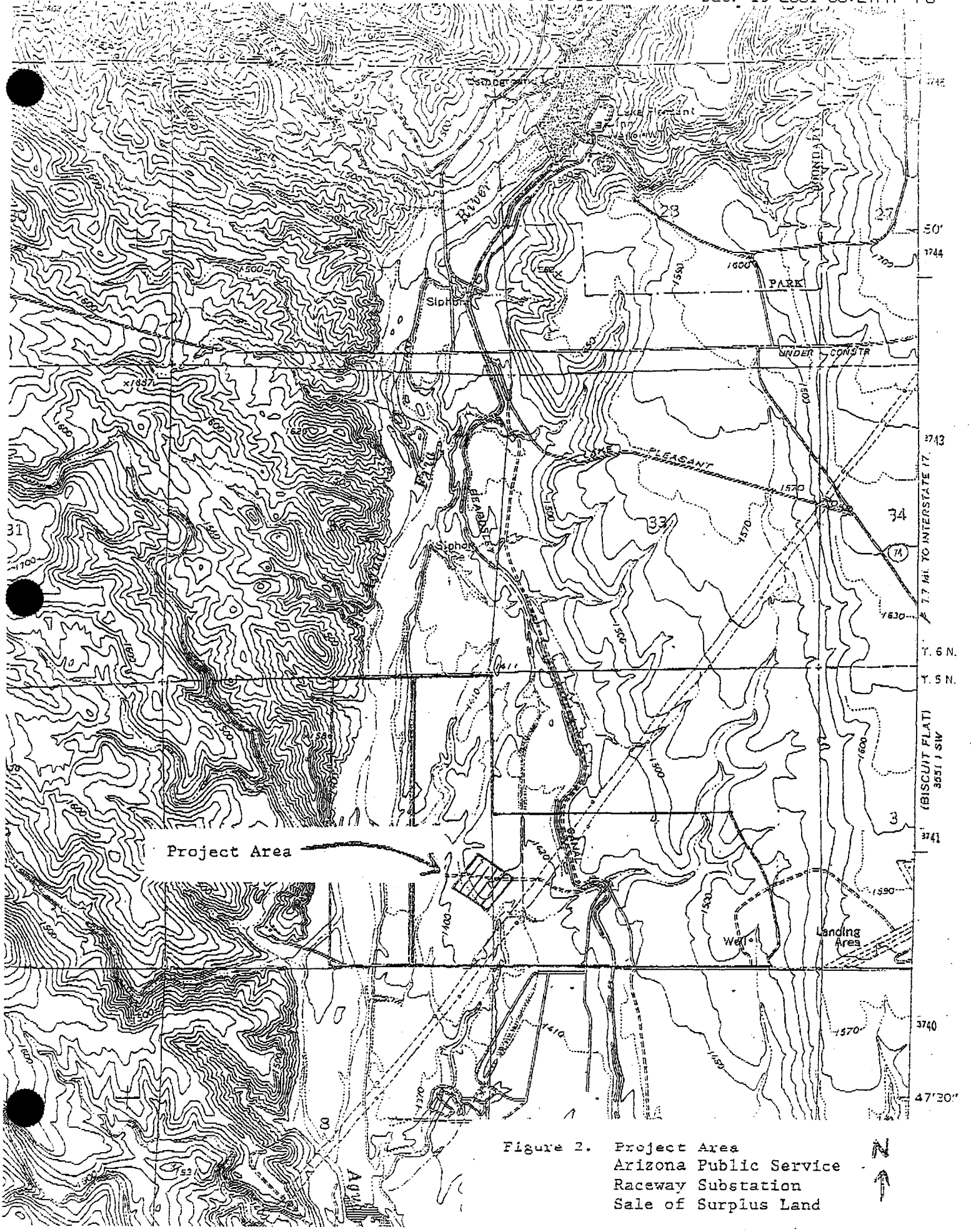


Figure 2. Project Area
Arizona Public Service
Raceway Substation
Sale of Surplus Land

N

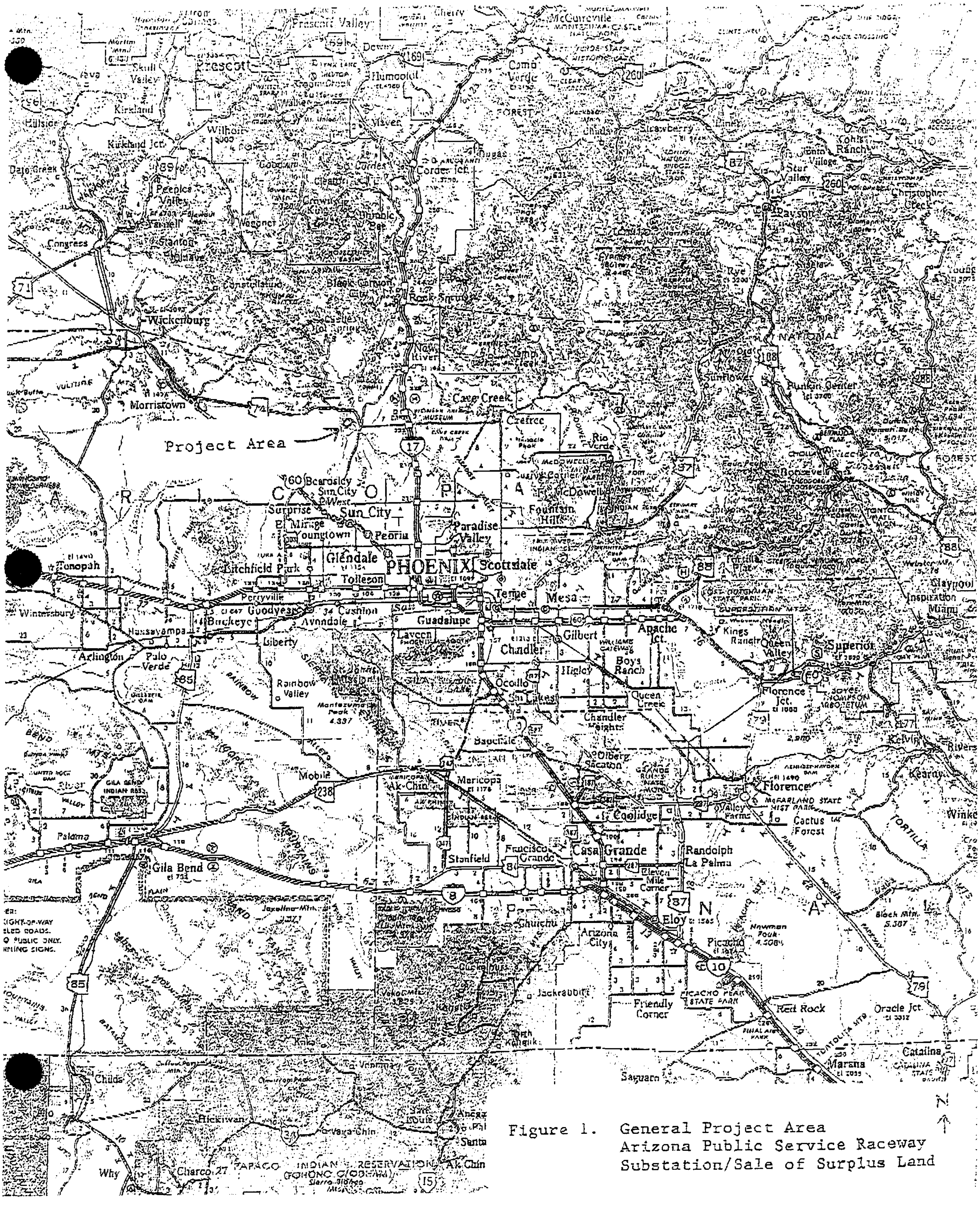


Figure 1. General Project Area
Arizona Public Service Raceway
Substation/Sale of Surplus Land

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department
Revised January 17, 1997

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.

Desert tortoises of the Sonoran population are those occurring 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 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 105 degrees fahrenheit unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to two miles, 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 105 degrees 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 Mohave population of desert tortoises (north and west of the Colorado River). Mohave 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.

RAC:NLO:rc

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
(602) 942-3000 • WWW.AZGFD.COM

GOVERNOR
JANE DEE HULL
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JOE MELTON, YUMA
DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL

November 5, 2002

Ms. Laurie A. Woodall, Chairman
Power Plant & Transmission Line Siting Committee
Office of the Attorney General
1275 West Washington
Phoenix, AZ 85007

RE: North Valley 230kV Facility Siting Project – Case No. 120
Application for a Certificate of Environmental Compatibility

Dear Ms. Woodall:

The Arizona Game and Fish Department (Department) has reviewed the Application for a Certificate of Environmental Compatibility (CEC) for the North Valley 230kV Facility Siting Project in north-central Maricopa County. We understand the proposed 230kV transmission lines and two substations will be constructed parallel to existing and approved utility corridors and transmission lines for approximately 27 miles of the 31-mile project route.

The Department notes that much of the project area has been previously disturbed by urban development, existing transmission lines, the Skunk Creek Landfill and I-17. These developments have reduced the value of the area to wildlife. To minimize potential impacts to wildlife resources, we recommend incorporating raptor protection practices on power line structures and keeping vegetation disturbance to a minimum, particularly in drainage channels and along streambanks. In addition, if Sonoran desert tortoises are encountered during construction, the Department recommends following the enclosed Guidelines For Handling Sonoran Desert Tortoises.

Thank you for the opportunity to review and comment on this CEC. Please contact me at (602) 789-3602 if you have any questions regarding this letter.

Sincerely,

John Kennedy
Habitat Branch Chief

JK:am

cc: Bob Broscheid, Project Evaluation Program Supervisor
Paul Trenter, Environmental Planning Group

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department
Revised January 17, 1997

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RAC:NLO:rc

"Managing and conserving natural, cultural, and recreational resources"

In reply, please refer to
SHPO-2002-1521 (12808)
general comments

Arizona State Parks

November 15, 2002

Laurie A. Woodall, Chairperson, Power Plant & Transmission Line Siting Committee
Assistant Attorney General, Environmental Enforcement Section,
Office of the Attorney General
1275 West Washington
Phoenix, Arizona 85007

RE: Proposed North Valley 230kV Transmission Line, Maricopa County, Arizona

Dear Ms. Woodall:

Thank you for having the committee's applicant (i.e., Arizona Public Services Co.) submit a copy of their application for a certificate of environmental compatibility. The proposed state plan entails the construction of approximately 31 miles of overhead utility lines and access roads as needed between three existing substations: Westwing, Raceway, and Pinnacle Peak. I reviewed the documents submitted and offer the following comments pursuant to the State Historic Preservation Act (i.e., A.R.S. § 41-861 to 41-864) and the committee's factors to be considered (i.e., A.R.S. § 40-360.06.A.5).

At this time, a proposed route and four alternative routes are being evaluated. Based on background research, all of the proposed routes cross portions of three archaeological districts: Calderwood Butte, New River Dam, and Cave Creek Dam, although the Proposed Route and Alternative Routes 1 & 2 occur along the north edge of the New River Dam Archaeological District, Alternative 4 crosses through the district following a modern canal. Overall, the estimated archaeological site density within the route corridors is similar. One known historic-period property, the Beardsley Canal, is also present in all of the corridors.

Based on the scoping-level identification efforts conducted to date, the five proposed routes exhibit similar, relatively moderate, levels of possible impacts to historic properties (i.e., any prehistoric or historic district, site, structure, object, or Traditional Cultural Place included in, or eligible for inclusion in the State or National Registers of Historic Places).

We look forward to reviewing a cultural resource survey for the selected route, so that we can make a detailed evaluation of the plan's impacts to historic properties. We appreciate the committee's cooperation with this office in considering the effects of state plans on cultural resources situated in Arizona. If you have any questions, please contact me at (602) 542-7137.

Sincerely,

Matthew H. Bilsbarrow, RPA
Compliance Specialist/ Archaeologist
Arizona State Historic Preservation Office

Jane Dee Hull
Governor

State Parks Board Members

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cc. Paul Trenter, Project Manager, EPG; 4350 E Camelback Rd, Ste G-200; Phoenix, AZ 85018

OVERSIZED MAP

APS

-North Valley 230kV Facility Siting Project Route Tour Map

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET L-00000D-02-0120-00000

NORTH VALLEY 230KV FACILITY SITING PROJECT
ITINERARY FOR PROPOSED ROUTE TOUR

November 25, 2002

The following itinerary describes the APS Proposed and Alternative 230kV transmission line routes as they originate at the Westwing Substation, proceed east to interconnect at the Raceway and proposed Avery and Misty Willow substations, and terminate at the Pinnacle Peak Substation.

Start of Tour
EMBASSY SUITES HOTEL
1515 NORTH 44TH STREET
PHOENIX, ARIZONA

The route tour will begin at the Embassy Suites Hotel at 1515 North 44th Street in Phoenix, Arizona. A pilot car will lead the route tour.

Point of Interest #1
WESTWING SUBSTATION AREA

From the Embassy Suites Hotel, go south on 44th Street to Highway 202. Go west on Highway 202 to I-10. Go west on I-10 to exit 133b at the north Loop 101. Go north on Loop 101 to exit 15 at Union Hills Road. Go west on Union Hills Road to 99th Avenue. Go north on 99th Avenue. Continue north on 99th Avenue as it turns to Lake Pleasant Road. Go north on Lake Pleasant Road to Jomax Road. Go west on Jomax Road. The Westwing Substation can be viewed to the west. The Proposed and Alternative Route alignments can be viewed following the Westwing transmission corridor on the east side of the existing structures as it leaves the Westwing Substation. Continue along Jomax Road to 107th Avenue (dirt road). Go south on 107th Avenue for approximately 1 mile to Hatfield Road. Go west on Hatfield Road through the Agua Fria River to Point of Interest #1 at the Westwing Substation. The Westwing Substation can be viewed from Point of Interest #1.

Point of Interest #2
THE BEARDSLEY CANAL AND THE WESTWING TRANSMISSION CORRIDOR

From Point of Interest #1, drive west around the south side of the Westwing Substation and north on the dirt road along the east side of a barbed wire fence. At the end of the dirt road, go east along the paved road to the Beardsley Canal. Follow the road along the Beardsley Canal to Point of Interest #2 at the Westwing transmission corridor. The Proposed and Alternative Route alignments can be viewed to the north and south along the east side of the existing structures.

Point of Interest #3
LAKE PLEASANT ROAD AND THE CAP

From Point of Interest #2 return to the Westwing Substation and go east along Hatfield Road to 107th Avenue. Go north on 107th Avenue to Jomax Road. Go east on Jomax Road to Lake Pleasant Road. Along Lake Pleasant Road, the Westwing transmission corridor is visible approximately 2.5 miles to the west. Go north on Lake Pleasant Road approximately 2.7 miles to Point of Interest #3 at Lake Pleasant Road and the CAP. Alternative Route 4 can be viewed from the Westwing transmission corridor east along the CAP to I-17.

Point of Interest #4
LAKE PLEASANT ROAD AND THE DOVE VALLEY ROAD ALIGNMENT

From Point of Interest #3, go north for approximately ¼ mile to Point of Interest #4 at Lake Pleasant Road and the Dove Valley Road alignment. The Proposed Route can be viewed from the Westwing transmission corridor along the Dove Valley Road alignment to the proposed Avery Substation.

Point of Interest #5
RACEWAY SUBSTATION

From Point of Interest #4, continue north along Lake Pleasant Road to the Old Carefree Highway. Turn west on the Old Carefree Highway towards the Turf Soaring School, Canyon Raceway, and Cowtown. Follow the Old Carefree Highway west across the Waddell Canal. The Westwing transmission corridor is visible to the west. Go right immediately after the Beardsley Canal on the APS Raceway Substation Road. Continue along this road to Point of Interest #5 at Raceway Substation. The Raceway Substation can be viewed from Point of Interest #5.

Point of Interest #6
DOVE VALLEY ROAD ALIGNMENT SOUTH OF HIGHWAY 74/CAREFREE HIGHWAY

From Point of Interest #5, go east to the APS Raceway Substation Road, over to the Old Carefree Highway. Go east along the Old Carefree Highway to Lake Pleasant Road. Go north on Lake Pleasant Road for approximately 4/10 mile to the Highway 74/Carefree Highway intersection. Go east on Highway 74/Carefree Highway across New River for approximately 2.1 miles to a cattle guard. Go south immediately after the cattle guard through a barbed wire gate. Continue south along the east side of the fence for approximately 1 mile to Point of Interest #6 at the Dove Valley Road alignment. The Proposed Route can be viewed east and west along this alignment.

Point of Interest #7
I-17 AND THE JOY RANCH ROAD ALIGNMENT

From Point of Interest #6, go north to the Highway 74/Carefree Highway. Go east on Highway 74/Carefree Highway to I-17. Go north on I-17 to exit 225 at Pioneer Road. Go west on Pioneer Road. Follow Pioneer Road as it goes west and turns north along existing 69kV self-weathering corten steel poles. Go north along Pioneer Road to Point of Interest #7, at the Joy Ranch Road alignment where Pioneer Road turns to the west along existing 69kV galvanized steel poles. Alternative Route 3 can be viewed east along the Joy Ranch Road alignment parallel to the 69kV galvanized steel poles to the self-weathering corten poles and south along the west side of I-17. The 69kV poles currently on the west side of I-17 would be removed and the circuits would be underbuilt on the 230kV structures.

Point of Interest #8
I-17 WEST FRONTAGE ROAD AND DYNAMITE BOULEVARD

From Point of Interest #7, drive south and east on Pioneer Road to I-17. Go south on I-17. The Dove Valley Road alignment is approximately 1 mile south of Highway 74/Carefree Highway. The proposed Avery Substation is approximately ½ mile west of I-17 on the Dove Valley Road alignment. Approximately 1 mile south of the Dove Valley Road alignment (where the existing 69kV line crosses I-17), the Proposed Route and alternatives would come from the west on a diagonal to I-17, where they would parallel the west side of I-17 to the CAP. Go south on I-17 to exit 218 at Happy Valley Road. From the CAP south to the Happy Valley transmission corridor, the Proposed Route and Alternative Route 3 would parallel the west side of I-17. Alternative Route 1 would cross I-17 and parallel the east side of I-17 south to the Happy Valley transmission corridor. Alternative routes 2 and 4 would cross I-17 and parallel the CAP southeast to the Happy Valley transmission corridor. Go west on Happy Valley Road across I-17. Go north on the I-17 west frontage road. The west frontage road is the turn after the I-17 north entrance ramp. The Skunk Creek Landfill can be seen to the west of the frontage road. The Proposed Route will go north along the east side of the Skunk Creek Landfill to the south side of Skunk Creek (approximately ¼ mile west of the I-17 west frontage road on the 29th Avenue alignment). South of Skunk Creek, the Proposed Route will turn northeast to the frontage road, span Skunk Creek, and continue along the I-17 west frontage road. Go north along the I-17 west frontage road to Dynamite Boulevard. Go west on Dynamite Boulevard to Point of Interest #8 under the 69kV subtransmission lines at the I-17 west frontage road and Dynamite Boulevard. The Proposed Route can be viewed to the north and south. The existing 69kV poles would be removed and the circuits would be underbuilt on the proposed 230kVstructures.

Point of Interest #9
I-17 WEST FRONTAGE ROAD AND THE BISCUIT FLAT SUBSTATION

From Point of Interest #8, go north along the I-17 west frontage road to Point of Interest #9 at the Biscuit Flat Substation. Biscuit Flat is a 69/12kV substation. No interconnection will be made to this substation. The Proposed and Alternative routes can be viewed north along the west side of

I-17 past the Biscuit Flat Substation. Alternative routes 1, 2, and 4 can be viewed across I-17 from the east at this point and north along the west side of I-17 to the proposed Avery Substation. Alternative Route 4 can be viewed west along the CAP at this location.

Point of Interest #10
I-17 EAST FRONTAGE ROAD AND USAA PARKING GARAGE

From Point of Interest #9, drive south on the I-17 west frontage road to Happy Valley Road. Go east across I-17 on Happy Valley Road to the turnabout. Go north on the I-17 east frontage road. The east frontage road is the turn with the "Dead End" sign before the I-17 on-ramp. Go north on the frontage road to a gravel road immediately south of the USAA parking garage to Point of Interest #10. The USAA development is planned for an area north of Happy Valley Road and east of I-17. Alternative 1 can be viewed from the Happy Valley transmission corridor north along the east side of I-17 and west of the USAA development.

Point of Interest #11
I-17 EAST FRONTAGE ROAD AND CAP

From Point of Interest #10, go north along the I-17 east frontage road to Point of Interest #11 at the north side of the CAP. Alternative Route 1 can be viewed south along the I-17 east frontage road and across I-17 at the CAP to the west. Alternative routes 2 and 4 can be viewed along the CAP from the east and across I-17 at this point. Alternative Route 4 can be viewed west along the CAP.

Point of Interest #12
CAP AND HAPPY VALLEY ROAD

From Point of Interest #11, follow the pilot car southeast along the north side of the CAP. Alternative routes 2 and 4 (located on the north side of the CAP fence line) can be viewed along the CAP from I-17 to the Happy Valley transmission corridor. Follow the CAP to Point of Interest #12 at the CAP and Happy Valley Road. The proposed Misty Willow Substation can be viewed south of the Happy Valley transmission corridor and west of the CAP. The Proposed and Alternative routes can be viewed on the north side of the Happy Valley transmission corridor.

Point of Interest #13
CAVE CREEK ROAD AND HAPPY VALLEY TRANSMISSION CORRIDOR

From Point of Interest #12, go east on Happy Valley Road. Follow Happy Valley Road as it curves south and turns into 7th Street. Go south on 7th Street under the Happy Valley transmission corridor to Pinnacle Peak Road. Go east on Pinnacle Peak Road and follow it as it curves to the north and east to Cave Creek Road. Go north on Cave Creek Road to Point of

Interest #13 at the Happy Valley transmission corridor. The Proposed and Alternative routes can be viewed along the north side of the corridor.

Point of Interest #14
PINNACLE PEAK SUBSTATION

From Point of Interest #13, go south on Cave Creek Road to Pinnacle Peak Road. Go east on Pinnacle Peak Road to Point of Interest #14 at the Pinnacle Peak Substation. The Pinnacle Peak Substation can be viewed from Point of Interest #14.

The Proposed and Alternative routes can be viewed from the Pinnacle Peak Substation following two 230kV lines to the northeast to the Happy Valley Road transmission corridor (approximately ¼ mile south of the Happy Valley Road alignment) then turning east. The route tour ends at the Pinnacle Peak Substation on the north side of Pinnacle Peak Road, approximately 1 mile west of Scottsdale Road.

8

NORTH VALLEY 230kV PROJECT
NOISE STUDY REPORT
November 2002

Summary of Predicted and Measured Audible Noise for Proposed NV 230 kV Line

Introduction

This document provides a more detailed write up of the expected audible noise levels for the proposed line. In addition, some measurements of audible noise along the proposed right-of-way are presented for comparison purposes. The results show that the audible noise generated by the proposed line will be well below the existing noise levels along the proposed right-of-way. The noise levels are also significantly below the levels which tend to generate complaints. Consequently, no audible noise problems due to this line are expected.

Background

Estimation and modeling of anticipated noise is based on many factors which can vary from one point in time to another. In particular, foul weather has a negative impact on audible noise and periods of rain will generally result in higher noise emissions from the transmission lines. However, the noise inherent with rain and storms has a masking effect on the noise. Even in fair weather the noise generated by a transmission line can vary. Consequently, the calculation of sound levels are generally reported in statistical terms. That is, a calculated decibel level is associated with a given percent of the time that the noise is expected to be higher or lower than the given value. The standard values generated by noise calculation software are as follows:

Fair Weather L50 - This is the calculated noise level which is not expected to be exceeded 50% of the time during fair weather.

Foul Weather L5 - This is the calculated noise level that is not expected to be exceeded 95% of the time during foul weather.

Foul Weather L50 - This is the calculated noise level that is not expected to be exceeded 50% of the time during foul weather. In general, this is the quantity that is used in the industry to quantify and compare transmission line audible noise levels.

Ldn - This is the sound energy averaged over a 24 hour period with a 10 dB nighttime weighting penalty from the hours of 10 p.m. to 7 a.m..

Other parameters are also defined and sometimes are used.

There are various calculation methods which are available to predict the noise levels associated with transmission lines. The particular program used for the Exhibit I results was the ACDC Line program which is part of the EPRI Transmission Line Workstation. This particular program has six different methods by which the audible noise is calculated and can be compared. The two major methods available are as follows:

1. HVTRC Method - This is a noise calculation method which was developed at the EPRI High Voltage Test and Research Center. The results are pessimistic compared with the other methods reported (that is, the results with this method give higher noise

levels than other methods). The results in Exhibit I are taken from the HVTRC method and therefore predict higher sound levels than other methods of calculation.

2. BPA Method - This is a method based on research done in the past by the Bonneville Power Administration. Noise levels based on this method are generally lower than by the HVTRC method. This method is used throughout the industry.

The following general guidelines come from past Exhibit I documentation or from the EPRI Red Book.

1. Normal ambient noise levels in the open desert are in the range of 43 to 52 dB(A) with a typical value of 50 dB(A). -- From past Exhibit I documentation.
2. The probability of receiving complaints from transmission line noise breaks down into the following ranges: Below 52 to 53 dB(A) - Low or no complaints, Between 52 and 58 dB(A) - Moderate or some complaints, Above 58 dB(A) - High or numerous complaints. -- From the EPRI Red Book.
3. EPA noise guidelines specify an Ldn level of 55 dB(A) for outside annoyance and 45 dB(A) for inside annoyance. These are not standards, but merely guidelines.

Table 1 shows the expected (calculated) transmission line noise levels for various sections of the proposed line siting locations. In addition, the table shows noise levels measured in the vicinity of representative locations along the route.

Table 1 – Calculated Expected Noise Levels at Edge of ROW

Distance from Center	Calculated L50 Fair (HVTRC)	Calculated L50 Foul (HVTRC)	Measured Noise (Fair)
Line Section 1 75 Feet from center	44.6 dB(A)	53.2 dB(A)	43 dB(A)
Line Section 2 50 feet from center	12.5 dB(A)	24.9 dB(A)	42.0 dB(A)
Line Section 3 50 feet from center	12.5 dB(A)	24.9 dB(A)	63.5 dB(A)
Line Section 4 75 feet from center	10.4 dB(A)	23.2 dB(A)	42 dB(A)

From Table 1 the following is seen:

1. In the section of line that parallels the existing 500 kV corridor, the audible noise due to the existing lines is essentially the same level as is expected with the new 230 kV line added. Thus, no differences in noise level are expected between the present day system and the system with the proposed 230 kV line.
2. The expected noise level in Section 2 of the line (East/West portion which runs to the proposed Avery Substation) is very low even under the adverse (foul weather) conditions. It is not expected that any noise will be audible in this section of the line. Note that existing measurements gave noise levels in the range of 42 dB(A) compared with expected worst case levels of just under 25 dB(A). The existing noise levels are due to background noise such as traffic on the interstate, wind, birds, etc...

3. The expected noise levels in Section 3 of the line (North/South portion along I-17) are the same as in Section 2 of the line. Again, these are very low levels. Currently existing sound levels are in the range of 63 – 64 dB(A) which is significantly higher than the expected transmission line noise. The high noise levels measured in this area are due to the traffic on the adjacent freeway.
4. Expected noise levels in Section 4 of the line (East/West portion east of the freeway) are slightly lower than in Sections 2 and 3 of the line. Actual measurements of existing noise along this portion of the existing 230 kV lines shows sound levels in the range of 42 dB(A).

The above points illustrate that the proposed transmission line will not generate audible noise levels that will be noticed above the existing noise in the area. It is recognized that the predicted noise levels are statistically based and the measured noise levels being compared are spot measurements and perfect correlation is not expected. However, the comparison is provided to illustrate and give a feeling for the noise levels existing and expected.

In addition to making noise measurements in the various sections of proposed line right-of-way, spot measurements of the audible noise near two existing 230 kV transmission lines similar to the one being proposed were made. Inasmuch as it is impossible to measure just the transmission line noise without the surrounding background noise, these measurements don't isolate the transmission line noise. Indeed, while making the measurements, no discernable noise was heard emanating from the transmission lines and therefore the given noise levels are primarily background noise. The measured values of noise are given as follows:

Location 1: Along the Westwing – Deer Valley 230 kV line in the area of 35th Avenue and Behrend Ave: 60 dB(A). This level was affected primarily by traffic on adjacent roads and highways as well as due to the wind. No discernable transmission line noise was audible.

Location 2: Along the canal bank between 35th Avenue and 43rd Avenue just North of Dunlap: 46 dB(A). These noise levels were affected primarily by wind, traffic on 35th Ave, and barking dogs in the neighborhood. No discernable transmission line noise was audible.

Douglas A. Selin
AZ P.E. #23279
Arizona Public Service Co.

9

NORTH VALLEY

230kV TRANSMISSION LINE PROJECT

ECT

Arizona Public Service

Arizona Power Plant and Transmission Line Siting Committee of the Arizona Corporation Commission
and
Arizona State Land Department

Environmental Planning Group
4350 E. Camelback Road, Suite G200
Phoenix, Arizona 85018

EPG Cultural Resource Services Technical Report [illegible]

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OCTOBER 2002

A CULTURAL RESOURCE SURVEY FOR THE NORTH VALLEY 230kV TRANSMISSION LINE PROJECT MARICOPA COUNTY, ARIZONA

Prepared for

Arizona Public Service

For submittal to

Arizona Power Plant and Transmission Line Siting Committee of the Arizona Corporation Commission
and
Arizona State Land Department

Prepared by

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EPG Cultural Resource Services Technical Paper No. 2002-16

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October 2002

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ABSTRACT

Project Title: North Valley 230kV Transmission Line Project

Report Title: A Cultural Resource Survey for the North Valley 230kV Transmission Line Project, Maricopa County, Arizona

Report Date: October 2002

Agencies: Arizona Power Plant and Transmission Line Siting Committee of the Arizona Corporation Commission and the Arizona State Land Department

Permit Number: Arizona State Museum (ASM) Blanket Permit No. 2002-24bl

Project Number: Environmental Planning Group (EPG) Job Number 1073

Project Description: Arizona Public Service (APS) is proposing to develop the North Valley Project, which includes double circuit 230kV transmission lines, three interconnections to existing 230kV substations, and two new 230kV substations in north-central Maricopa County. The proposed route would connect the existing Westwing and Pinnacle Peak substations and the proposed Avery and Misty Willow substations, crossing privately owned land and land owned by the Arizona State Land Department (ASLD). The project is part of long-range planning efforts to develop a 230kV system in this area that is sufficient to accommodate existing and future development in the area.

Acreage: The surveyed area consisted of 1,243 acres, 242 acres of which is privately owned and 1,001 acres of which is owned by the ASLD.

Location and Jurisdiction: The proposed route originates at the Westwing Substation and proceeds to the northeast paralleling two 500kV transmission lines and a 230kV transmission line to the Raceway Substation. The route then turns southwest to the Dove Valley alignment and proceeds east along the Dove Valley alignment to a point approximately ½ mile west of I-17, at the proposed Avery Substation. From the proposed Avery Substation, the route extends south for approximately 1 mile adjacent to 39th Avenue, then turns to the southeast towards I-17. The proposed route then parallels the west side of I-17 south of the Happy Valley corridor, where the proposed route turns to the east and parallels a 230kV transmission line, interconnects with the proposed Misty Willow Substation, and continues east terminating at the existing Pinnacle Peak Substation.

The project is within Sections 7, 8, 9, and 10, Township 4 North, Range 4 East (Curry's Corner); Sections 1, 2, 3, 4, 5, and 6, Township 4 North, Range 3 East (Union Hills); Section 2, Township 4 North, Range 2 East (Union Hills); Sections 7, 8, 9, 10, 15, 17, 22, and 23, Township 5 North, Range 2 East (Biscuit Flat); Section 26, Township 5 North, Range 2 East (New River); Section 35, Township 5 North, Range 2 East (Hedgepeth Hills); Sections 4, 8, 9, 10, 16, 17, 19, and 30, Township 5 North, Range 1 East (Baldy Mountain); Sections 10, 11, 12, 13, 14, and 15, Township 5 North, Range 1 East (Biscuit Flat); Sections 25 and 36, Township 5 North, Range 1 West (Calderwood Butte); and Sections 1 and 12, Township 4 West, Range 1 West (Calderwood Butte). The route is depicted on the Curry's Corner, Union Hills, Biscuit Flat, Baldy Mountain, and Calderwood Butte 7.5-minute U.S. Geologic Survey (USGS) topographic quadrangles.

Personnel and Dates of Fieldwork:

The detailed class I records review in support of the proposed project was conducted on February 5 through 9, 12 through 14, 23, and 27 and March 1 and 2 by Marci Adamson. Glennda Luhnow, RPA, directed the fieldwork and was assisted by field-crew members Alan Kirkland, Victoria Webdale, Karin Rebnegger, and Kim Ryan. Kris Dobschuetz served as principal investigator. Glenn Darrington served as senior reviewer. The fieldwork was conducted from June 24 through 28 and July 1 through 3, 8 through 12, and 15 through 18. A total of 64 person-days of effort were devoted to fieldwork.

Register-eligible Properties:

AZ T:3:55 (ASM)	Beardsley Canal
AZ T:4:131 (ASM)	Black Canyon Road
AZ T:7:192 (ASM)	(in Calderwood Butte Archaeological District)
AZ T:3:274 (ASM)	
AZ T:3:1 (MNA)	
AZ T:3:2 (MNA)	
AZ T:3:264 (ASM)	

Register-ineligible Properties:

AZ T:8:166 (ASM)	
AZ T:8:167 (ASM)	
AZ T:7:276 (ASM)	
AZ T:4:374 (ASM)	
AZ T:4:375 (ASM)	
AZ T:8:104 (ASU)	(destroyed)

AZ U:5:72 (ASU)
AZ U:5:73 (ASU)

Recommendations: The intensive pedestrian survey in support of the proposed APS North Valley Project identified a total of 89 isolated occurrences (IOs), 6 newly recorded cultural sites, 7 previously recorded sites, and 2 historic structures within the area of potential effect (APE). Newly recorded sites identified by survey are: AZ T:8:166 (ASM), AZ T:8:167 (ASM), AZ T:4:374 (ASM), AZ T:7:276, AZ T:4:375 (ASM), and AZ T:3:274 (ASM). Of these sites, only AZ T:3:274 (ASM) is considered to be eligible for inclusion on the National Register of Historic Places (NRHP) under Criterion D for its potential to yield information about prehistoric agricultural and land-use strategies along the Agua Fria River. It may be possible to avoid this site by spanning.

Seven sites were identified by class I records review as occurring in the APE of the proposed project. These sites are AZ T:7:192 (ASM), AZ T:3:264 (ASM), AZ T:3:1 (MNA), AZ T:3:2 (MNA), AZ T:8:104 (ASU), AZ U:5:72 (ASU), and AZ U:5:73 (ASU).

Sites AZ T:3:1 (MNA), AZ T:3:2 (MNA), AZ T:3:264 (ASM), and AZ T:7:192 (ASM), are situated either within or immediately adjacent to the APE, and had not been previously evaluated for NRHP eligibility. These sites were revisited and assessed for eligibility during field survey. All of these sites are located in the extreme western portion of the proposed project and are depicted on the Baldy Mountain and Calderwood Butte 7.5-minute USGS topographic quadrangles, and all are considered to be eligible for inclusion on the NRHP under Criterion D for their potential to yield information regarding prehistoric agricultural practices, land-use strategies, trade, and settlement patterns along the Agua Fria River. It may be possible to avoid these sites by spanning.

Site AZ T:8:104 (ASU) is situated in the APE of the proposed project. It is described as a small sherd concentration. The site had been previously evaluated as not eligible for the NRHP. This site location was revisited but the site could not be relocated. Extensive disturbance in the area for erosion control has likely resulted in the destruction of this site.

Sites AZ U:5:72 (ASU) and AZ U:5:73 (ASU) are situated immediately adjacent to the APE or the proposed project. Both sites are described as small sherd scatters. These sites were previously evaluated as not eligible for the NRHP. These site locations were revisited but the sites could not be relocated. Extensive disturbance of both locations in conjunction with

the construction of the existing transmission corridor has likely resulted in the destruction of both of these sites.

The proposed transmission line crosses three areas of archaeological interest: (1) the Calderwood Butte Archaeological District, (2) New River Archaeological District, and (3) Cave Creek Archaeological District. These areas represent zones of high archaeological potential that can be found in many localities across the northern margins of the Phoenix Basin. The New River Archaeological District and the Cave Creek Archaeological District are determined eligible for listing on the NRHP. The Calderwood Butte Archaeological District is on the Arizona Sate Inventory. Transmission corridors are already in place in the viewshed of these districts. The proposed transmission corridor would follow these existing corridors throughout the majority of the project area. Any additional impacts will be reduced because of the proximity to existing structures.

In addition, two historic structures were identified by class I records review and pedestrian survey. These properties are AZ T:4:131 (ASM), the Black Canyon Road, and AZ T:3:55 (ASM), the Beardsley Canal. Both of these are recommended as eligible for inclusion on the NRHP as they occur in the proposed project area. Black Canyon Road has the potential to provide information on early transportation within Maricopa County, whereas the Beardsley Canal has the potential to provide information on early agriculture and development in the West Valley. Based on the size of these sites, however, through careful planning it should be possible to avoid these sites by spanning them.

Due to the large size of site AZ T:7:192 (ASM) and the archaeological sensitivity, it is our recommendation that the three loci identified in the APE be spanned and that an archaeologist be present to monitor construction activities within the site boundaries.

If, however, avoidance of those sites that are recommended as eligible for inclusion on the NRHP is not possible, a mitigation plan should be developed in conjunction with the ASLD and Arizona State Historic Preservation Office (SHPO) and implemented prior to project construction.

If human remains or funerary objects are discovered during construction of the proposed project on state or private lands, all work in the area should cease and the finding reported to the director of the Arizona State Museum in accordance with Arizona Revised Statutes §41-844 and §41-865.

A CULTURAL RESOURCE SURVEY FOR THE NORTH VALLEY 230kV LINE TRANSMISSION PROJECT MARICOPA COUNTY, ARIZONA

INTRODUCTION

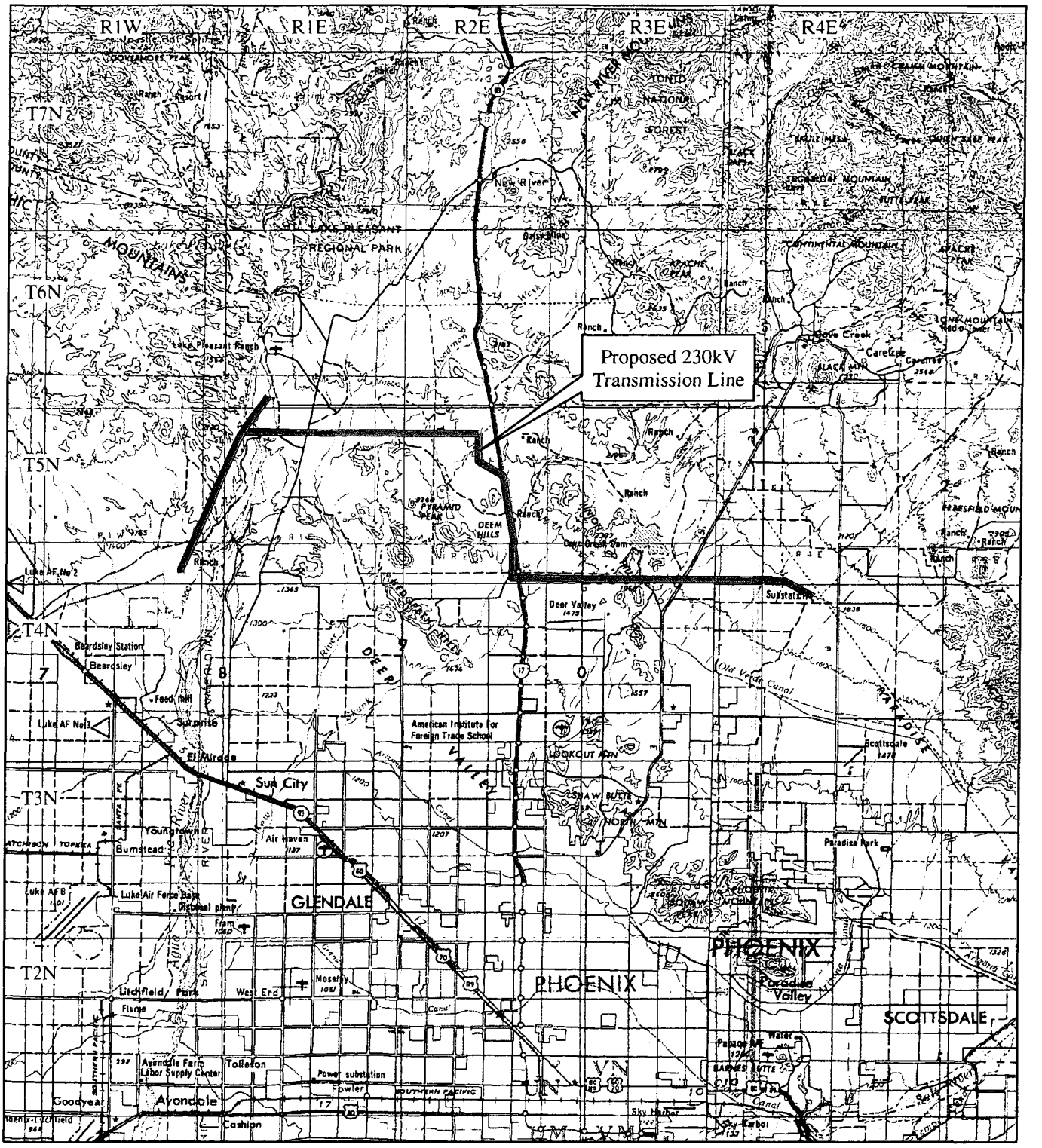
APS retained EPG to conduct a cultural resources survey of the proposed route for the North Valley 230kV Transmission Line Project (Figure 1). These studies are intended to assist the ASLD and the Arizona Corporation Commission in compliance with the Arizona State Historic Preservation Act.

Project Description

APS is proposing to develop the North Valley Project, which includes double circuit 230kV transmission lines, three interconnections to existing 230kV substations, and two new 230kV substations in north-central Maricopa County. The proposed route would connect the existing Westwing and Pinnacle Peak substations and the proposed Avery and Misty Willow substations, crossing privately owned land and land owned by the ASLD. The project is part of long-range planning efforts to develop a 230kV system in this area that is sufficient to accommodate existing and future development in the area.

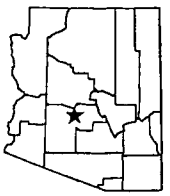
Project Location

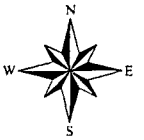
The proposed route originates at the Westwing Substation and proceeds to the northeast paralleling two 500kV transmission lines and a 230kV transmission line to the Raceway Substation. The route then turns southwest to the Dove Valley alignment and proceeds east along the Dove Valley alignment to a point approximately ½ mile west of I-17, at the proposed Avery Substation. From the proposed Avery Substation, the route extends south for approximately 1 mile adjacent to 39th Avenue, then turns to the southeast towards I-17. The proposed route then parallels the west side of I-17 south of the Happy Valley corridor, where the proposed route turns to the east and parallels a 230kV transmission line, interconnects with the proposed Misty Willow Substation, and continues east terminating at the existing Pinnacle Peak Substation.

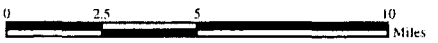


★ Project Location

Proposed 230kV Transmission Line







m:/projects/aps/ncp/cec/mxds/figure1.mxd August 27, 2002

General Project Location

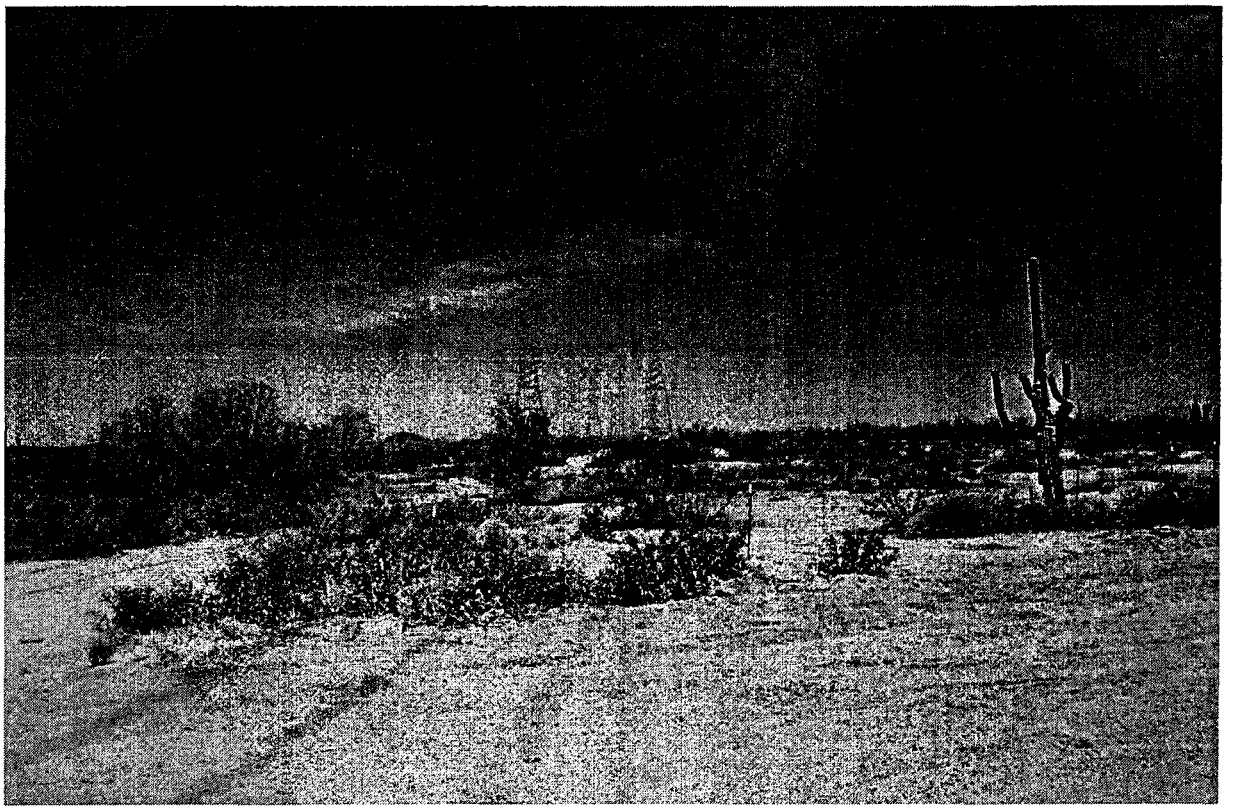
Figure 1

Sources:

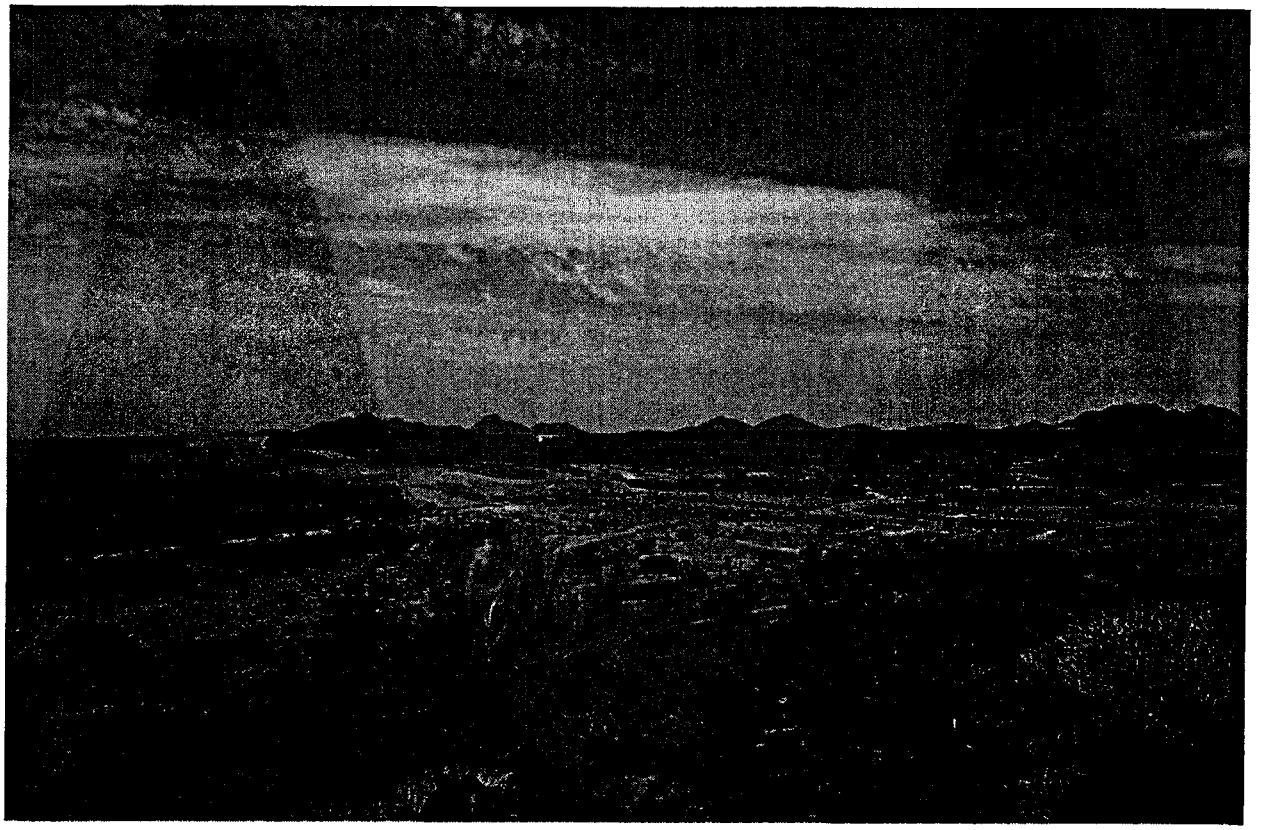
United States Geological Survey (USGS), Phoenix, AZ (1969), Mesa, AZ (1978), 1:250,000-scale topographic maps.

The project is within Sections 7, 8, 9, and 10, Township 4 North, Range 4 East (Curry's Corner); Sections 1, 2, 3, 4, 5, and 6, Township 4 North, Range 3 East (Union Hills); Section 2, Township 4 North, Range 2 East (Union Hills); Sections 7, 8, 9, 10, 15, 17, 22, and 23, Township 5 North, Range 2 East (Biscuit Flat); Section 26, Township 5 North, Range 2 East (New River); Section 35, Township 5 North, Range 2 East (Hedgepeth Hills); Sections 4, 8, 9, 10, 16, 17, 19, and 30, Township 5 North, Range 1 East (Baldy Mountain); Sections 10, 11, 12, 13, 14, and 15, Township 5 North, Range 1 East (Biscuit Flat); Sections 25 and 36, Township 5 North, Range 1 West (Calderwood Butte); and Sections 1 and 12, Township 4 West, Range 1 West (Calderwood Butte). The route is depicted on the Curry's Corner, Union Hills, Biscuit Flat, Baldy Mountain, and Calderwood Butte 7.5-minute U.S. Geologic Survey (USGS) topographic quadrangles.

Photographs 1 and 2 show an overview of the project location.



Photograph 1
Overview of project area looking east.



Photograph 2
Overview of project area looking west.

Scope of Survey

Approximately 31 linear miles encompassing approximately 1,243 acres were surveyed in support of the North Valley Project. Listed below are the surveyed areas:

- 100-foot corridor between the existing transmission line and existing pipeline corridor and a 250-foot corridor north of the existing pipeline corridor between Pinnacle Peak Substation and I-17, a distance of 10 linear miles

- 250-foot corridor adjacent to existing Arizona Department of Transportation (ADOT) right-of-way on the west side of I-17

- 500-foot corridor between I-17 and Central Arizona Project (CAP) Reach 9, a distance of 11 linear miles

- 250-foot corridor on the east side of the existing transmission corridor between the Raceway and Westwing substations, a distance of 7 linear miles

A crew of four conducted the class III intensive pedestrian survey on June 24 through 28, and July 1 through 3, 8 through 12, and 15 through 18. A total of 68 person-days of effort were devoted to fieldwork. Glennda Luhnow served as field director for the project and was assisted by crew members Karin Rebnegger, Victoria Webdale, and Alan Kirkland. Kris Dobschuetz served as principal investigator for the study. Glenn Darrington served as senior reviewer.

ENVIRONMENTAL SETTING

Although environmental factors do not necessarily determine the course of human events, they do create a stage on which societies play out their histories. Environment affects the actions and interactions of all human groups. Thus, it is important to characterize the local environment as a background for the summary of local cultural history.

The North Valley Project is located in the northern margin of the Phoenix Basin (see Figure 1). The project area is bounded by the Hieroglyphic Mountains to the west, New River Mountains to the north, Deem and Hedgpeth hills to the south, and McDowell Mountains to the east. This area is located within the Basin and Range physiographic province of interior western North America (Chronic 1983). This province is characterized by north-south tending mountain ranges separated by deep, wide valleys.

Climate

The project area is contained within the Sonoran Desert environmental region. Local climate is hot and very dry. The mean winter temperature recorded at the local Deer Valley Weather Station is 11 degrees Celsius (52 degrees Fahrenheit), and the mean summer temperature recorded is 31 degrees Celsius (88 degrees Fahrenheit). Average mean precipitation recorded at the Deer Valley Weather Station for both winter and summer is 70 millimeters.

Native Flora and Fauna

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region. This region is commonly associated with desertscrub species of flora, the modern distribution of which occurred 8,000 to 9,000 years before present during drought conditions associated with the early Holocene transition (Brown 1994). The project area is located in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Brown 1994).

As a result of high temperatures and low precipitation, the Lower Colorado River Valley is considered to be the largest and driest subdivision of the greater Sonoran Desert. In open landscapes, the local vegetation community is dominated by desert saltbush (*Atriplex* spp.), creosotebush (*Larrea tridentata)*, saguaro (*Carnegiea gigantea*), diamond cholla (*Opuntia ramossima),* teddy bear cholla (*Opuntia bigelovii*), chainfruit cholla (*Opuntia fulgida),* brittlebush (*Encelia farinosa),* and white bursage (*Ambrosia dumosa).*

Along washes, small trees such as ironwood (*Olneya tesota*), mesquite (*Prosopis* spp.), cat-claw acacia (*Acacia greggii*), and paloverde *(Cercidium* spp.) are found. Animals associated with this subdivision include mule deer (*Odocoileus hemionus crooki*), coyote (*Canis latrans)*, black-tailed jackrabbit (*Lepus californicus)*, desert cottontail (*Sylvilagus audoboni*), and a variety of small rodents, lizards, and snakes.

Terrain

Three types of desert terrain characterize the project area: bajada flats, alluvial plains, and mountains.

Of these, bajada flats are the most commonly encountered type of desert terrain in the project area. The term "bajada" refers to the alluvial apron at the base of elevated landforms. Bajadas occur between level alluvial plains and the base of mountains. Soils associated with bajadas are most generally coarse, gravelly, and well-percolated. Often the transition between the alluvial plain and bajada is delineated only by soil type and vegetation (Olin 1994). Cholla and other cacti are commonly associated with this environmental region.

The alluvial plain is the second most commonly encountered type of desert terrain in the study area. The alluvial plain is characteristically flat with little to no relief and is crosscut by ephemeral washes and rivers. Soils are generally fine-grained and range from silty to sandy. Creosotebush is commonly associated with this environmental region (Olin 1994).

Desert mountains are encountered only in a small portion of the western study area, where the transmission corridor crosses the eastern foothills of the Hieroglyphic Range. In the Sonoran Desert, this type of terrain is typically block-faulted or volcanic in origin (Olin 1994). They are generally low-lying and surrounded by the alluvial fill of the bajada zone. Desert mountains are generally poorly hydrated and exhibit rugged relief due to runoff.

Hydrology

The hydrology of the study area is extensive. The Agua Fria River, a major tributary of the Gila River, is a north-south tending drainage that flows through the western portion of the study area. The Agua Fria likely contained water year-round prehistorically and historically. The New River, a tributary of the Agua Fria, is a northeast-southwest tending drainage that flows through the

central portion of the study area. The New River may have flowed year-round prehistorically and historically. Skunk Creek, an intermittent tributary of the New River, flows through the south-central portion of the study area and likely was a good water source after storms. Cave Creek, an intermittent tributary of the Salt River, is a major seasonal water source located in the eastern portion of the study area.

CULTURE HISTORY

The culture history of central Arizona has been divided into four primary eras that very broadly equate with changing human adaptations. These include the Paleoindian (10,000 BC to 7500 BC), Archaic (7500 BC to AD 500), Formative (AD 500 to AD 1500), and Ethnohistoric (AD 1500 to AD 1950). Detailed discussions of these cultural traditions may be found in several regional studies that have been conducted (e.g., Crown and Judge 1991; Hackbarth 1998b; Reid and Whittlesey 1997; Rogge and Darrington 2000). The following sections present a brief overview of these periods as they are currently understood.

Paleoindian Period (10,000 BC to 7500 BC)

The earliest occupation in the region is known as the Paleoindian Period. Groups hunted large game animals, collected native plant food, and were highly mobile. The populations during this time remained fairly small and dispersed. Physical remains of two Paleoindian cultural traditions, the Clovis and the San Dieguito, dating from 10,000 BC to 7500 BC, have been located in southern Arizona.

The Clovis groups, concentrated near the eastern Arizona to Mexico border, are represented by kill sites at which fluted projectile points of the Clovis and Llano hunting complexes are found in association with bones of now extinct bison and mammoth (Reid and Doyel 1986). The San Dieguito culture ranged primarily in the southern California deserts and Lower Colorado River Basin.

Local evidence for this period is scarce and limited to isolated spear points including a Clovis point identified at site AZ T:4:107 (ASM). This site is located 3 miles north of the study area on Biscuit Flat (Crownover 1994).

Archaic Period (7500 BC to AD 500)

The transition from the Paleoindian Period to the Archaic Period is marked by the extinction of the large Pleistocene mammals. While this is not the only factor influencing the shift from large-scale hunting to small-scale hunting and plant processing, most scholars believe that this was at least one factor in the subsistence shift that characterizes the subsequent Archaic Period.

During the Archaic Period, people began to focus on hunting smaller animals and collecting a wider variety of plant resources. Archaic groups also adapted their social organization to a changing social environment by aggregating into larger social groups. Sites such as camp clearings, zoomorphic intaglios, trails, and shrines are often associated with the Archaic Period. Artifact assemblages during this time demonstrate a wider variety of chipped stone artifacts, and an increasing dependence on ground stone artifacts.

The end of the Archaic Period is associated with early agriculture, the beginning of settled village life and pottery production. The adoption of new technologies such as pottery production and farming is a slow process. Experimenting with new technologies was an ongoing process. For example, the increase in ground stone artifacts suggests an increased reliance toward plant processing activities and possibly toward the beginning of domestication. Pieces of a rare plain brown ware were identified on Late Archaic sites within Arizona, demonstrating experimentation with early ceramic containers.

Formative Period (AD 500 to AD 1500)

Subsistence strategies changed during this period to reflect an increasing reliance on farming. The prehistoric population was expanding and settlement systems were adapting to cope with this increase. Villages became more permanent and ceramics were produced more regularly. Within the Phoenix Basin, the cultural remains of this period have been named the Hohokam.

The Hohokam has been the subject of intensive study in the Gila-Salt Basin (Crown and Judge 1991; Gumerman 1991; Noble 1991). There are five major periods in the Hohokam chronological sequence, which in turn are divided into a number of phases based on variations in architectural forms, mortuary practices, decorated ceramic types, and other styles of artifacts. These periods include the Pioneer (AD 500 to AD 775), Colonial (AD 775 to AD 975), Sedentary (AD 975 to AD 1150), Classic (AD 1150 to AD 1350), and Post-Classic (AD 1350 to AD 1500) (Crown and Judge 1991).

There has been considerable debate over the origins of the Hohokam. The main dispute involves whether the Hohokam developed out of an indigenous Archaic population or whether the Hohokam represent immigrants from Mexico. Initially, Haury (1950) purported the indigenous model of Hohokam origins, but after excavating Snaketown a second time changed his opinion to the immigrant model based upon the presence of a fully developed irrigation system (Haury 1976). Several others argue for an indigenous development of non-Hohokam populations. Gladwin (1948) believes the Pioneer Period Hohokam was a local manifestation of the Mogollon culture; Schroeder (1947) named the local adaptation the Hakataya; and Di Peso (1956) stated that the nonagricultural predecessor was the O'otam. These researchers believe that the Hohokam entered the Southwest from Mexico sometime between AD 750 to AD 900 (Crown and Judge 1991). Ciolek-Torrello (1998) has identified a site in the Tucson Basin that provides evidence of a site that bridges the gap between the preceramic culture and the earliest phases of the cultures known as the Hohokam and Mogollon. While the issue has not entirely been

resolved, information from sites like the Houghton Road site (Ciolek-Torrello 1998) provides interesting avenues of research into the concept of Hohokam origins.

Pioneer Period (AD 500 to AD 775)

It is during this period that the characteristics we associate with the Hohokam were established. Five phases are associated with the Pioneer Period: Red Mountain, Vahki, Estrella, Sweetwater, and Snaketown.

In the Phoenix Basin the earliest phase of the Pioneer Period is known as the Red Mountain Phase. During this phase Hohokam populations constructed small square houses, shallow basin metates, corner-notched projectile points, clay figurines, sand-tempered plain brown pottery, and flexed inhumations (Doyel 1988). Following the Red Mountain Phase is the Vahki Phase. During this phase, houses consisted of large waddle and daub structures over 50 square meters surrounded by a central plaza (Wilcox et al. 1981). Ceramics during the Vahki Phase were plain brown wares and polished red wares. Other artifacts identified at Vahki Phase sites include human figurines and chipped and ground stone artifacts. Cremations in pits or trenches (Haury 1976) and flexed and semi-flexed inhumations (Doyel 1988) occur.

Structures in the Estrella, Sweetwater, and Snaketown phases continue to be placed around a central plaza area, with either square, rectangular, or ellipsoidal houses with single side entries generally centered along the long wall (Crown and Judge 1991). The Estrella Phase saw the earliest known decorated ceramics, Estrella red-on-gray, characterized by a thick red line on a gray background with incised grooves. The ceramics were initially constructed by a mixture of different methods including both the coil and scrape method of their neighbors to the north and east and the paddle and anvil technique. Sweetwater pottery continues with a red-on-gray broad lined decoration. By the Snaketown Phase, Hohokam potters mastered the art of firing and were able to produce a distinctive red-on-buff ceramic manufactured through the paddle and anvil technique. Snaketown pottery was red-on-buff with hatched designs and light incising. Other artifacts identified during the last few phases of the Pioneer Period include shell, turquoise, and macaws. Cremations become the primary means of disposing of the dead. New material traits emerged during the final phase of the Pioneer Period—trash mounds capped with adobe and large-scale irrigation systems (Reid and Whittlesey 1997).

Colonial Period (AD 775 to AD 975)

The Colonial Period was a time of cultural florescence for the Hohokam. It is during this time that the Hohokam expanded across Arizona, inhabiting new areas and trading widely with their neighbors. This exploration period is not limited to the Hohokam, but was experienced throughout the greater Southwest at this time. The Colonial Period consists of two phases—Gila Butte and Santa Cruz.

During this period Hohokam villages become more patterned and appear to reflect household and supra-household organization (Reid and Whittlesey 1997). Habitation structures consisted of rectangular pit houses that were organized in house clusters (Wilcox et al. 1981) or courtyard groups (Howard 1985). House clusters were two to four structures with entries focusing on a common area. Often these courtyard groups were associated with a cremation area (Gregory 1984; Sires 1984), trash disposal areas, and communal cooking facilities such as hornos (Reid and Whittlesey 1997). Several courtyard groups made up a village. Two features of village organization also began during this period—ball court and platform mound. These structures were often associated with large villages. Ball courts tended to vary in size, but were large earthen structures of an elongated oval form with low-rounded walls, entries on each end, and stone markers at the end and center. It is believed the Hohokam might have borrowed the idea of ball courts from Mesoamerican peoples to the south that had a similar game. Platform mounds consisted of capped trash mounds (Gregory 1982). While the specific activities associated with the ball courts and platform mounds are not known (Wilcox and Sternberg 1983), they probably served as an integrative mechanism for community cohesion.

Artifacts, in addition to site organization, also became more elaborate during this period. Artifacts were skillfully carved out of stone and shell. Bowls were carved in the shape of frogs, toads, and snakes. Animal effigies such as birds, frogs, and snakes were carved out of shell and often covered with turquoise. Craft specialization existed at the household and village level (Reid and Whittlesey 1997). Stone palettes also become more elaborate during this period (Haury 1976). Ceramics during the Gila Butte Phase include scored exteriors on a buff background with curvilinear scrolls, small design elements, and life forms in red paint. During the Santa Cruz Phase, ceramics exhibit extreme detail in line work containing small repeated elements forming spiral or circular bands of decoration. Animal and human figures appear on these ceramics. Exotic forms of ceramic vessels appear during this phase, including human and animal effigy vessels, thick walled censors, rectangular bowls, and tripod plates (Reid and Whittlesey 1997).

Mortuary ritual changes slightly during this period as well. Deceased individuals are cremated and then interred within small pits (Haury 1976). In addition, deceased individuals are buried at the crematory, which is associated with individual courtyard groups (Reid and Whittlesey 1997).

Sedentary Period (AD 975 to AD 1150)

The Hohokam continued to grow and expand during the Sedentary Period. However, by the end of this period significant numbers of sites are abandoned. Settlement began to concentrate along major drainages. There is one phase within this period, the Sacaton.

Settlements during the Sedentary Period consisted of large, permanently occupied villages located along major watercourses. In addition to these large villages, seasonally occupied structures such as hamlets and farmsteads were also inhabited at a variety of environmental locations (Reid and Whittlesey 1997). Houses constructed during this period tended to be ellipsoidal with a mean size of approximately 24.6 square meters (Wilcox et al. 1981). Platform

mounds became even more formalized, consisting of large, artificial, flat-topped mounds that served as stage-like areas for performing ceremonies (Reid and Whittlesey 1997). In addition to the formalization of platform mounds, more ball courts continued to be constructed. According to Wilcox and Sternberg (1983), it was during the Sedentary Period that most of the ball courts were built and used.

Artifacts during this period become more refined. New technologies for working with shell jewelry were invented, along with more elaborate mosaic mirrors (Reid and Whittlesey 1997). Copper bells were traded from Mexico. New types of ceramics (red ware and polychrome) were introduced. The ceramic technology of this period includes an increase in the amount of ceramics produced.

Burial practices of interring cremated bones into pottery vessels become more common, as do inhumations (Crown 1991). According to Haury (1976), at Snaketown the inhumations identified during the Sedentary Period are oriented with their heads to the east.

Classic Period (AD 1150 to AD 1350)

This period in Hohokam culture departs radically from the conventions of preceding generations. Changes in architecture, settlement patterns, interaction spheres, community structures, material culture, and burial practices appear during this period. Although these changes do occur, the old styles continue to persist. The period contains two phases—Soho and Civano.

Previous settlements in outlying areas such as Gila Bend, the Lower Verde River, Flagstaff, and San Pedro River were abandoned at the end of the Sedentary Period (Doyel 1980; Wilcox and Sternberg 1983). Population rises in the Gila-Salt Basin at this time, probably with immigrants from outlying areas migrating back to the Gila-Salt Basin. Several new forms of house structures appear during the Classic Period. These styles include houses with post-reinforced caliche walls, built-in pits, and freestanding walls of cobbles with adobe (Crown 1991). During the Civano Phase, rectangular, aboveground, coursed caliche structures appeared alongside pre-existing jacal and post-reinforced structures. Contiguous-walled pueblos of coursed adobe also appear during this period, mostly associated with sites containing ceremonial architecture within compound walls (Crown 1991). New ball courts were still being constructed during the Soho Phase, but it is unclear whether they were also constructed during the Civano Phase. Similarly, platform mounds continued to be constructed during the Soho Phase, but were only remodeled during the Civano Phase. Within the Classic Period, sites with platform mounds are spaced at regular intervals of 5 kilometers along the river (Gregory and Nials 1985).

The artifact assemblage during the Classic Period is much less diverse. Figurines, palettes, and elaborate projectile points cease to be made and there is a decline in the manufacture of red-on-buff ceramics. Polychrome vessels become the dominant ceramic type, along with an increase in red ware ceramics.

Burial patterns begin to shift to more inhumations, with an increased number of cremations being buried in vessels (Haury 1976). The inhumations tended to occur in the eastern portion of the Classic Period compounds, with heads oriented toward to the east (Sires 1983).

Post-Classic Period (AD 1350 to AD 1500)

Most of the sites within the Gila-Salt Basin were largely abandoned by the end of the Classic Period. The Post-Classic Period has only been defined on scant data from a few sites (Crown and Sires 1984; Sires 1983). There is only one phase within the Post-Classic Period, the Polvoron.

Architecture associated with this phase was primarily rectangular jacal pit houses focused around a courtyard cluster. Sometimes Polvoron Phase structures may appear on top of existing platform mounds (Crown and Judge 1991). Polychrome ceramics continue to be the most prevalent ceramic type in the artifact assemblage, with smaller amounts of red-on-buff and red ware. Obsidian and clay figurines are also present at these types of sites (Crown and Judge 1991).

The burials during this period include both inhumations and cremations, with seated inhumations first appearing at this time (Crown and Judge 1991). Cremations tend to be associated with the crematorium, while inhumations are associated with the habitation areas (Sires 1984).

Ethnohistoric and Historic Period (AD 1500 to AD 1950)

Spanish explorers traveled southern Arizona during the sixteenth through eighteenth centuries. In 1539, Father Marcos de Niza, looking for the fabled Seven Cities of Cibola, explored Arizona and claimed it for Spain. The Jesuit missionary Father Eusebio Kino visited Arizona in 1692, and established Tumacac Mission north of Nogales and San Xavier del Bac in Tucson. In 1776, a presidio was built in Tucson.

Arizona was governed by Mexico between 1821 and 1848, at which time a portion of the future state became part of the United States at the end of the Mexican War. The Gadsen Purchase of 1853 brought the rest of Arizona into the United States.

Early Arizona settlement during the Anglo period was centered on mining and agriculture. Copper was discovered in Arizona in 1854, and gold was discovered on the Gila River in 1858. Congress created the Territory of Arizona in 1863, and the mining town of Prescott was selected as the territorial capital.

Anglo settlers first arrived in the Salt River Valley in numbers in the mid-1860s. The majority of these early settlers were Mormons, who named the present-day site of Phoenix "Pumpkinville."

The early settlement of the future Phoenix townsite was likely in 1868. The first post office was established in Phoenix in 1869. The early settlers of the Salt River Valley originally met and

decided upon the name of Phoenix for the new townsite in 1870. The name "Phoenix" was suggested by settler Darrell Duppa, who upon noting the evidence of earlier Hohokam settlement in the area claimed that "A new city would spring Phoenix-like upon the ruins of a former civilization" (Barnes 1988). Phoenix became the capital of the Arizona Territory in 1880.

METHODS

Class I Records Review

The class I survey involved a review of records maintained by the following institutions:

- Arizona State Museum (ASM)
- Arizona State Historic Preservation Office (SHPO)
- National Register of Historic Places (NRHP)
- Arizona State Register of Historic Places
- Anthropology Department at Arizona State University
- Bureau of Land Management Public Records Office
- Azsite (http://azsite.asu.edu/azsiteweb/)

The purpose of the review was to identify any prior research or previously recorded sites located within a 1-mile radius of the project area. The detailed class I records review in support of the proposed project was conducted on February 5 through 9, 12 through 14, 23, and 27, and March 1 and 2 by Marci Adamson.

Class III Pedestrian Survey

Archaeologists Glennda Luhnow, Karin Rebnegger, Victoria Webdale, Alan Kirkland and Kim Ryan conducted the intensive class III pedestrian survey of the area identified as the APE of the proposed project on June 24 through 28, and July 1 through 3, 8 through 12, and 15 through 18. The survey corridor was walked using 20-meter pedestrian transactions to ensure complete survey coverage. A total of 68 person-days of effort were devoted to fieldwork. Glennda Luhnow served as field director for the class III survey and Kris Dobschuetz served as principal investigator for the study. Glenn Darrington served as senior reviewer.

The field crew identified the survey areas using the Curry's Corner, Union Hills, Biscuit Flat, Baldy Mountain, and Calderwood Butte 7.5 minute USGS topographic quadrangles, as well as employing a Trimble global positioning system (GPS) unit. The field crew surveyed the proposed pipeline relocation corridor with pedestrian transects spaced 15 meters (50 feet) apart. The GPS unit also was used to map the boundaries of the survey area and the location of IOs, sites, and topographic features. This instrument has an accuracy of 1 meter to 5 meters with differential correction.

The survey area consisted mostly flat terrain in desert environment. Vegetation consisted of creosotebush, saguaro, cholla, brittlebush, and bursage. Ground visibility was approximately 95 percent for the majority of the project area. Ground visibility dropped to approximately 85 percent in the areas immediately surrounding wash channels associated with thick mesquite, cat-claw acacia, and ironwood stands.

Site identification and boundaries were defined according to the ASM Guidelines. ASM Site Recording Manual (version 1.1) specifies that a site is the physical remains of past human activity that is at least 50 years old.

ASM letters dated October 1, 1994 and August 21, 1995 further specifies what may constitute a site. These additional situations include the following:

- 30 or more artifacts of a single class within an area 15 meters (50 feet) in diameter, except when all pieces appear to originate from a single source
- 20 or more artifacts, including at least two classes of artifact types within an area of 15 meters (50 feet) in diameter
- one or more archaeological features in temporal association with any number of artifacts
- two or more temporally associated archaeological features without any artifacts

ASM recognizes that there may be situations that warrant designation as an archaeological site, and gives archaeologists authority to use their professional judgments in making appropriate field determinations. One such circumstance includes a non-linear, isolated feature devoid of artifacts. ASM defined an "isolated feature" as a feature that does not have any additional features within a 100-meter (325-foot) diameter. Examples of non-linear features include isolated rock piles, mine shafts, prospecting pits, and or unidentified depressions. In these types of situations, ASM allows archaeologists to make decisions concerning the determination of these features as sites.

When cultural material was identified in the field, the crew examined the surrounding area to determine whether any additional artifacts were present. From the presence or absence of additional cultural materials, members of the field crew determined whether the artifact was part of a site or an IOs. The site integrity and subsurface potential of each site was evaluated as accurately as possible based solely upon surface observation. No artifact collections were made and no subsurface testing was conducted during the survey.

All cultural material was recorded according to type and material and its location plotted with the GPS. Within each artifact class, further designations were used to describe each artifact. These designations were used to draw inferences concerning the activities that may have occurred at each location.

Chipped stone material was identified according to the stages of lithic manufacturing and was labeled as primary, secondary, or tertiary flakes. We broadly define each of the flakes types as follows:

- primary flakes have an exterior side of all cortex and are the result of initial core reduction
- secondary flakes have a thin edge of cortex and represent the middle process of tool manufacturing
- tertiary flakes are typically very thin and do not have cortex; often known as bifacial thinning flakes, these flakes represent the last stage in tool manufacturing

Cores were identified as either unifacially or bifacially flaked and were recorded as unidirectional, multidirectional, or bifacial. Unidirectional or multidirectional core designations describe the location of the striking platform.

Ceramics are important temporal and cultural indicators. At a minimum, all ceramics identified in the field are recorded according to ware (plain ware, red ware, etc.). If a design element is present and is sufficient to allow a confident identification, the ceramic will be recorded to specific type.

Artifact density at archaeological sites was determined on the basis of artifact distribution across the total area of the site. Artifact distribution of 0.1 artifact/square meter or greater was determined to be high density, artifact distribution of 0.09 to 0.01 artifact/square meter was determined to be moderate density, while artifact distribution of 0.01 artifact or less/square meter was determined to be low density.

National Register Assessment

Sites were evaluated in the field as to their eligibility for listing on the NRHP. The eligibility of a property for listing on the NRHP may be based on national, state, or local significance. Properties eligible for listing on the NRHP must demonstrate importance in American history, architecture, archaeology, engineering, or culture. A property is considered significant in these categories if it meets one or more of the following criteria from the NRHP regulations.

> *National Register criteria for evaluation. The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association, and:*
>
> *(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or*

(b) that are associated with the lives of persons significant in our past; or
(c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
(d) that have yielded, or may be likely to yield, information important in prehistory or history. [36 CFR § 60.4]

In addition to demonstrating significance in one or more of the categories listed above, a property must also demonstrate integrity. The historic property must be a "preservable entity" that demonstrates the qualities that make it significant. Integrity is most often judged on location, setting, design, materials, workmanship, feeling, and association.

The eligibility of prehistoric sites for listing on the NRHP is most often considered under Criterion D. Under Criterion D, the potential of the site to contain intact deposits of cultural materials relevant to the study of specific aspects of prehistoric lifeways and cultural practices is assessed. Those archaeological sites that are limited to a surface manifestation of cultural materials, and where our recording has essentially exhausted the information potential of the surface artifact assemblage, and where there is no potential for a subsurface deposit to exist, are considered to be not eligible for listing on the NRHP. For this reason, sites that are limited to surface materials based on their association with bedrock exposures or desert pavement are not considered to be eligible for listing on the NRHP.

SURVEY EXPECTATIONS

Review of site distribution in the study area as established by previously conducted cultural resource studies indicates that site density increases in the primary bajada flats at the base of elevated landforms, along permanent or well-developed intermittent waterways, and atop isolated promontories or ridgelines. Site density appears to diminish on valley floors with increased distance from elevated landforms.

Based on these patterns as observed in the existing local database, sensitivity for cultural resources is anticipated to be high along the Agua Fria, New River, and Cave Creek drainages and on the primary bajada flats at the base of the Hedgepeth/Deem Hills and Hieroglyphic Mountains. Site density is anticipated to be low along the steep side slopes of the Hieroglyphic Mountains and on the valley floor east of the I-17 freeway.

RECORDS REVIEW

Our class I research identified 103 prior studies (Table 1) and 155 previously recorded sites (Table 2). Figures 2a to 2i show the previously recorded sites and surveys within the 1-mile class I study area.

TABLE 1 PRIOR CULTURAL RESOURCE SURVEYS						
	Survey Name	**Survey Number**	**Quad**	**Scope**	**Sites in Project Area**	**Reference**
1	Burat Mountains and Agua Fria Tunnels	1978-67.ASM	Baldy Mountain	180 acres	AZ T:3:19 (ASU)	Simonis 1978
2	Materials Pit #7764	1979-110.ASM	Baldy Mountain	information not available	None	Gregory and Hammack 1979
3	New Waddell Dam and Reservior CAP	1983-183.ASM	Baldy Mountain	31 acres	None	Lincoln and Rogge 1983
4	Agua Fria Borrow Area and Waddell Canal	1985-151.ASM	Baldy Mountain	2,075 acres	AZ T:3:6(ASM) AZ T:3:9-32 (ASM)	Green et al. 1985
5	Hieroglyphic Survey	1988-243.ASM	Baldy Mountain	8,385 acres	None	Greenwald and Keller 1989
6	Construction Area Survey Agua Fria Siphon Repair	1991-59.ASM	Baldy Mountain	30 acres	None	Czaplicki 1991
7	Agua Fria Recharge Project	1999-67.ASM	Baldy Mountain	350 acres	AZ T:7:183(ASM)	Stubing 1999
8	Calderwood Peoria 120 Acres Project	2000-151.ASM	Baldy Mountain	106 acres	AZ T:3:155-157, 159-161, & 163(ASM)	Shepard 2000
9	Agua Fria Drill Site Survey	2001-133.ASM	Baldy Mountain	1 acre	AZ T:3:145(ASM)	Lundin 2001
10	Granite-Reef Aqueduct	1972-5.ASM	Baldy Mountain, Biscuit Flat	2,585 acres; 278 miles of 600-foot right-of-way	AZ T:8:9(ASM)	Kemrer 1972
11	Reach 9, Granite Reef	1979-122.ASM	Baldy Mountain, Biscuit Flat	65 acres	None	Stone 1979
12	APS Lake Pleasant	1980-78.ASM	Baldy Mountain, Biscuit Flat	5.89 acres	AZ T:3:6(ASM)	Madsen 1980
13	Maricopa Water District Baldy Mtn./Adobe Dam Sites Inventory	1982-73.ASM	Baldy Mountain, Biscuit Flat	6 acres	None	Madsen 1982a
14	Hayden Rhodes Aqueduct Siphons	1991-26.ASM	Baldy Mountain, Biscuit Flat	100.7 acres	None	Lincoln 1991
15	UPCO-Universal Propulsion Survey	2000-500.ASM	Baldy Mountain, Biscuit Flat	741 acres	AZ T:3:164-5 and 169-5, 177-178 (ASM)	Stubing and Wenker 2000

TABLE 1 PRIOR CULTURAL RESOURCE SURVEYS						
	Survey Name	**Survey Number**	**Quad**	**Scope**	**Sites in Project Area**	**Reference**
16	Agua Fria 230kV Line Test Trench	1986-39.ASM	Baldy Mountain, Calderwood Butte	17.5 acres	None	Effland and Green 1986; Green 1986
17	Agua Fria Recharge Project	1991-263.ASM	Baldy Mountain, Calderwood Butte	25.5 acres	AZ T:7:64-67 (ASM)	Rhodes et al. 1991
18	Westwing Raceway 69/12kV Powerline	2001-064.ACS	Baldy Mountain, Calderwood Butte	57 acres	AZ T:3:263-4 (ASM) AZ T:7:192(ASM) AZ T:7:251(ASM) AZ T:3:55(ASM)	Gage 2002
19	State Land Survey Tanner Company	1981-82.ASM	Biscuit Flat	680 acres	AZ T:4:11(ASM)	Lange 1981
20	State Land Survey	1984-38.ASM	Biscuit Flat	4 acres	None	Lange 1984
21	ARS - State Route 74 Survey	1993-128.ASM	Biscuit Flat	5.75 mi corridor	None	Stone 1993
22	EPNG Meter Station Survey	1993-71.ASM	Biscuit Flat	2.3 acres	None	Troncone 1993
23	Desert Hills Off Site Water Supply System	1996-463.ASM	Biscuit Flat	377 acres	None	Greenwald 1996
24	UMS-Rural ITS, Phase 4	1999-324.ASM	Biscuit Flat	115.8 acres	None	Hathaway 1999
25	Arizona State Land Department Geological Test Pits for Mineral Content	2000-98.ASM	Biscuit Flat	0.91 acres	None	Ross 2000
26	Granite Reef/Salt-Gila Aquaduct	1972-5.ASM	Biscuit Flat, Hedgepeth Hills, Union Hills	2,585 acres	None	Grady and Hall 1972
27	APS I-17 69kV Realignment	1998-158.ASM	Biscuit Flat, Hedgepeth Hills, Union Hills	14 acres	None	Adams 1998
28	I-17 Corridor Water and Wastewater Project	1999-28.ASM	Biscuit Flat, New River SE, Union Hills	102 acres	None	Crownover 1999
29	Eastwing Substation	1983-122.ASM	Calderwood Butte	140 acres	None	Weaver and Keller 1983
30	Unknown	1986-128.ASM	Calderwood Butte	216 acres	None	ASM Files

TABLE 1 PRIOR CULTURAL RESOURCE SURVEYS						
	Survey Name	Survey Number	Quad	Scope	Sites in Project Area	Reference
31	Mead to Phoenix 500kV Transmission Project	1994-458.ASM	Calderwood Butte	97 acres	AZ T:7:128(ASM)	Seymour and Purcell 1995
32	Mead to Phoenix Project Access Roads	1994-459.ASM	Calderwood Butte	1,994.37 (238.5 miles of 50-foot right-of-way)	None	Purcell et al. 1994
33	Estrella Interim Parkway	1997-271.ASM	Calderwood Butte	985 acres	AZ T:7:143-145 (ASM) AZ T:7:147-162	Adams 1997
34	El Mirage Road Loop 303 Corridor	1999-191.ASM	Baldy Mountain, Calderwood Butte	220 acres	None	Garcia et al. 1999
35	Lakeland Village Development	Unknown	Baldy Mountain, Calderwood Butte	3,144 acres	AZ T:7:187-8, 190-3, and AZ T:3:153(ASM)	Slawson 1999
36	Unknown	1982-013.ASM	Curry's Corner	Unknown	None	ASM Files
37	North Scottsdale Reconnaissance	1987-243.ASM	Curry's Corner	24.25 sq. mi.	None	Recon 1987b
38	New River Borrow Area - Eastern Addition	1988-19.ASM	Curry's Corner	26.5 acres	None	Green and Rankin 1988
39	Pinnacle Peak Substation Extension	1988-39.ASM	Curry's Corner	247 acres	None	Hoffman 1988a
40	Desert Ridge Project	1988-73.ASM	Curry's Corner	5,575.42 acres	None	NE Phoenix Partners 1988
41	Pinnacle Peak Substation Expansion and Temporary Transmission Line Bypasses	1988-74.ASM	Curry's Corner	4 acres	None	Killam 1988
42	APS Pinnacle Peak to Lone Mountain 69kV Distribution Line	1989-23.ASM	Curry's Corner	126.26 acres	None	Rankin 1989

TABLE 1 PRIOR CULTURAL RESOURCE SURVEYS						
	Survey Name	**Survey Number**	**Quad**	**Scope**	**Sites in Project Area**	**Reference**
43	Landmark Land/Scottsdale Road	1993-110.ASM	Curry's Corner	2,230.29 acres	None	Woodall 1993
44	Pinnacle Peak and Tatum Roads Powerline	1994-14.ASM	Curry's Corner	12 acres	None	Hayton 1994
45	Survey of Land Along Pinnacle Peak Road West of Curry Corner	1994-303.ASM	Curry's Corner	40 acres	None	Foster 1994
46	Desert Ridge Master Planned Community	1997-466.ASM	Curry's Corner	9,513 acres	AZ U:5:218 (ASM)	Ruble 1997
47	APS: Scottsdale Road and Happy Valley Roads	1999-10.ASM	Curry's Corner	6.35 acres	None	Moreno 1999a
48	Pinnacle Peak/Rawhide 69kV/12kV Rebuild	1999-130.ASM	Curry's Corner	2,067 acres	None	Moreno 1999b
49	Pinnacle Peak-Jomax Line Survey	1999-26.ASM	Curry's Corner	8 acres	None	DeMaagd 1999a
50	Happy Valley Reservior Additional Survey Project	2000-200.ASM	Curry's Corner	39.3 acres	AZ U:5:255(ASM)	Wright 2000a, 2000b
51	Pinnacle Peak-Lone Peak-Paradise 230kV Transmission Line	1984-223.ASM	Curry's Corner, Union Hills	16 miles of 20- to 40-foot right-of-way	None	Effland 1984
52	Unknown	1984-75.ASM	Curry's Corner, Union Hills	7.8 acres	None	ASM Files
53	Tatum and Jomax Road Survey	1992-229.ASM	Curry's Corner, Union Hills	400 acres	None	Wright 1992
54	Tatum Ridge Development	1993-100.ASM	Curry's Corner, Union Hills	10.3 acres	None	Gunn 1993
55	Survey Near Cave Creek and Pinnacle Peak Roads	1998-81.ASM	Curry's Corner, Union Hills	59.2 acres	None	Stone 1998
56	El Paso Natural Gas North Phoenix	85-3.ASU	Curry's Corner, Hedgepeth Hills, Union Hills	Unknown	None	Hackbarth 1985

TABLE 1 PRIOR CULTURAL RESOURCE SURVEYS						
	Survey Name	**Survey Number**	**Quad**	**Scope**	**Sites in Project Area**	**Reference**
57	Archaeological Sites Along Reach 10 Realignment, Granite Reef Aqueduct	1976-41.ASM	Hedgepeth Hills	7 acres	None	Brown 1976
58	Homesite Clearance	1985-31.ASM	Hedgepeth Hills	10 acres	None	Rozen 1985
59	Station Hills Development Project	1987-65.ASM	Hedgepeth Hills	2,200 acres	None	Recon 1987a
60	35th Avenue and Pinnacle Peak Road	1998-165.ASM	Hedgepeth Hills	160 acres	None	Hackbarth 1998a
61	APS Hedgepeth/Biscuit Flats 69/12kV Powerline	1999-384.ASM	Hedgepeth Hills	8 acres	None	Jackman 1999
62	35th Avenue and Happy Valley Road Project	1999-511.ASM	Hedgepeth Hills	6.2 acres	None	Punzmann 2000
63	35th Avenue and Pinnacle Vista Drive Development Project	2000-74.ASM	Hedgepeth Hills	160 acres	None	Marshall 2000
64	North Phoenix Adobe USAA 69/12kV Line	2000-479.ASM	Hedgepeth Hills	7.43 acres	None	ACS 2000
65	Pinnacle Peak Road 12kV Installation	1988-43.ASM	Hedgepeth Hills, Union Hills	12 acres	Unknown	Hoffman 1988b
66	6 Geotechnical Transects Inventory Project	1999-260.ASM	New River SE	3,883.8 acres	None	Rodgers 1999
67	North Gateway Water Reclamation Plant	1998-456.ASM	New River SE, Union Hills	185 acres	None	Crary 1998
68	Southwest Communities Water Pipeline Addendum	1999-254.ASM	New River SE, Union Hills	102 acres	None	Aguila 1999
69	Phoenix Vicinity Flood Control Project	1970-3.ASM	Union Hills	300 acres	AZ T:8:4,5,& 9 (ASM)	Vivian 1970
70	Cave Buttes Dam Alternative Site	1974-4.ASU	Union Hills	261 acres	AZ T:4:53(ASU)	Dittert 1974

TABLE 1 PRIOR CULTURAL RESOURCE SURVEYS						
	Survey Name	**Survey Number**	**Quad**	**Scope**	**Sites in Project Area**	**Reference**
71	State Land Survey # 03-77761	1980-62.ASM	Union Hills	12.5 acres	None	Lange 1980
72	Permanent Headquarters	1982-218.ASM	Union Hills	129 acres	None	Lincoln and Rogge 1982
73	Tanner Land Company Inc. Union Hills	1982-63.ASM	Union Hills	8 acres	None	Madsen 1982b
74	Atkinson Survey Cave Creek	1983-13.ASM	Union Hills	5 acres	None	Madsen 1983a
75	State Land Survey - AZ Department of Corrections	1983-26.ASM	Union Hills	11 acres	None	Lange 1983
76	Knochel Sand and Gravel	1983-35.ASM	Union Hills	20 acres	None	Madsen 1983b
77	State Land Survey Universal Propulsion	1984-105.ASM	Union Hills	227.82 acres	None	Murphy 1984
78	I-17 Pinnacle Peak Access Survey	1984-114.ASM	Union Hills	Unknown	None	Johnson 1984
79	Urban Land Pinnacle Peak and 7th	1984-148.ASM	Union Hills	240 acres	None	Madsen 1984b
80	North Mountain Stables	1984-175.ASM	Union Hills	176 acres	None	Madsen 1984a
81	Callahan Ltd.	1986-147.ASM	Union Hills	4.05 acres	None	Madsen 1986b
82	State Land Survey for Adobe Mountain Correction School	1986-26.ASM	Union Hills	60 acres	None	Rozen 1986
83	Coombs Claim	1986-45.ASM	Union Hills	7 acres	None	Madsen 1986a
84	Adobe Mountain #1	1986-69.ASM	Union Hills	Unknown	None	Madsen 1986c
85	Unknown Project Title	1987-163.ASM	Union Hills	0.33 acres	None	Macnider 1987
86	Pinnacle Peak Property	1988-10.ASM	Union Hills	5.32 acres	None	Bayman 1988
87	Metro Mobile - Adobe Mountain Microwave Station	1989-52.ASM	Union Hills	1 acre	None	Effland 1989
88	Cave Creek/Pinnacle Peak Road	1990-120.ASM	Union Hills	37.4 acres	None	Hoffman 1990

TABLE 1 PRIOR CULTURAL RESOURCE SURVEYS						
	Survey Name	**Survey Number**	**Quad**	**Scope**	**Sites in Project Area**	**Reference**
89	State Land Clearance Near Adobe Mountain	1995-125.ASM	Union Hills	158 acres	None	Boloyan 1995
90	Grosvenor Archaeology	1995-69.ASM	Union Hills	32 acres	None	Larkin 1995
91	Little Deer Valley	1996-124.ASM	Union Hills	814.4 acres	AZ T:8:74-7 (ASM)	Punzmann 1996
92	Mountaingate North 1	1996-30.ASM	Union Hills	68.7 acres	AZ T:8:72 (ASM)	Tweedy and Lite 1996
93	City of Phoenix, Cave Creek Road Facilities	1997-177.ASM	Union Hills	56.4 acres	AZ T:8:82(ASM)	Hackbarth 1997
94	Holy Redeemer Catholic Cemetery	1997-458.ASM	Union Hills	5.54 acres	None	Larkin and Giacobbe 1997
95	Adobe Mountain	1997-487.ASM	Union Hills	1 acre	Unknown	Northland Research Inc. 1997
96	Eagle Bluff Development Survey	1998-415.ASM	Union Hills	1.24 acres	None	Shepard 1998
97	Mixed Use Property Project	1998-455.ASM	Union Hills	7.4 acres	None	Walsh 1998
98	Happy Valley Road I-17 Roundabout	1999-385.ASM	Union Hills	100 acres	None	DeMaagd 1999b
99	Cave Creek/Pinnacle Peak Road	1999-454.ASM	Union Hills	43.8 acres	None	Stephen 1999
100	Cave Buttes Excess Property (CBEP) Inventory	2000-175.ASM	Union Hills	281 acres	AZ T:8:105(ASM)	Rodgers 2000
101	56th Street and Deer Valley Road	2000-259.ASM	Union Hills	20 acres	None	Kober 2000
102		2000-813	Union Hills	2,420 acres	AZ T:8:76 (ASU) AZ T:8:77 (ASU)	Courtright 2001
103		1984-223	Curry's Corner	--	None	Effland 1984

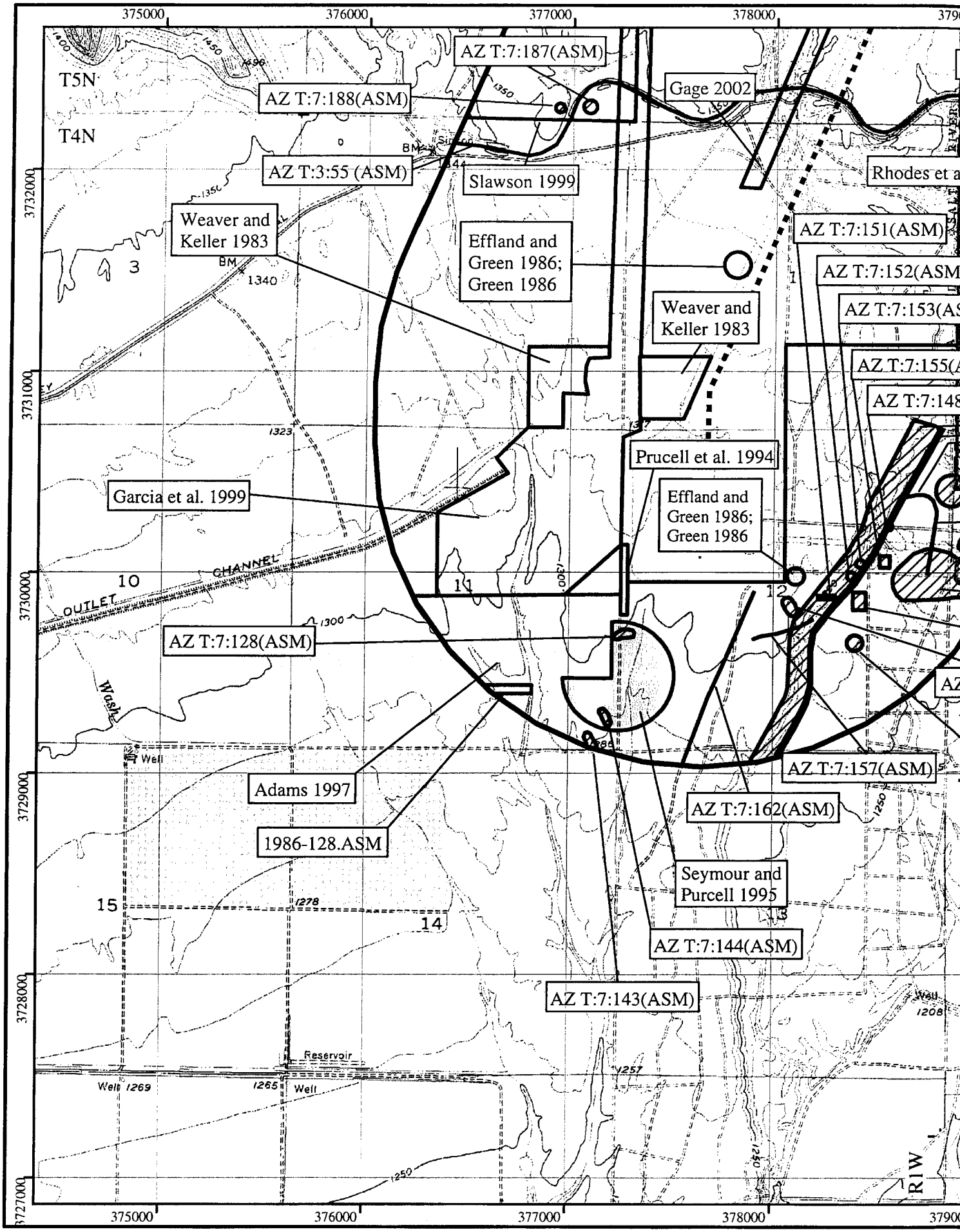
TABLE 2 PREVIOUSLY RECORDED SITES					
	Site Name and Number	**Quad**	**Description**	**NRHP Status**	**Reference**
1	AZ T:3:1(MNA)	Baldy Mountain	Sherd scatter	Unevaluated	MNA Site Card
2	AZ T:3:2(ASU)	Baldy Mountain	Roasting pit with artifact scatter	Unevaluated	ASU Site Card 1964
3	AZ T:3:2(MNA)	Baldy Mountain	Artifact scatter	Unevaluated	MNA Site Card
4	AZ T:3:4(ASU)	Baldy Mountain	5-room Pueblo with artifact scatter	Unevaluated	ASU Site Card
5	AZ T:3:5(ASU)	Baldy Mountain	Artifact scatter	Unevaluated	ASU Site Card 1965
6	AZ T:3:6(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Madsen 1980; Green et al. 1985
7	AZ T:3:6(ASU)	Baldy Mountain	Mound/trash midden	Unevaluated	ASU Site Card 1965
8	AZ T:3:7(ASU)	Baldy Mountain	Trash midden/mound	Unevaluated	ASU Site Card 1965
9	AZ T:3:9(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
10	AZ T:3:9(ASU)	Baldy Mountain	Large trash area with sherd scatter	Unevaluated	ASU Site Card 1965
11	AZ T:3:10(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
12	AZ T:3:11(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
13	AZ T:3:12 (ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
14	AZ T:3:13(ASM)	Baldy Mountain	Rock alignment and artifact scatter	Unevaluated	Green et al. 1985
15	AZ T:3:14(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
16	AZ T:3:15(ASM)	Baldy Mountain	Rock clusters with artifact scatter	Unevaluated	Green et al. 1985
17	AZ T:3:16(ASM)	Baldy Mountain	Cobble structure with artifact scatter	Unevaluated	Green et al. 1985
18	AZ T:3:17(ASM)	Baldy Mountain	Room block and artifact scatter	Unevaluated	Green et al. 1985
19	AZ T:3:18(ASM) AZ T:3:8(ASU)	Baldy Mountain	Hohokam Hamlet: Masonry structure with artifact scatter	Unevaluated	Green et al. 1985
20	AZ T:3:19(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
21	AZ T:3:19(ASU)	Baldy Mountain	Extensive lithic scatter	Eligible	Simonis 1978
22	AZ T:3:20(ASM)	Baldy Mountain	Rock alignment	Unevaluated	Green et al. 1985
23	AZ T:3:21(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
24	AZ T:3:22(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
25	AZ T:3:23(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
26	AZ T:3:24(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
27	AZ T:3:25(ASM)	Baldy Mountain	Structure and artifact scatter	Unevaluated	Green et al. 1985
28	AZ T:3:26(ASM)	Baldy Mountain	Two check dams	Unevaluated	Green et al. 1985
29	AZ T:3:27(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
30	AZ T:3:28(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
31	AZ T:3:29(ASM)	Baldy Mountain	Artifact scatter with rock ring and pebble structure	Unevaluated	Green et al. 1985
32	AZ T:3:30(ASM)	Baldy Mountain	Rock alignments	Unevaluated	Green et al. 1985
33	AZ T:3:31(ASM)	Baldy Mountain	Historic scatter	Unevaluated	Green et al. 1985
34	AZ T:3:32(ASM)	Baldy Mountain	Artifact scatter	Unevaluated	Green et al. 1985
35	AZ T:3:55(ASM)* AZ T:3:4(ARS) Beardsley Canal	Baldy Mountain	1926 irrigation canal	Unevaluated	Garcia et al. 1999; Gage 2002

TABLE 2 PREVIOUSLY RECORDED SITES					
	Site Name and Number	**Quad**	**Description**	**NRHP Status**	**Reference**
36	AZ T:3:145(ASM)	Baldy Mountain	Artifact scatter	Not eligible	Lundin 2001
37	AZ T:3:153(ASM)	Baldy Mountain	Historic trash dump	Not eligible	Slawson 1999
38	AZ T:3:155(ASM)	Baldy Mountain	Hohokam artifact scatter	Eligible	Shepard 2000
39	AZ T:3:156(ASM)	Baldy Mountain	Artifact scatter	Potentially eligible	Shepard 2000
40	AZ T:3:157(ASM)	Baldy Mountain	Hohokam pithouse settlement	Eligible	Shepard 2000
41	AZ T:3:159(ASM)	Baldy Mountain	Field house w/artifact scatter	Eligible	Shepard 2000
42	AZ T:3:160(ASM)	Baldy Mountain	Hohokam artifact scatter	Eligible	Shepard 2000
43	AZ T:3:161(ASM)	Baldy Mountain	Hohokam pithouse settlement	Eligible	Shepard 2000
44	AZ T:3:163(ASM)	Baldy Mountain	Prehistoric artifact scatter	Eligible	Shepard 2000
45	AZ T:3:164(ASM)	Baldy Mountain	Room block with artifact scatter	Eligible	Stubing and Wenker 2000
46	AZ T:3:165(ASM)	Baldy Mountain	Agricultural system and field house with artifact scatter	Eligible	Stubing and Wenker 2000
47	AZ T:3:169(ASM)	Baldy Mountain	Artifact scatter	Eligible	Stubing and Wenker 2000
48	AZ T:3:170(ASM)	Baldy Mountain	Artifact scatter	Eligible	Stubing and Wenker 2000
49	AZ T:3:171(ASM)	Baldy Mountain	Artifact scatter	Eligible	Stubing and Wenker 2000
50	AZ T:3:172(ASM)	Baldy Mountain	Water control feature with artifact scatter	Eligible	Stubing and Wenker 2000
51	AZ T:3:173(ASM)	Baldy Mountain	Historic trash scatter	Not eligible	Stubing and Wenker 2000
52	AZ T:3:174(ASM)	Baldy Mountain	Rock features with artifact scatter	Eligible	Stubing and Wenker 2000
53	AZ T:3:175(ASM)	Baldy Mountain	Artifact scatter	Eligible	Stubing and Wenker 2000
54	AZ T:3:177 (ASM)	Baldy Mountain	Artifact scatter with petroglyphs	Not eligible	Stubing and Wenker 2000
55	AZ T:3:178(ASM)	Baldy Mountain	Artifact scatter	Not eligible	Stubing and Wenker 2000
56	AZ T:3:263(ASM)	Baldy Mountain	Artifact scatter with features	Unknown	Gage 2002
57	AZ T:3:264 (ASM)*	Baldy Mountain	Prehistoric artifact and Historic trash scatter	Unknown	Gage 2002
58	AZ T:4:11 (ASM)	Biscuit Flat	Artifact scatter	Unevaluated	Lange 1981
59	AZ T:4:11 (ASU)	Biscuit Flat	Artifact scatter	Unevaluated	ASU Site Card 1982
60	AZ T:4:16(ASM) AZ T:4:10(ASU)	Biscuit Flat	Hohokam/Archaic habitation site	Unevaluated	Site Card
61	AZ T:4:16 (ASU)	Biscuit Flat	Artifact scatter	Not eligible	ASU 1963 Site Card
62	AZ T:4:31(ASU)	Biscuit Flat	Artifact scatter	Not eligible	ASU Site Card 1973
63	AZ T:4:44(ASU)	Biscuit Flat	Artifact scatter	Not eligible	ASU 1974 Site Card
64	AZ T:4:45(ASU)	Biscuit Flat	Artifact scatter	Not eligible	ASU 1974 Site Card
65	AZ T:4:46(ASU)	Biscuit Flat	Agricultural system with artifact scatter	Not eligible	ASU 1974 Site Card
66	AZ T:4:53(ASU)	Biscuit Flat	Extensive lithic scatter	Determined eligible	Dittert 1974

TABLE 2 PREVIOUSLY RECORDED SITES					
	Site Name and Number	**Quad**	**Description**	**NRHP Status**	**Reference**
67	New River Dam Archaeological District 64 SHPO (2879-I)	Biscuit Flat, Calderwood Butte, Baldy Mountain, Hedgepeth Hills	9,000-acre area containing 43 archaeological sites	Determined eligible	SHPO Files
68	AZ T:7:2(ASM) AZ T:7:5(ASU) Casa Piedra	Calderwood Butte	Casa de las Piedras Village	Eligible	Turney 1929
69	AZ T:7:6(ASM)	Calderwood Butte	Artifact scatter	Potentially eligible	Adams 1997
70	AZ T:7:9(ASU)	Calderwood Butte	Stone structure with artifact scatter	Unevaluated	ASU Site Card 1965
71	AZ T:7:10(ASU)	Calderwood Butte	Artifact scatter	Unevaluated	ASU Site Card 1964
72	AZ T:7:11(ASU)	Calderwood Butte	Artifact scatter	Unevaluated	ASU Site Card 1965
73	AZ T:7:12(ASU)	Calderwood Butte	Rock alignments with artifact scatter	Unevaluated	ASU Site Card 1965
74	AZ T:7:13(ASU)	Calderwood Butte	Rock alignments with artifact scatter	Unevaluated	ASU Site Card 1965
75	AZ T:7:14(ASU)	Calderwood Butte	Structures with artifact scatter	Unevaluated	ASU Site Card 1965
76	AZ T:7:16(ASU)	Calderwood Butte	Masonry rooms with artifact scatter	Unevaluated	ASU Site Card 1965
77	AZ T:7:17(ASU)	Calderwood Butte	Middens with artifact scatters	Unevaluated	ASU Site Card 1965
78	AZ T:7:19(ASU)	Calderwood Butte	Circular stone structure with artifact scatter	Unevaluated	ASU Site Card 1965
79	AZ T:7:20(ASU)	Calderwood Butte	Masonry rooms with artifact scatter	Unevaluated	ASU Site Card 1965
80	AZ T:7:21(ASU)	Calderwood Butte	Circular stone structure with ceramic scatter	Unevaluated	ASU Site Card 1965
81	AZ T:7:22(ASU)	Calderwood Butte	Structure with artifact scatter	Unevaluated	ASU Site Card 1965
82	AZ T:7:27(ASU) Westwing Site	Calderwood Butte	Roasting pit with artifact scatter	Not eligible	ASU Site Card 1973
83	AZ T:7:28(ASU)	Calderwood Butte	Hohokam agricultural water control features	Unevaluated	ASU Site Card
84	AZ T:7:33(ASM)	Calderwood Butte	Artifact scatter	Unevaluated	ASM Site Card 1987
85	AZ T:7:34(ASM)	Calderwood Butte	Artifact scatter with petroglyph	Unevaluated	ASM Site Card 1987
86	AZ T:7:35(ASM)	Calderwood Butte	Masonry rock wall	Unevaluated	ASM Site Card 1987
87	AZ T:7:36(ASM)	Calderwood Butte	Artifact scatter	Unevaluated	ASM Site Card 1987
88	AZ T:7:37(ASM)	Calderwood Butte	Masonry field house with artifact scatter	Unevaluated	ASM Site Card 1987
89	AZ T:7:38(ASM)	Calderwood Butte	Sherd concentrations with rock features	Unevaluated	ASM Site Card 1987
90	AZ T:7:39(ASM)	Calderwood Butte	Room block	Unevaluated	ASM Site Card 1987
91	AZ T:7:40(ASM)	Calderwood Butte	Room block with artifactscatter	Unevaluated	ASM Site Card 1987
92	AZ T:7:41(ASM)	Calderwood Butte	Artifact scatter	Unevaluated	ASM Site Card 1987
93	AZ T:7:42(ASM)	Calderwood Butte	Possible room block with artifact scatter	Unevaluated	ASM Site Card 1987
94	AZ T:7:43(ASM)	Calderwood Butte	Check dam with artifact scatter	Unevaluated	ASM Site Card 1987

TABLE 2 PREVIOUSLY RECORDED SITES					
	Site Name and Number	**Quad**	**Description**	**NRHP Status**	**Reference**
95	AZ T:7:45 (ASM) AZ T:7:18(ASU)	Calderwood Butte	Ceramic scatter	Unevaluated	ASU Site Card
96	AZ T:7:64(ASM)	Calderwood Butte	Artifact scatter	Eligible	Rhodes et al. 1991
97	AZ T:7:65(ASM)	Calderwood Butte	Artifact scatter	Eligible	Rhodes et al. 1991
98	AZ T:7:66(ASM)	Calderwood Butte	Pithouses with artifacts	Eligible	Rhodes et al. 1991
99	AZ T:7:67(ASM)	Calderwood Butte	Check dam with artifacts	Unevaluated	Rhodes et al. 1991
100	AZ T:7:128(ASM)	Calderwood Butte	Rock pile and small scatter of artifacts	Not eligible	Seymour and Purcell 1995
101	AZ T:7:143(ASM)	Calderwood Butte	Artifact scatter	Unevaluated	Adams 1997
102	AZ T:7:144(ASM)	Calderwood Butte	Artifact scatter	Unevaluated	Adams 1997
103	AZ T:7:145(ASM)	Calderwood Butte	Artifact Scatter	Not eligible	Adams 1997
104	AZ T:7:147(ASM)	Calderwood Butte	Lithic procurement and reduction locus	Eligible	Adams 1997
105	AZ T:7:148(ASM)	Calderwood Butte	Roasting pit with associated artifact	Eligible	Adams 1997
106	AZ T:7:149(ASM)	Calderwood Butte	Artifact scatter	Unevaluated	Adams 1997
107	AZ T:7:150(ASM)	Calderwood Butte	Artifact scatter	Unevaluated	Adams 1997
108	AZ T:7:151(ASM)	Calderwood Butte	Rock structure and cobble alignment	Unevaluated	Adams 1997
109	AZ T:7:152(ASM)	Calderwood Butte	Rock pile	Not Eligible	Adams 1997
110	AZ T:7:153(ASM)	Calderwood Butte	Rectangular rock pile	Not Eligible	Adams 1997
111	AZ T:7:154(ASM)	Calderwood Butte	Historic canal system	Not Eligible	Adams 1997
112	AZ T:7:155(ASM)	Calderwood Butte	FCR scatter with artifacts	Eligible	Adams 1997
113	AZ T:7:156(ASM)	Calderwood Butte	Artifact scatter	Eligible	Adams 1997
114	AZ T:7:157(ASM)	Calderwood Butte	Historic cobble-beamed road	Not Eligible	Adams 1997
115	AZ T:7:162(ASM)	Calderwood Butte	Canals	Not Eligible	Adams 1997
116	AZ T:7:183(ASM) AZ T:7:15(ASU)	Calderwood Butte	Ceramic Period Hohokam habitation	Eligible in 1999; not eligible in 1965	Stubing 1999
117	AZ T:7:187(ASM)	Calderwood Butte	Ceramic scatter	Potentially Eligible	Slawson 1999
118	AZ T:7:188(ASM)	Calderwood Butte	Ceramic scatter	Potentially Eligible	Slawson 1999
119	AZ T:7:190(ASM)	Calderwood Butte	Artifact scatter	Potentially Eligible	Slawson 1999
120	AZ T:7:191(ASM)	Calderwood Butte	Ceramic scatter	Potentially Eligible	Slawson 1999
121	AZ T:7:192 (ASM)*	Calderwood Butte	Prehistoric agricultural site	Potentially Eligible	Slawson 1999; Gage 2002
122	AZ T:7:193(ASM)	Calderwood Butte	Historic Trash Dump	Not Eligible	Slawson 1999
123	AZ T:7:251(ASM)	Calderwood Butte	Artifact scatter with features	Unknown	Gage 2002
124	Calderwood Butte Archaeological District 43-SHPO	Calderwood Butte, Baldy Mountain	4,480 acre area containing 70+ archaeological sites	On state inventory	SHPO Files
125	AZ U:5:72(ASU)*	Curry's Corner	Sherd scatter	Not eligible	ASU Site Files
126	AZ U:5:73(ASU)*	Curry's Corner	Artifact scatter	Not eligible	ASU Site Files
127	AZ U:5:218(ASM)	Curry's Corner	1920s trash dump	Eligible	Ruble 1997
128	AZ U:5:246(ASM)	Curry's Corner	Ash stain	Eligible	ASM Site Card 1999
129	AZ U:5:255 (ASM) AZ U:5:71(ASU)	Curry's Corner	Artifact scatter	Not eligible	Wright 2000a, 2000b

TABLE 2 PREVIOUSLY RECORDED SITES					
	Site Name and Number	**Quad**	**Description**	**NRHP Status**	**Reference**
130	AZ T:8:5(ASU) AZ T:8:20(ASU)	Hedgepeth Hills	Agricultural field with artifact scatter	Not eligible	ASU Site Card 1973
131	AZ T:8:63(ASM)	Hedgepeth Hills	Structure with artifact scatter	Unevaluated	ASM Site Card 1997
132	AZ T:8:81(ASU)	Hedgepeth Hills	Rock rings, lithics, and ground stone.	Not eligible	ASU Site Card 1976
133	AZ T:8:82(ASU)	Hedgepeth Hills	Unknown	Unknown	ASU Site Card 1976
134	AZ T:8:4(ASM)	Union Hills	Village	Unevaluated	Vivian 1970
135	AZ T:8:5(ASM) AZ T:8:34(ASU)	Union Hills	Fortified hilltop with petroglyphs	Unevaluated	Vivian 1970
136	AZ T:8:9(ASM)	Union Hills	Agricultural terraces with structure	Unevaluated	Vivian 1970; Kemrer 1972
137	AZ T:8:33(ASU)	Union Hills	Structure with sherd scatter	Not eligible	ASU Site Card 1970
138	AZ T:8:35(ASU)	Union Hills	Surface rooms with garden plots	Unevaluated	ASU Site Card 1970
139	AZ T:8:36(ASU)	Union Hills	Petroglyphs and lithics	Unevaluated	ASU Site Card 1970
140	AZ T:8:68(ASU)	Union Hills	Petroglyph and possible rock "shrine"	Determined eligible	ASU Site Card 1974
141	AZ T:8:72(ASM)	Union Hills	Rock features	Potentially eligible	Tweedy and Lite 1996
142	AZ T:8:74(ASM)	Union Hills	Historic road segments	Unevaluated	Punzmann 1996
143	AZ T:8:75(ASM)	Union Hills	Rock rings with lithic scatter	Not eligible	Punzmann 1996
144	AZ T:8:76(ASM)	Union Hills	Pet burial	Not eligible	Punzmann 1996
145	AZ T:8:76(ASU)	Union Hills	Artifact scatter	Not eligible	Rodgers 1974
146	AZ T:8:77(ASM)	Union Hills	Rock ring	Not eligible	Punzmann 1996
147	AZ T:8:77(ASU) AZ T:8:119 (ASM)	Union Hills	Artifact scatter with wind deflectors	Determined eligible	Rodgers 1974
148	AZ T:8:82(ASM)	Union Hills	Unknown	Unknown	Hackbarth 1997
149	AZ T:8:85(ASU)	Union Hills	Sherd scatter	Not eligible	ASU Site Card 1988
150	AZ T:8:90(ASU)	Union Hills	Rock rings with artifacts	Unevaluated	ASU Site Card 1982
151	AZ T:8:103(ASU)	Union Hills	Unknown	Unknown	ASU Site Card 1988
152	AZ T:8:104(ASU)	Union Hills	Sherd scatter	Not eligible	Stone 2000
153	AZ T:8:105(ASM)	Union Hills	Stone monument	Not eligible	Rodgers 2000
154	AZ T:8:142(ASM) AZ T:8:37(ASU)	Union Hills	Surface room with artifact scatter	Eligible	ASU Site Card 1970
155	Cave Creek Dam Arhaeological District 47-SHPO	Union Hills, New River	8,000-acre area containing 19 archaeological sites, 3 historic sites, and 5 previously destroyed sites	Determined eligible	SHPO Files
*These sites are within or immediately adjacent to the North Valley Project APE.					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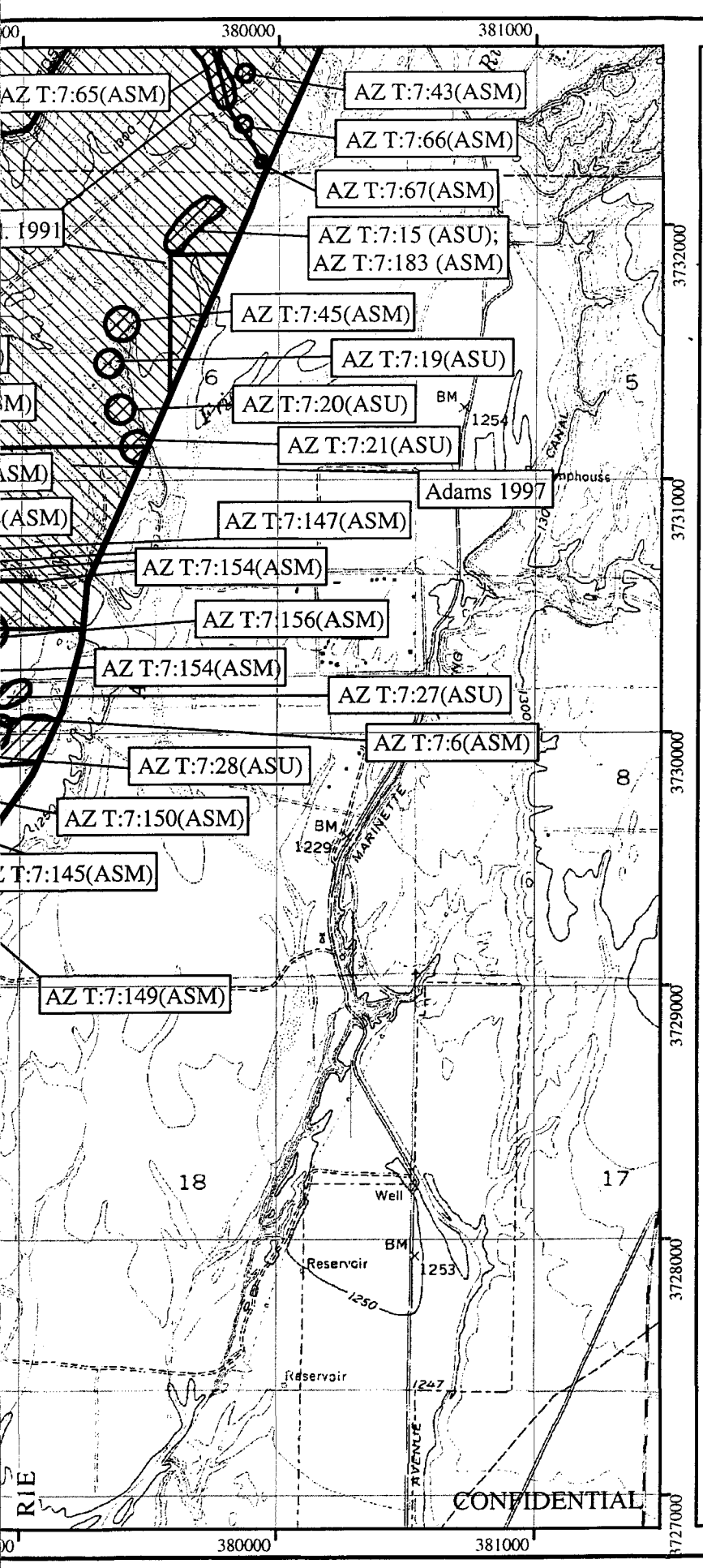
3730000
3729000
3728000
3727000
T5N
T4N
AZ T:7:187(ASM)
AZ T:7:188(ASM)
Gage 2002
AZ T:3:55 (ASM)
Slawson 1999
Rhodes et a
Weaver and Keller 1983
Effland and Green 1986; Green 1986
AZ T:7:151(ASM)
AZ T:7:152(ASM
AZ T:7:153(AS
Weaver and Keller 1983
AZ T:7:155(
AZ T:7:148
Prucell et al. 1994
Garcia et al. 1999
Effland and Green 1986; Green 1986
OUTLET CHANNEL
AZ T:7:128(ASM)
Adams 1997
AZ T:7:157(ASM)
AZ T:7:162(ASM)
1986-128.ASM
Seymour and Purcell 1995
AZ T:7:144(ASM)
AZ T:7:143(ASM)
Well
Reservoir
R1W



PREVIOUS RESEARCH

Figure 2a

Legend

- Previously Conducted Survey
- Previously Recorded Site
- Calderwood Butte Archaeological District
- Study Area Boundary
- Proposed Transmission Line

Sources:

United States Geological Survey (USGS), Calderwood Butte, AZ (1981), 1:24,000-scale metric topographic map.

N
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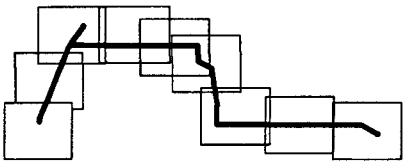
S

Scale 1:24,000

0 0.25 0.5 1 Mile

Index Map



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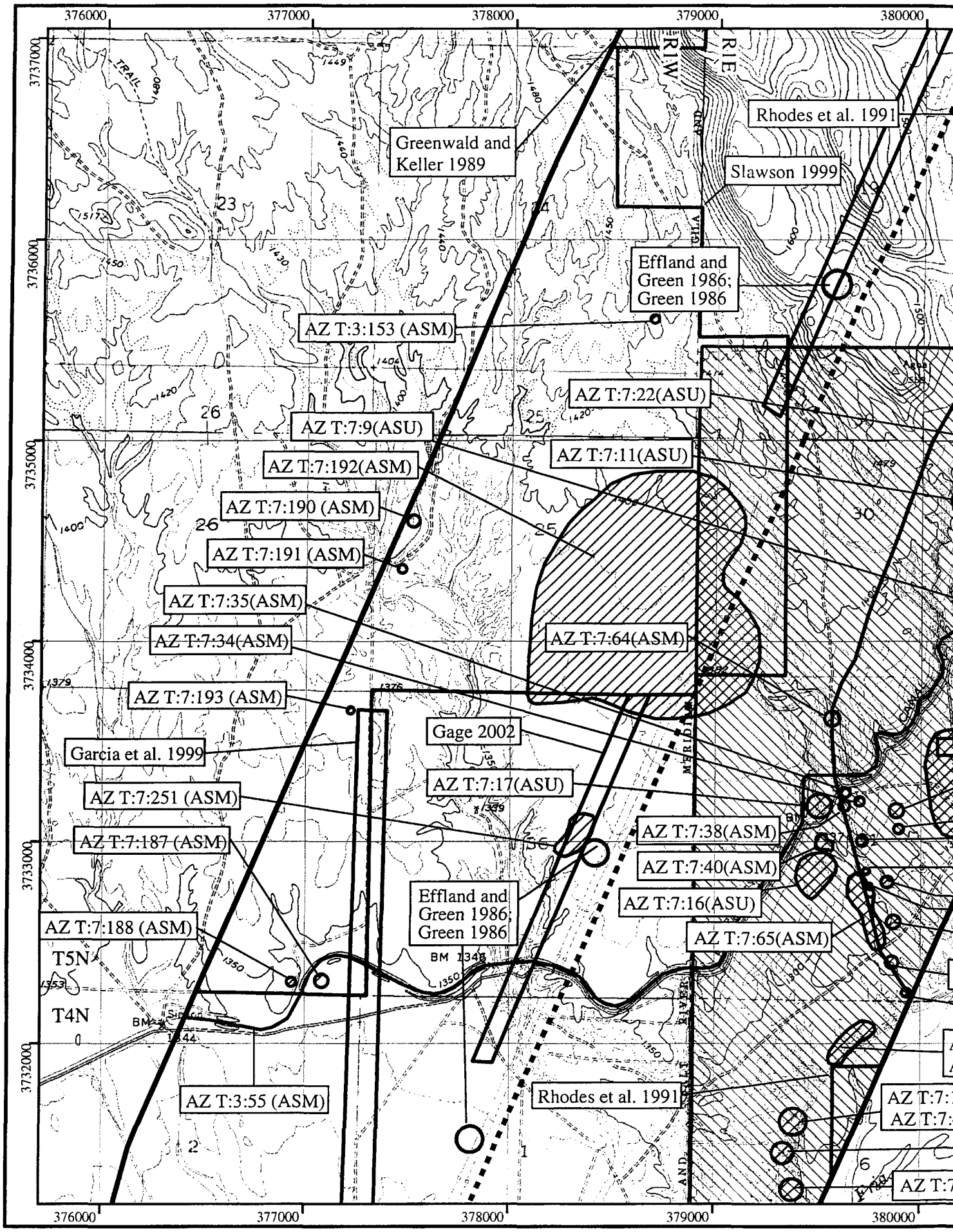
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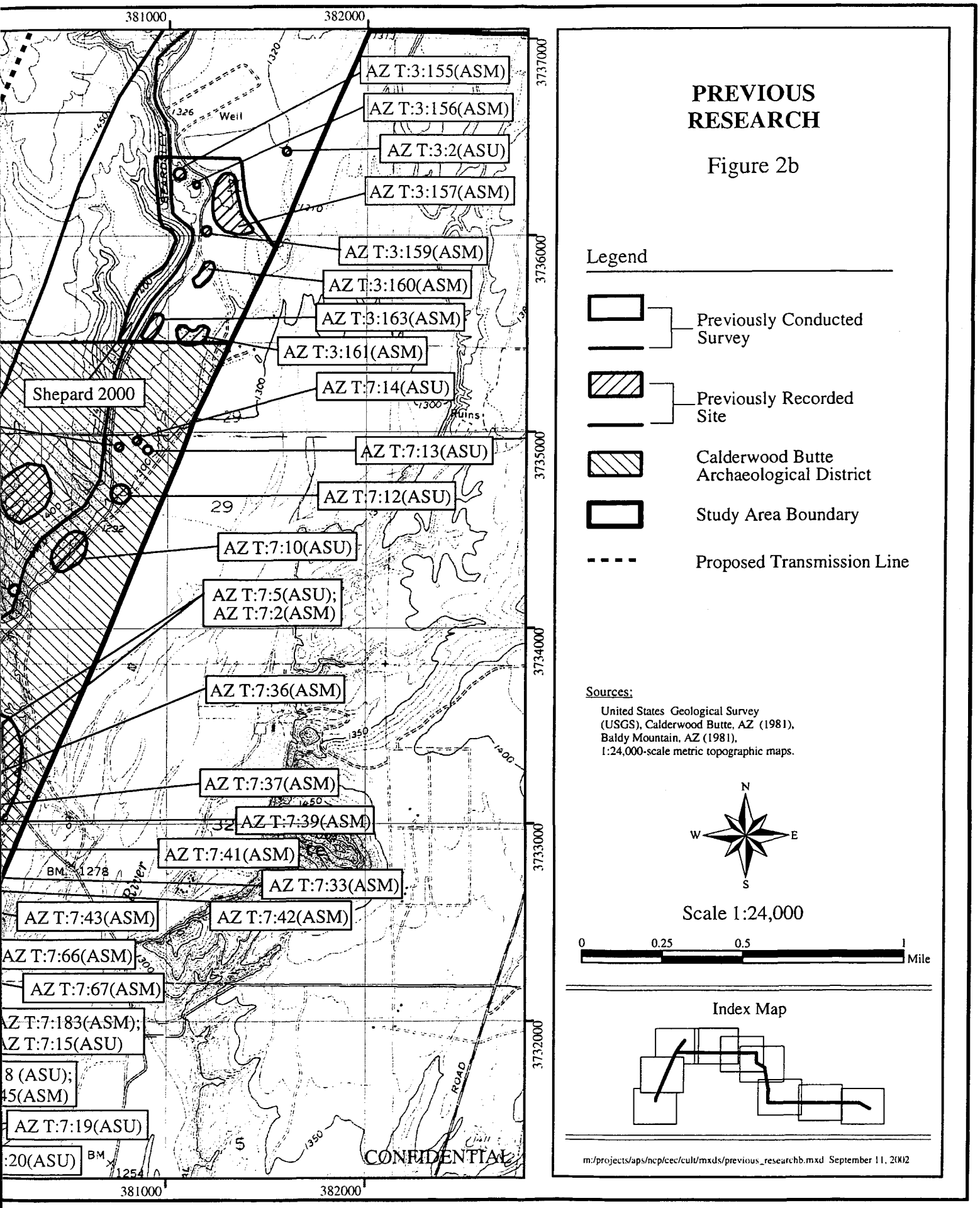
3732000
Greenwald and Keller 1989
Rhodes et al. 1991
Slawson 1999
Effland and Green 1986; Green 1986
AZ T:3:153 (ASM)
AZ T:7:22(ASU)
AZ T:7:9(ASU)
AZ T:7:11(ASU)
AZ T:7:192(ASM)
AZ T:7:190 (ASM)
AZ T:7:191 (ASM)
AZ T:7:35(ASM)
AZ T:7:34(ASM)
AZ T:7:64(ASM)
AZ T:7:193 (ASM)
Gage 2002
Garcia et al. 1999
AZ T:7:17(ASU)
AZ T:7:251 (ASM)
AZ T:7:38(ASM)
AZ T:7:187 (ASM)
AZ T:7:40(ASM)
Effland and Green 1986; Green 1986
AZ T:7:16(ASU)
AZ T:7:188 (ASM)
AZ T:7:65(ASM)
T5N
T4N
AZ T:3:55 (ASM)
Rhodes et al. 1991


PREVIOUS RESEARCH
Figure 2b
Legend
Previously Conducted Survey
Previously Recorded Site
Calderwood Butte Archaeological District
Study Area Boundary
Proposed Transmission Line
Sources:
United States Geological Survey (USGS), Calderwood Butte, AZ (1981), Baldy Mountain, AZ (1981), 1:24,000-scale metric topographic maps.
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3735000
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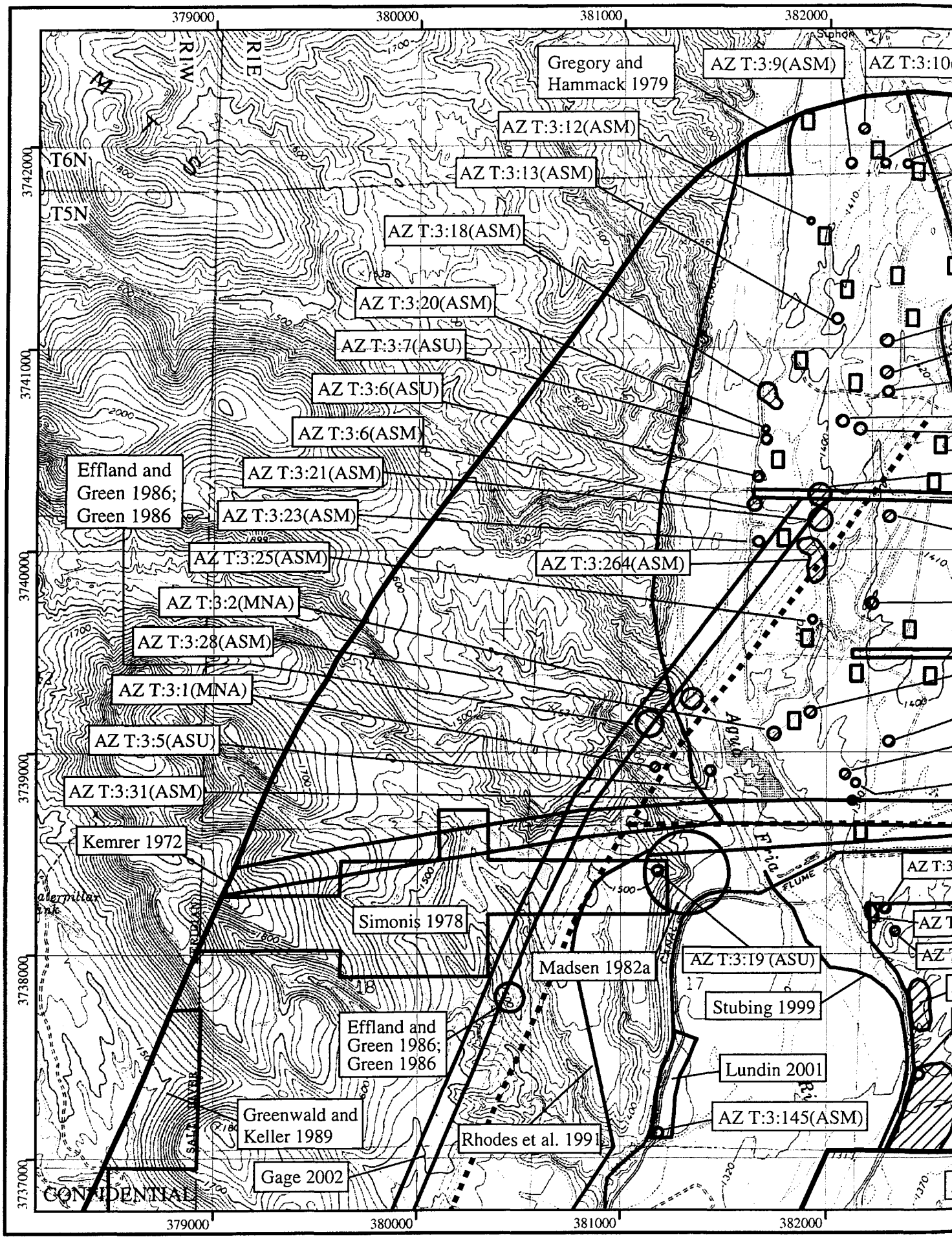
AZ T:3:155(ASM)
AZ T:3:156(ASM)
AZ T:3:2(ASU)
AZ T:3:157(ASM)
AZ T:3:159(ASM)
AZ T:3:160(ASM)
AZ T:3:163(ASM)
AZ T:3:161(ASM)
Shepard 2000
AZ T:7:14(ASU)
AZ T:7:13(ASU)
AZ T:7:12(ASU)
AZ T:7:10(ASU)
AZ T:7:5(ASU); AZ T:7:2(ASM)
AZ T:7:36(ASM)
AZ T:7:37(ASM)
AZ T:7:39(ASM)
AZ T:7:41(ASM)
AZ T:7:33(ASM)
AZ T:7:43(ASM)
AZ T:7:42(ASM)
AZ T:7:66(ASM)
AZ T:7:67(ASM)
AZ T:7:183(ASM); AZ T:7:15(ASU)
8 (ASU); 45(ASM)
AZ T:7:19(ASU)
:20(ASU)
CONFIDENTIAL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3740000
3739000
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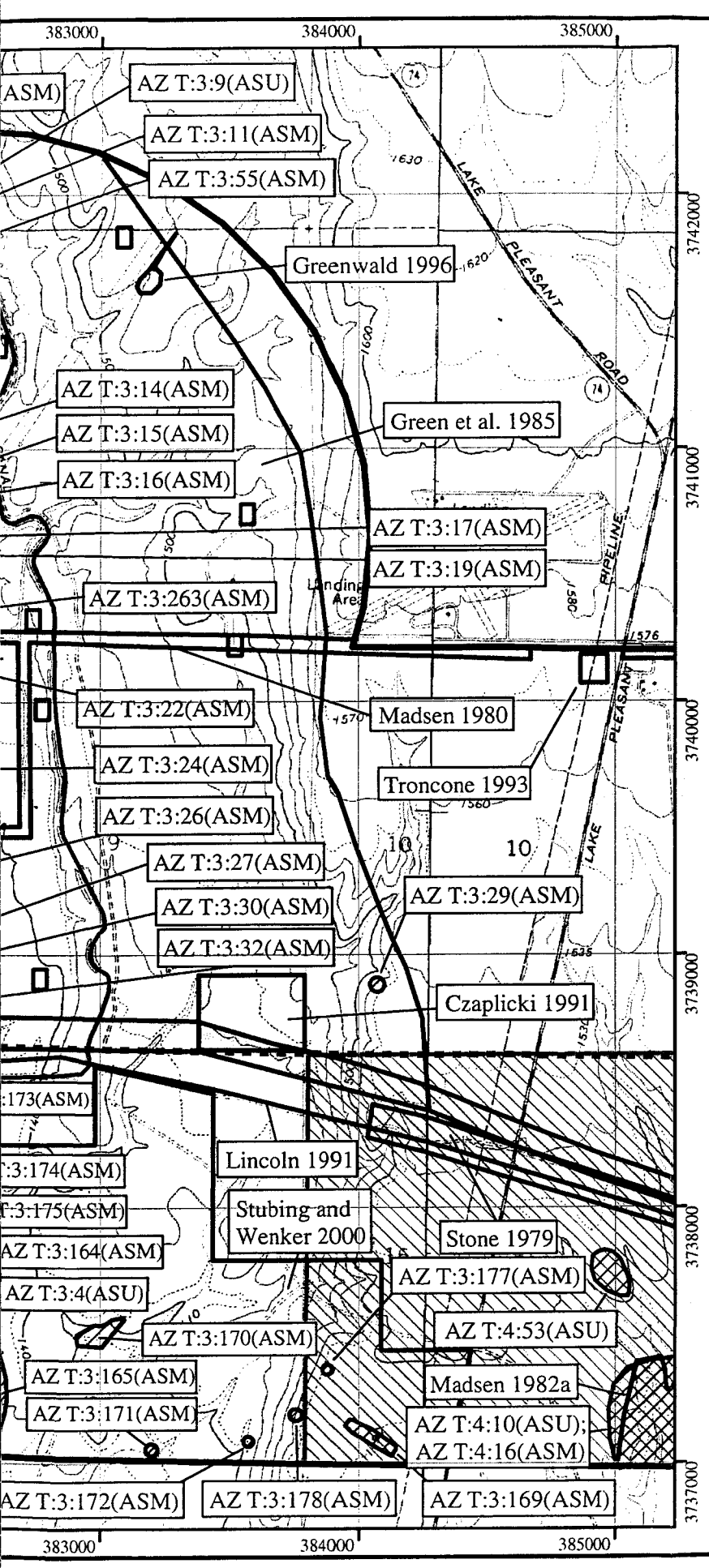
3737000
T6N
T5N
R1W
R1E
Gregory and Hammack 1979
AZ T:3:9(ASM)
AZ T:3:12(ASM)
AZ T:3:13(ASM)
AZ T:3:18(ASM)
AZ T:3:20(ASM)
AZ T:3:7(ASU)
AZ T:3:6(ASU)
AZ T:3:6(ASM)
AZ T:3:21(ASM)
Effland and Green 1986; Green 1986
AZ T:3:23(ASM)
AZ T:3:25(ASM)
AZ T:3:264(ASM)
AZ T:3:2(MNA)
AZ T:3:28(ASM)
AZ T:3:1(MNA)
AZ T:3:5(ASU)
AZ T:3:31(ASM)
Kemrer 1972
Simonis 1978
Madsen 1982a
AZ T:3:19 (ASU)
Stubing 1999
Effland and Green 1986; Green 1986
Lundin 2001
Greenwald and Keller 1989
AZ T:3:145(ASM)
Rhodes et al. 1991
Gage 2002
FLUME
CONFIDENTIAL



PREVIOUS RESEARCH

Figure 2c

Legend

- Previously Conducted Survey
- Previously Recorded Site
- Lincoln and Rogge 1983 (Previously Conducted Survey)
- New River Dam Archaeological District
- Study Area Boundary
- Proposed Transmission Line

Sources:

United States Geological Survey (USGS), Baldy Mountain, AZ (1981), Biscuit Flat, AZ (1981), 1:24,000-scale metric topographic maps.

N
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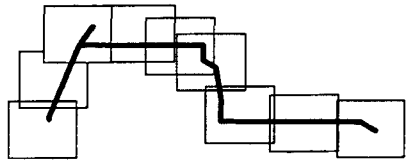
Scale 1:24,000

0 0.25 0.5 1 Mile

Index Map



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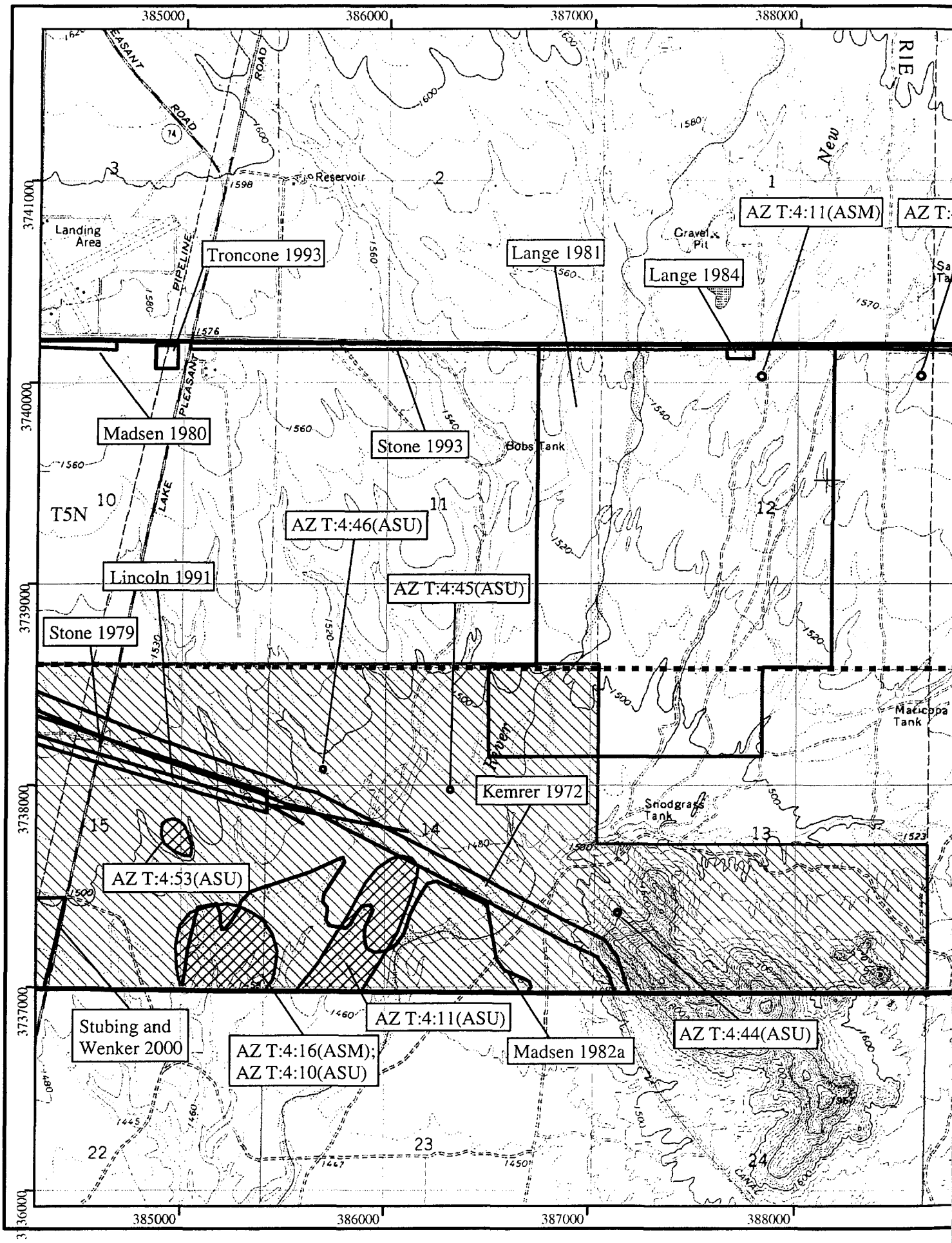
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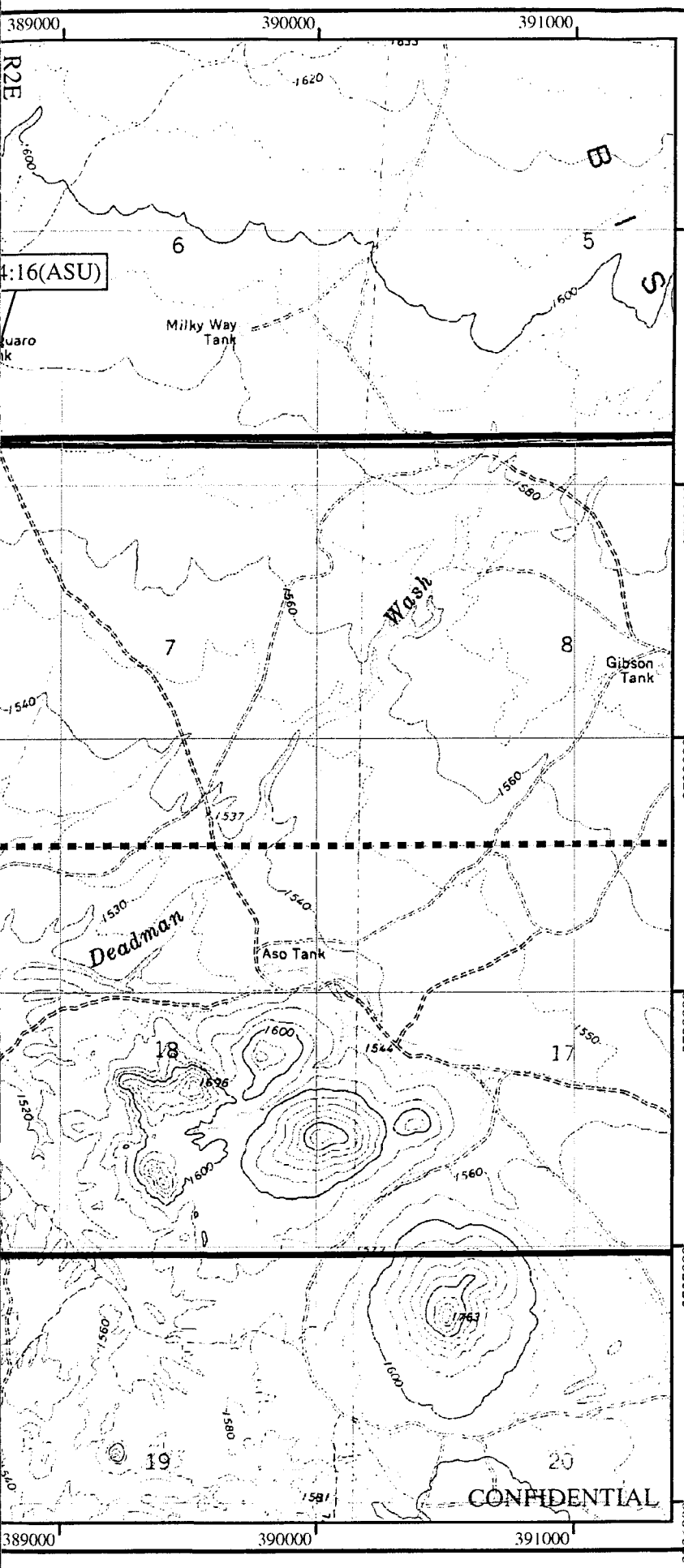
Troncone 1993
Lange 1981
Lange 1984
AZ T:4:11(ASM)
Madsen 1980
Stone 1993
AZ T:4:46(ASU)
Lincoln 1991
AZ T:4:45(ASU)
Stone 1979
Kemrer 1972
AZ T:4:53(ASU)
Stubing and Wenker 2000
AZ T:4:16(ASM); AZ T:4:10(ASU)
AZ T:4:11(ASU)
Madsen 1982a
AZ T:4:44(ASU)
T5N
Landing Area
Reservoir
Gravel Pit
Bobs Tank
Maricopa Tank
Snodgrass Tank
PLEASANT ROAD
PIPELINE
LAKE
New
Raven
CANAL



PREVIOUS RESEARCH

Figure 2d

Legend

- Previously Conducted Survey
- Previously Recorded Site
- New River Dam Archaeological District
- Study Area Boundary
- Proposed Transmission Line

Sources:

United States Geological Survey (USGS), Biscuit Flat, AZ (1981), 1:24,000-scale metric topographic map.

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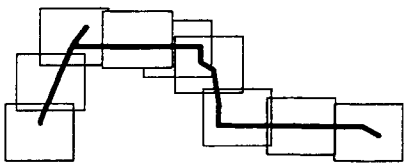
Scale 1:24,000

0 0.25 0.5 1 Mile

Index Map



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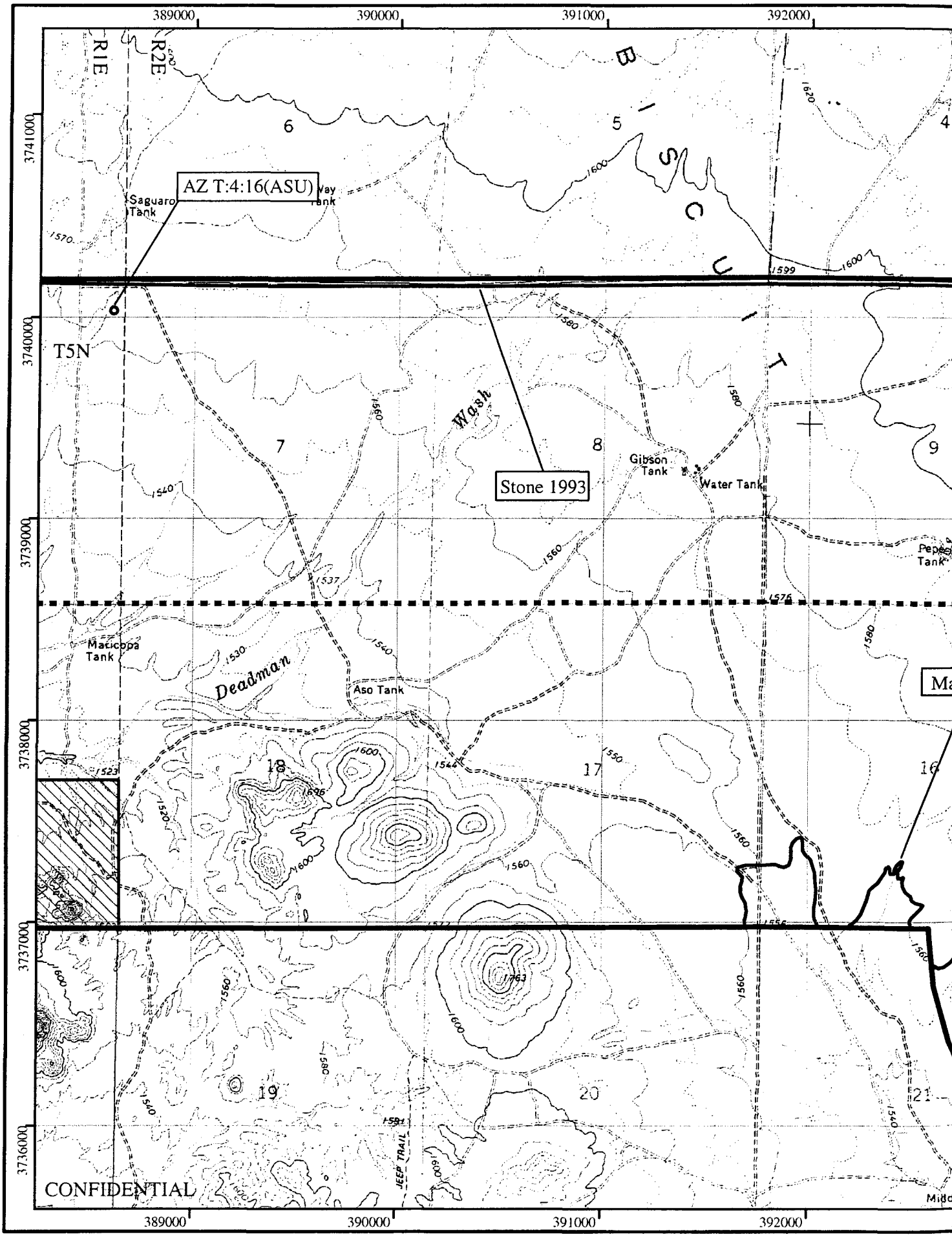
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3738000
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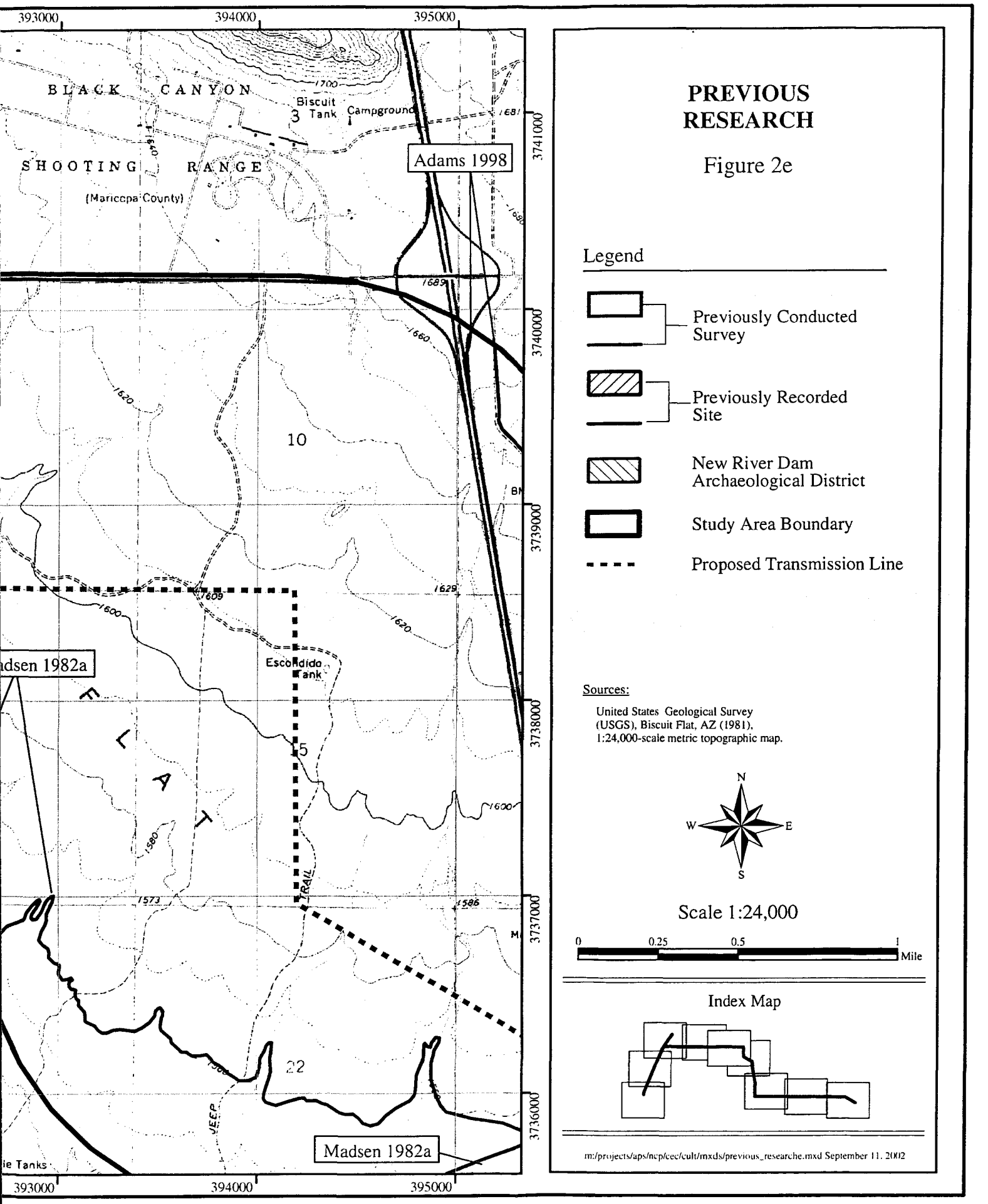
R1E
R2E
T5N
AZ T:4:16(ASU)
Saguaro Tank
Stone 1993
Gibson Tank
Water Tank
Pepper Tank
Maricopa Tank
Deadman Wash
Aso Tank
JEEP TRAIL
CONFIDENTIAL


PREVIOUS RESEARCH
Figure 2e
Legend
Previously Conducted Survey
Previously Recorded Site
New River Dam Archaeological District
Study Area Boundary
Proposed Transmission Line
Sources:
United States Geological Survey (USGS), Biscuit Flat, AZ (1981), 1:24,000-scale metric topographic map.
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Scale 1:24,000
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Mile
Index Map
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BLACK CANYON
SHOOTING RANGE
(Maricopa County)
Biscuit Tank
Campground
Adams 1998
Madsen 1982a
Escondido Tank
FLAT
TRAIL
JEEP
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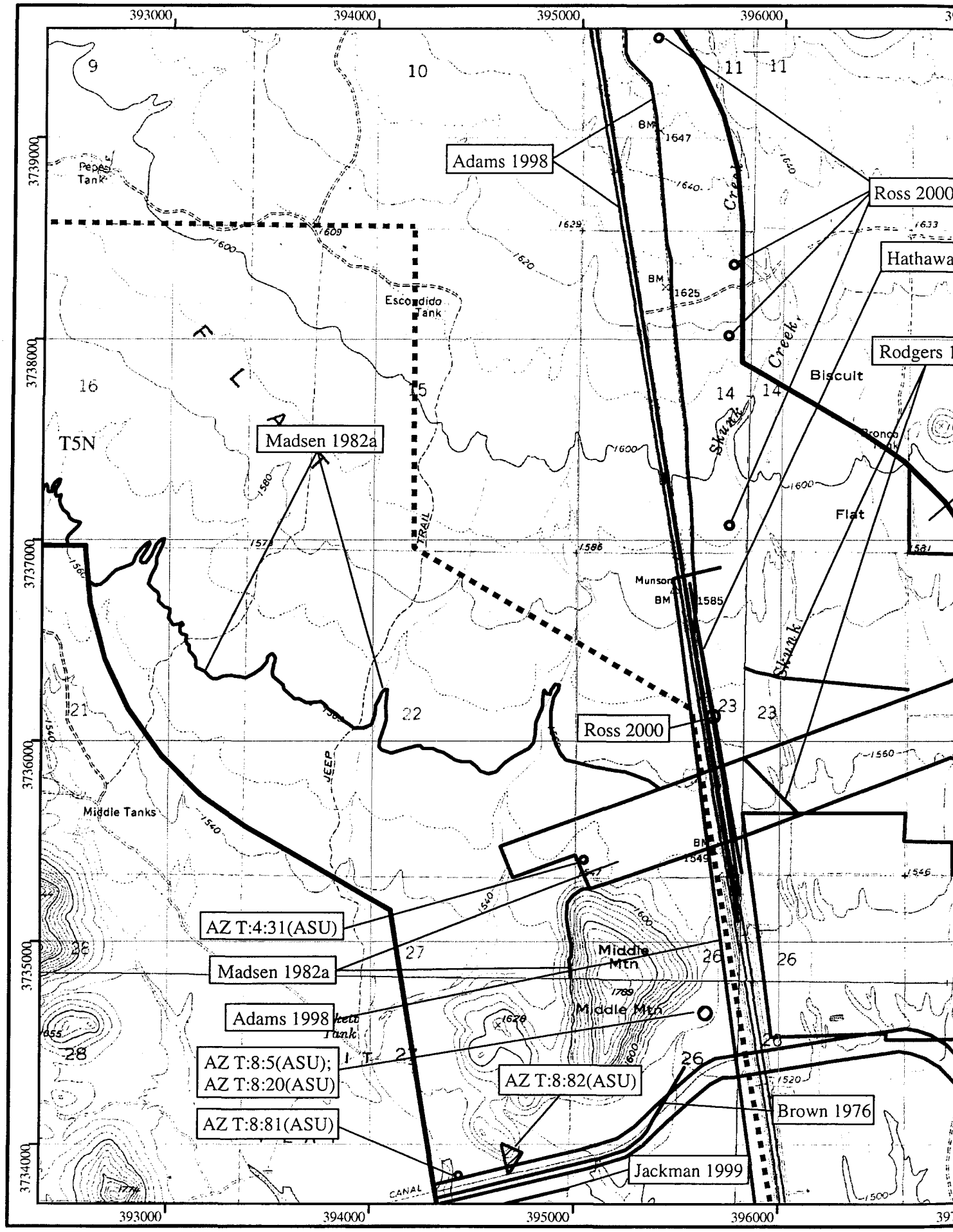
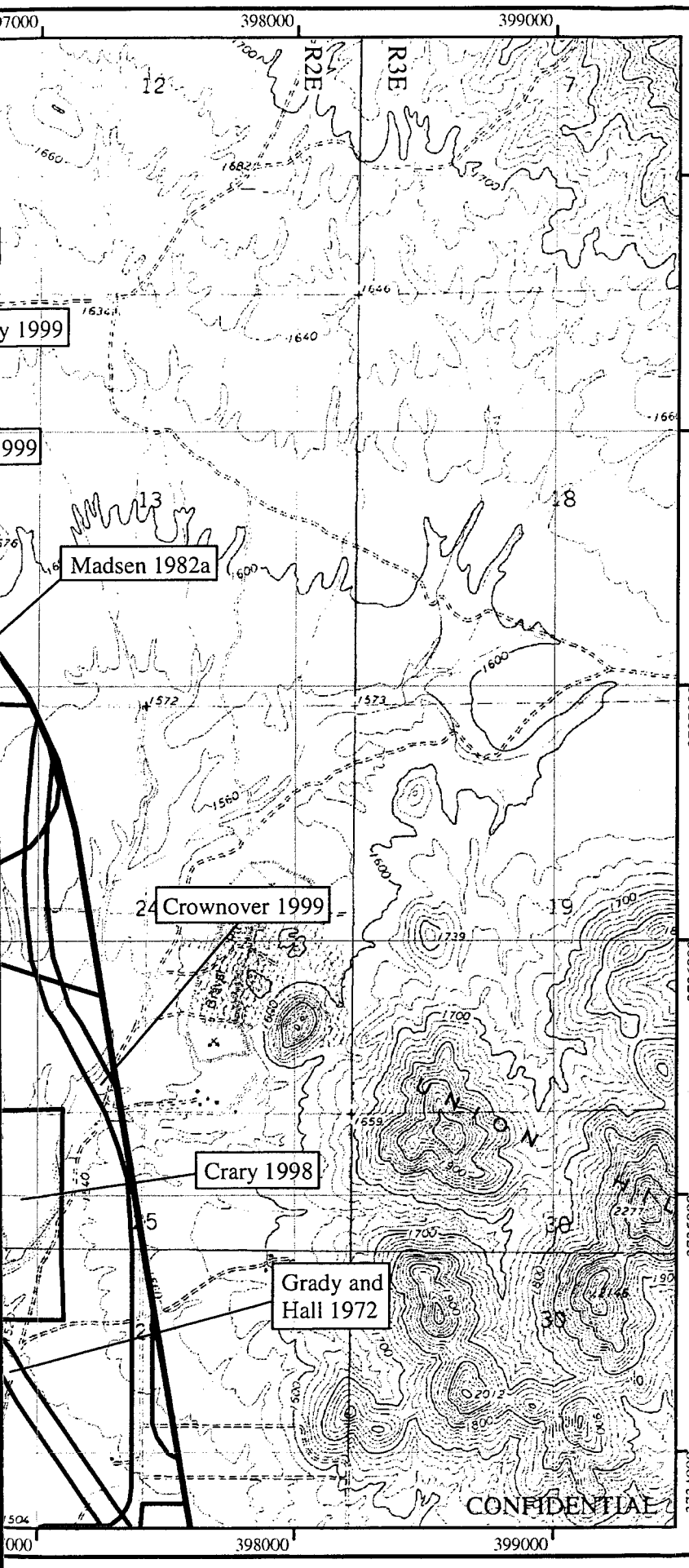
3739000
3738000
3737000
3736000


Adams 1998
Ross 2000
Hathawa
Rodgers 1
Madsen 1982a
Ross 2000
AZ T:4:31(ASU)
Madsen 1982a
Adams 1998
AZ T:8:5(ASU);
AZ T:8:20(ASU)
AZ T:8:81(ASU)
AZ T:8:82(ASU)
Brown 1976
Jackman 1999
T5N
Pepes Tank
Escondido Tank
Middle Tanks
Middle Mtn
Biscuit
Flat
Skunk Creek
JEEP TRAIL
CANAL
393000
394000
395000
396000
3739000
3738000
3737000
3736000
3735000
3734000



PREVIOUS RESEARCH

Figure 2f

Legend

- Previously Conducted Survey
- Previously Recorded Site
- Study Area Boundary
- Proposed Transmission Line

Sources:

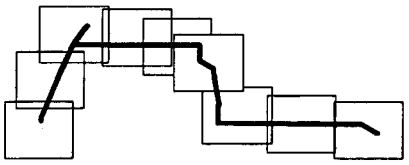
United States Geological Survey (USGS), Biscuit Flat, AZ (1981), Hedgpeth Hills, AZ (1981), New River SE, AZ (1981), Union Hills, AZ (1981) 1:24,000-scale metric topographic maps.

N
W E
S

Scale 1:24,000

0 0.25 0.5 1 Mile

Index Map



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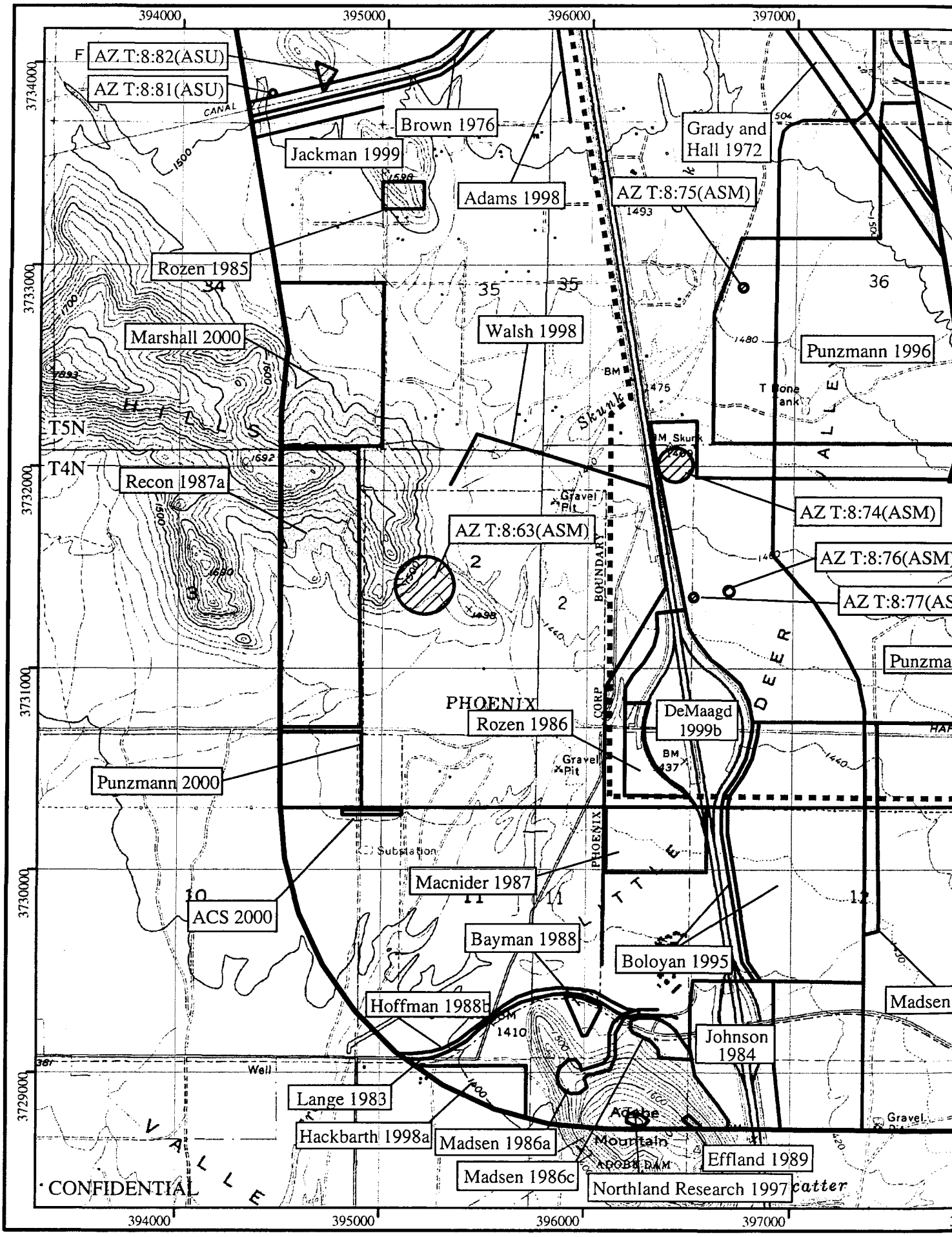
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395000
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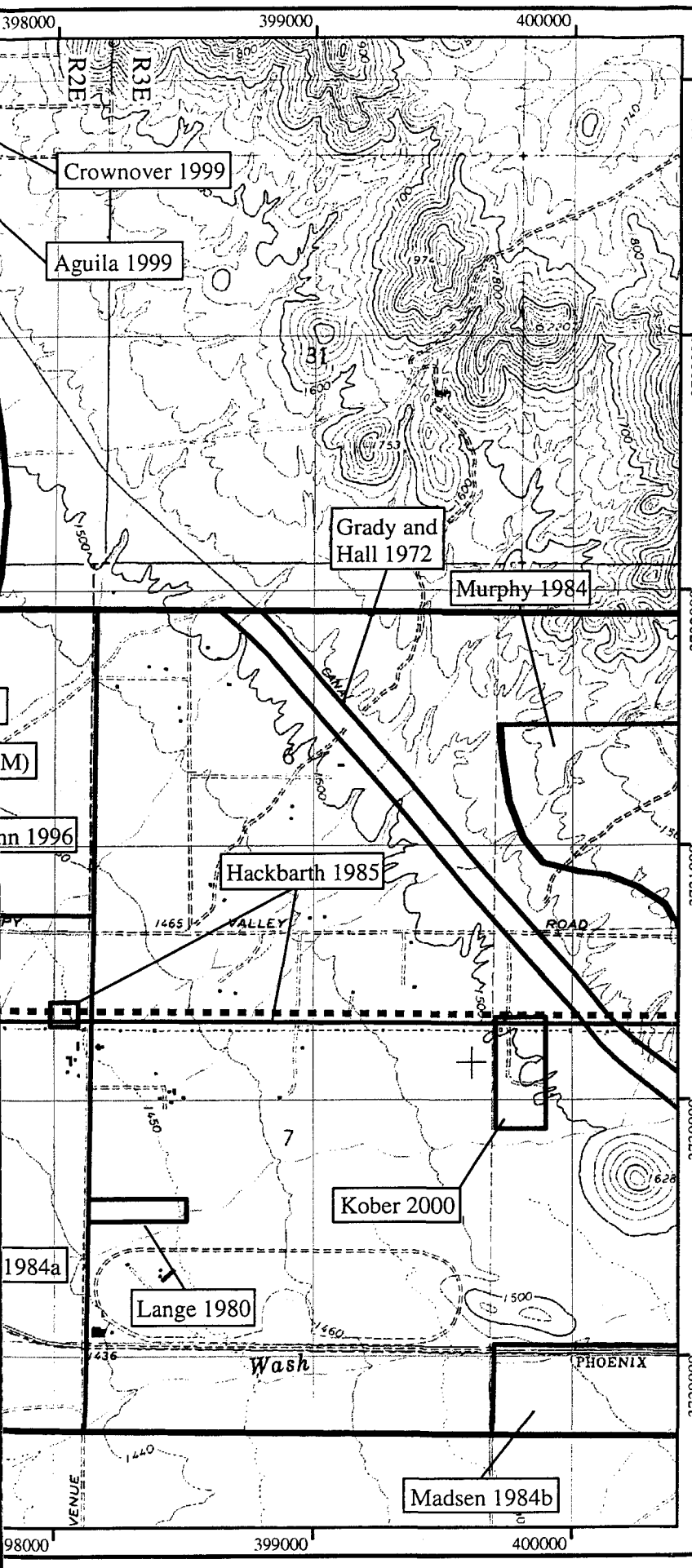
3730000
3729000
AZ T:8:82(ASU)
AZ T:8:81(ASU)
CANAL
Brown 1976
Jackman 1999
Adams 1998
Grady and Hall 1972
AZ T:8:75(ASM)
Rozen 1985
Marshall 2000
Walsh 1998
Punzmann 1996
T5N
T4N
Recon 1987a
AZ T:8:74(ASM)
AZ T:8:63(ASM)
AZ T:8:76(ASM)
AZ T:8:77(AS
Punzma
PHOENIX
Rozen 1986
DeMaagd 1999b
Punzmann 2000
Macnider 1987
ACS 2000
Bayman 1988
Boloyan 1995
Madsen
Hoffman 1988b
Johnson 1984
Lange 1983
Hackbarth 1998a
Madsen 1986a
Effland 1989
Madsen 1986c
Northland Research 1997
CONFIDENTIAL



PREVIOUS RESEARCH

Figure 2g

Legend

- Previously Conducted Survey
- Previously Recorded Site
- Study Area Boundary
- Proposed Transmission Line

Sources:

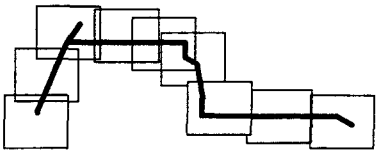
United States Geological Survey (USGS), Hedgpeth Hills, AZ (1981), Union Hills, AZ (1981), 1:24,000-scale metric topographic maps.

N
W E
S

Scale 1:24,000

0 0.25 0.5 1 Mile

Index Map



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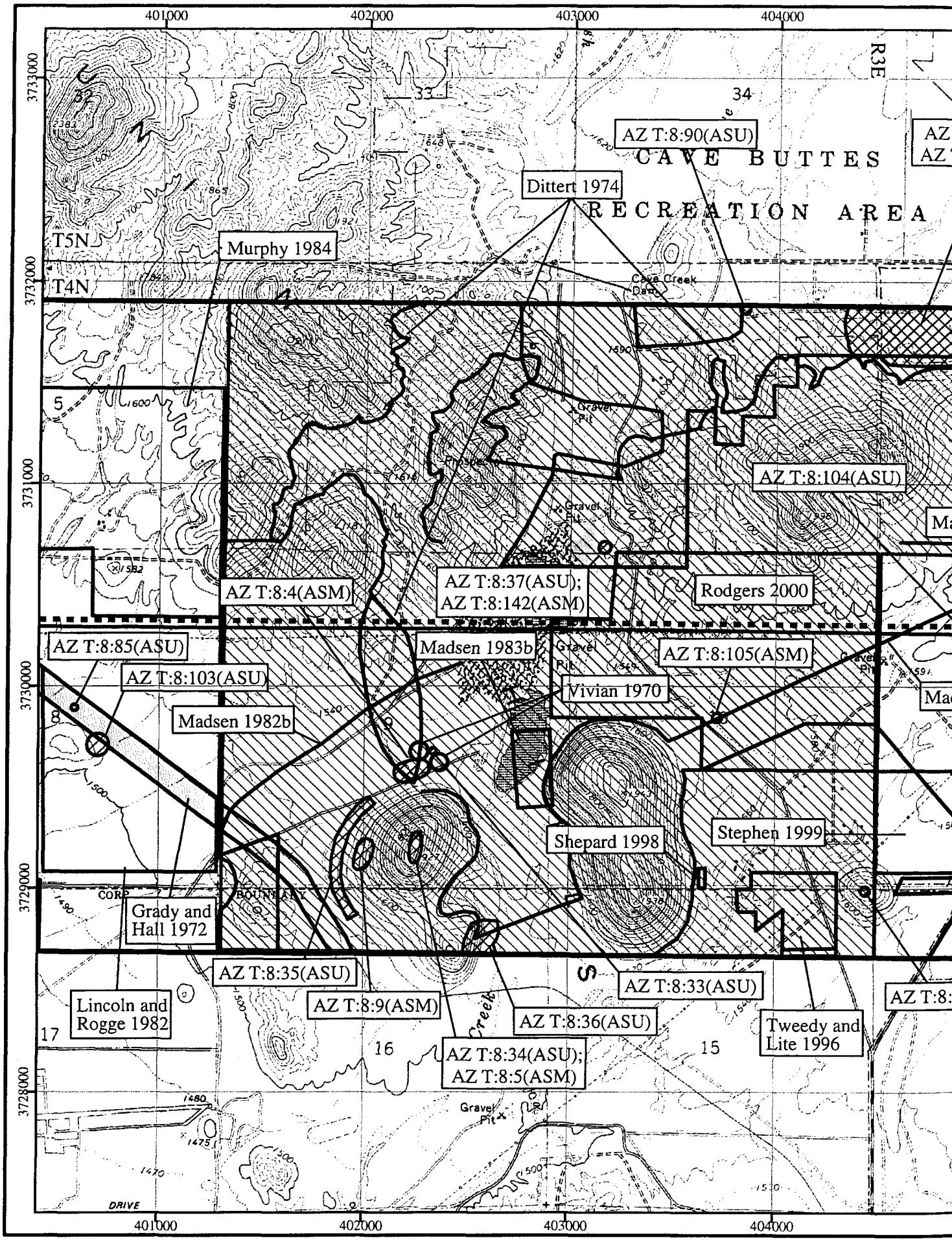
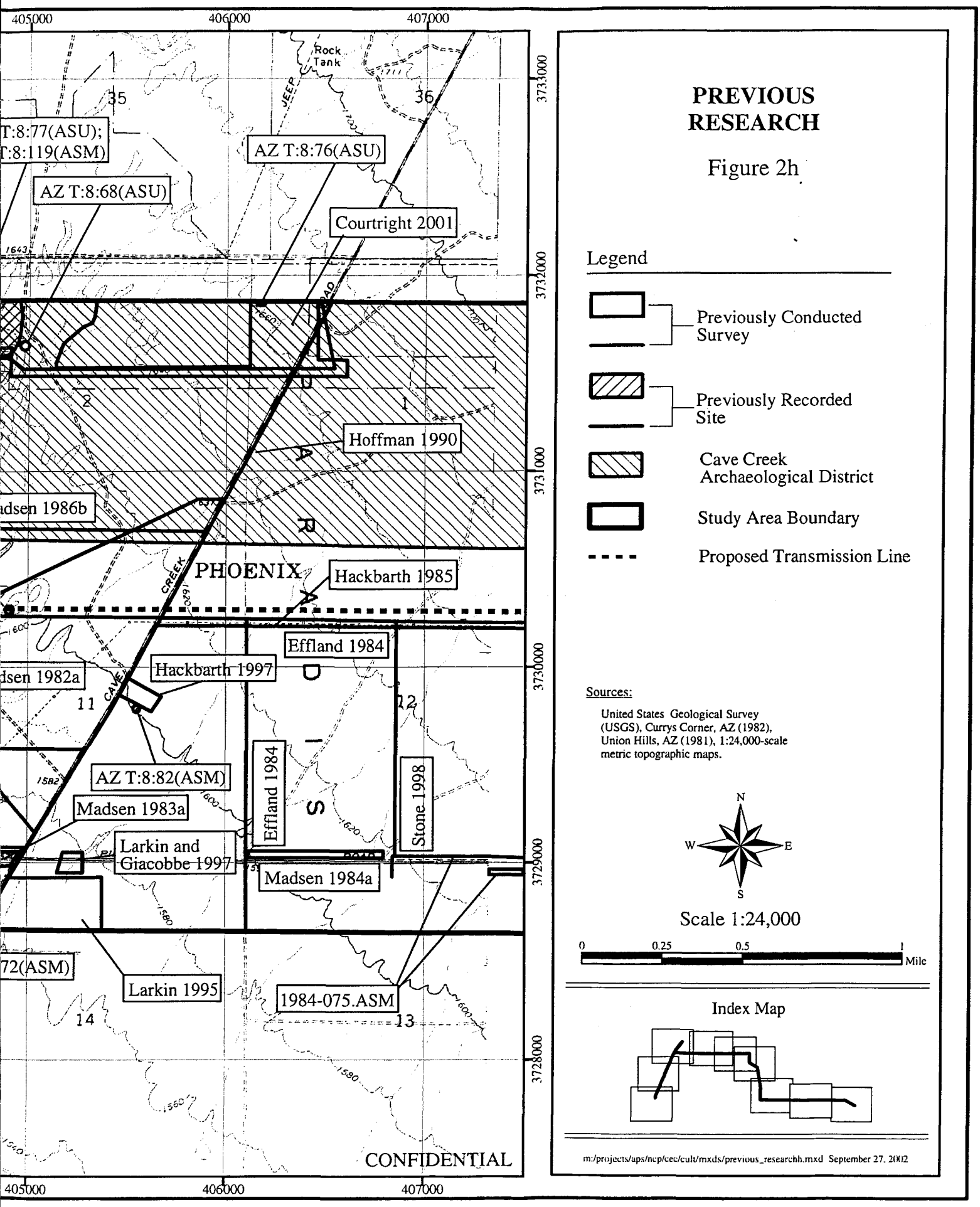

401000
402000
403000
404000
3733000
3732000
3731000
3730000
3729000
3728000
R3E
T5N
T4N
CAVE BUTTES
RECREATION AREA
AZ T:8:90(ASU)
Dittert 1974
Murphy 1984
Cave Creek Dam
Gravel Pit
AZ T:8:104(ASU)
AZ T:8:4(ASM)
AZ T:8:37(ASU);
AZ T:8:142(ASM)
Rodgers 2000
AZ T:8:85(ASU)
AZ T:8:103(ASU)
Madsen 1983b
AZ T:8:105(ASM)
Vivian 1970
Madsen 1982b
Shepard 1998
Stephen 1999
Grady and Hall 1972
AZ T:8:35(ASU)
AZ T:8:33(ASU)
Lincoln and Rogge 1982
AZ T:8:9(ASM)
AZ T:8:36(ASU)
Tweedy and Lite 1996
AZ T:8:34(ASU);
AZ T:8:5(ASM)
Creek
DRIVE


PREVIOUS RESEARCH
Figure 2h
Legend
Previously Conducted Survey
Previously Recorded Site
Cave Creek Archaeological District
Study Area Boundary
Proposed Transmission Line
Sources:
United States Geological Survey (USGS), Currys Corner, AZ (1982), Union Hills, AZ (1981), 1:24,000-scale metric topographic maps.
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W
E
S
Scale 1:24,000
0
0.25
0.5
1
Mile
Index Map
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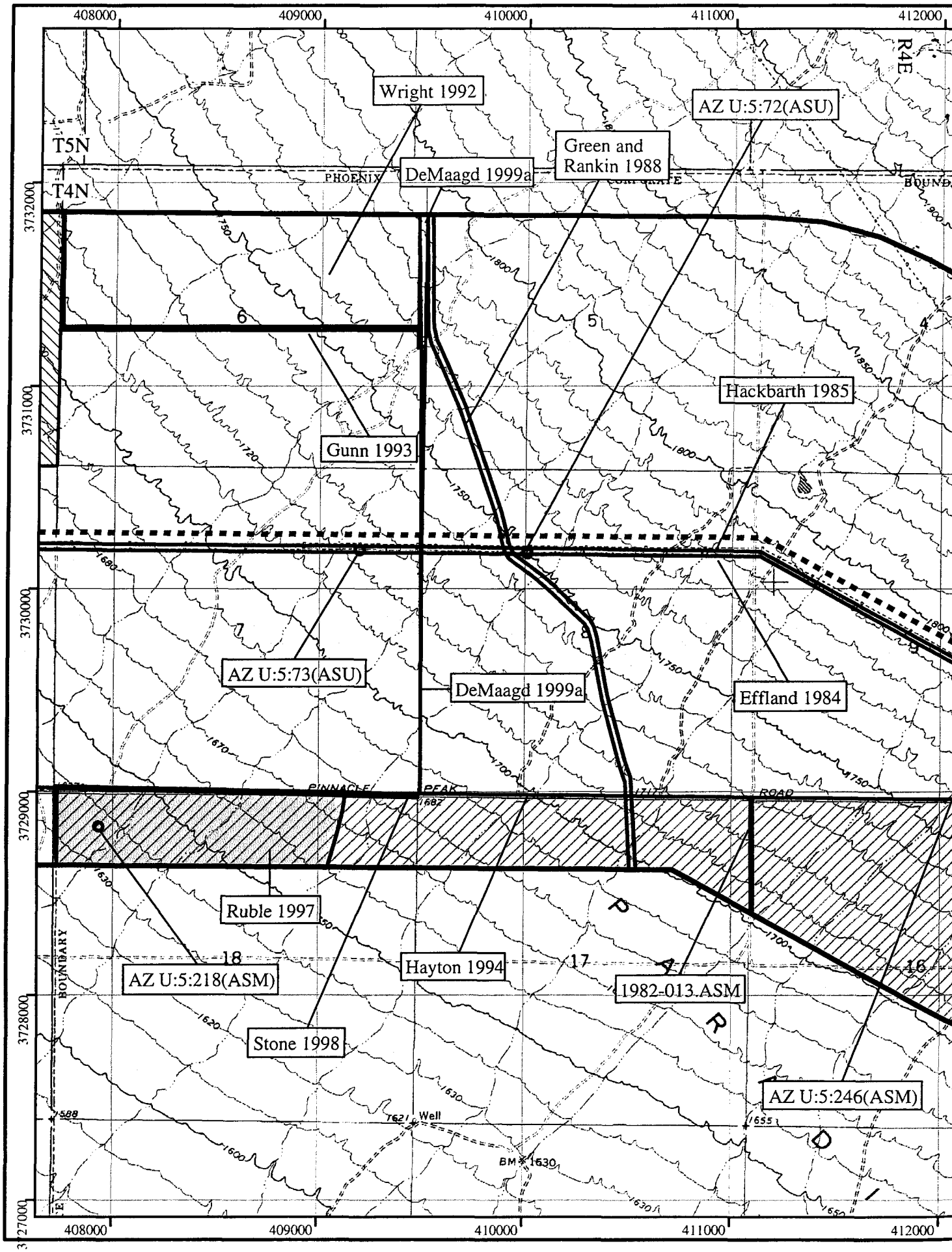
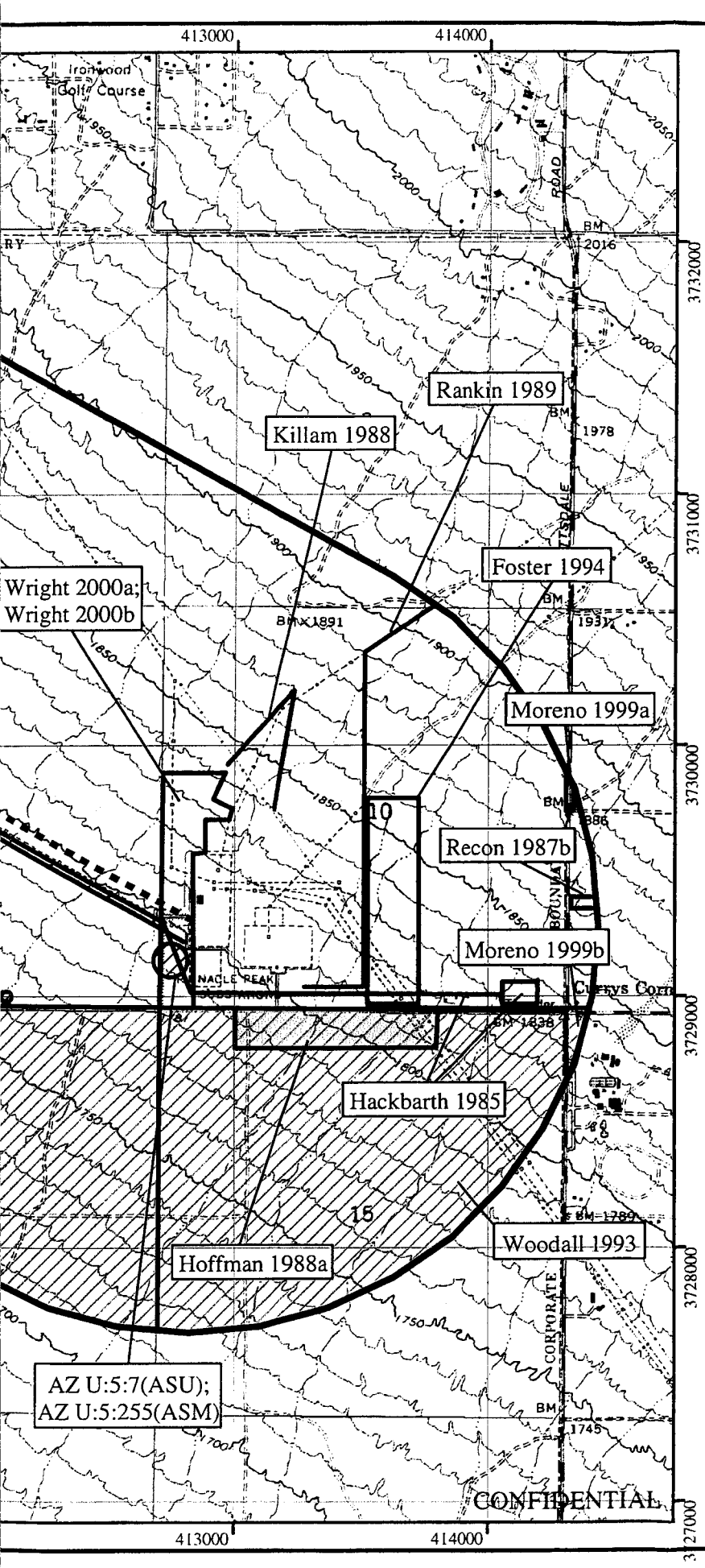
405000
406000
407000
3733000
3732000
3731000
3730000
3729000
3728000
Rock Tank
JEEP
T:8:77(ASU);
T:8:119(ASM)
AZ T:8:76(ASU)
AZ T:8:68(ASU)
Courtright 2001
Hoffman 1990
adsen 1986b
PHOENIX
Hackbarth 1985
Effland 1984
dsen 1982a
Hackbarth 1997
CAVE
CREEK
AZ T:8:82(ASM)
Madsen 1983a
Effland 1984
Stone 1998
Larkin and Giacobbe 1997
Madsen 1984a
72(ASM)
Larkin 1995
1984-075.ASM
CONFIDENTIAL


408000
409000
410000
411000
412000
3732000
3731000
3730000
3729000
3728000
3727000
R4E
T5N
T4N
Wright 1992
AZ U:5:72(ASU)
Green and Rankin 1988
DeMaagd 1999a
Hackbarth 1985
Gunn 1993
AZ U:5:73(ASU)
DeMaagd 1999a
Effland 1984
Ruble 1997
AZ U:5:218(ASM)
Hayton 1994
1982-013.ASM
Stone 1998
AZ U:5:246(ASM)
PHOENIX
PINNACLE
PEAK
ROAD
BOUNDARY
Well
BM 1630



PREVIOUS RESEARCH

Figure 2i

Legend

- Previously Conducted Survey
- Previously Recorded Site
- Cave Creek Archaeological District
- Northeast Phoenix Partners 1988 (Previously Conducted Survey)
- Study Area Boundary
- Proposed Transmission Line

Sources:

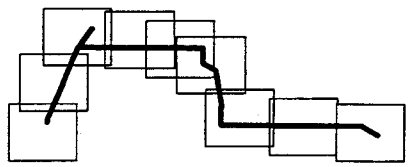
United States Geological Survey (USGS), Currys Corner, AZ (1982), 1:24,000-scale metric topographic maps.

N
W E
S

Scale 1:24,000

0 0.25 0.5 1 Mile

Index Map



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Prior Cultural Resource Surveys

The earliest cultural resource survey within the study area was conducted in 1970. Through the 1970s, most cultural resource surveys were in conjunction with hydrological projects for water procurement throughout Arizona, for example the Phoenix Vicinity Flood Control Project (Vivian 1970), and several projects associated with the construction of the Granite Reef Aqueduct (Brown 1976; Grady and Hall 1972; Kemrer 1972; Stone 1979).

Approximately 80 percent of previous surveys identified were conducted through the 1980s and 1990s. These studies have been performed primarily for suburban development and utilities expansion to facilitate the growth of the Phoenix metropolitan area. Additionally, studies like the El Mirage Loop 303 Corridor (Garcia et al. 1999) and the Lakeland Village Development (Slawson 1999) recorded many archaeological sites within our study area.

Most cultural resource surveys performed since 2000 are smaller block-type surveys or short linear alignments conducted for a wide variety of project types including resource procurement, continuing suburban development, and road maintenance. Some recent surveys, like the Calderwood Peoria 120 Acre Project (Shepard 2000) have been successful in locating new archaeological sites. Of the more recent studies, most have rerecorded known sites to update old records.

Previously Recorded Sites

Of the 155 previously recorded sites, 13 are identified as historic features, such as canals and roads, or historic trash scatters. Most sites in the study area are prehistoric with the majority of these located within three archaeological districts. The Calderwood Butte, Cave Creek Dam, and New River Dam Archaeological Districts encompass over 21,000 acres containing over 130 archaeological sites. Other identified sites were recorded in the 1960s and 1970s by ASU and ASM. These early documentations give little information on site descriptions and possible associations with formal cultural resource projects.

A total of seven previously recorded sites were identified by class I records review as occurring within or immediately adjacent to the APE of the North Valley 230kV proposed route. Five sites were originally identified during records review. An additional two sites were identified as being previously recorded only after completion of fieldwork. These sites are: AZ T:7:192 (ASM); AZ T:3:264 (ASM); AZ T:3:1 (MNA), AZ T:3:2 (MNA); AZ T:8:104 (ASU); AZ U:5:72 (ASU), and AZ U:5:73 (ASU). All of these site locations were revisited during intensive field survey of the proposed project area.

Four of the previously identified sites, AZ T:3:1 (MNA), AZ T:3:2 (MNA), AZ T:3:264 (ASM), and AZ T:7:192 (ASM), are situated either within or immediately adjacent to the APE and have not been previously evaluated for NRHP eligibility. These sites were revisited and assessed for eligibility during field survey. All of these sites are located in the extreme western portion of the

proposed project and are depicted on the Baldy Mountain and Calderwood Butte 7.5-minute USGS topographic quadrangles.

Site AZ T:3:1 (MNA), just beyond the right-of-way 200 feet to the west, is a sherd scatter that has not been evaluated for NRHP significance.

Site AZ T:3:2 (MNA), located within the APE, is an artifact scatter containing sherds, lithics, and ground stone. Evidence of previous site disturbance (pot holes) has been noted in the records. At the time the site was recorded, it was not evaluated for NRHP significance.

AZ T:3:264 (ASM), located within the APE, is a multi-component artifact scatter consisting of both historic and prehistoric artifacts concentrated in two discrete loci. This site was identified in the field rather than through record review. Locus 1, the historic concentration, is located outside of the APE of the proposed project area to the west. Locus 2, the prehistoric concentration, is located within the APE of the proposed project area and was revisited during survey.

AZ T:7:192 (ASM), located within the APE, is a very large and extensive Hohokam agriculture and habitation site which has only been incompletely recorded, given its size and multi-agency jurisdiction land ownership issues. Current data suggests that the site may be two miles in length (Laurie Slawson 2002). Although this site did not initially appear on the records review due to its recent investigation, field observation and personal communication provided additional information. Excavation at the site conducted by Aztlan Archaeology in 2001 revealed the presence of pithouses, field houses, and extensive dry farming features (Slawson et al. 2001). The evidence suggests that this site is eligible for inclusion on the NRHP.

Three of the previously recorded sites, AZ T:8:104 (ASU), AZ U:5:72 (ASU), and AZ U:5:73 (ASU), were evaluated as not eligible for the NRHP. All of these sites are located in the eastern and central portion of the proposed project area and are depicted on the Curry's Corner and Union Hills 7.5-minute USGS topographic quadrangles. Intensive field survey of the site locations did not relocate the sites. It is likely that these sites have been destroyed by construction activity in the area.

Site AZ T:8:104 (ASU) is situated in the APE of the proposed project. It is described as a pot drop within a 1-square-meter area. This site had been previously evaluated as not eligible for the NRHP. This site location was revisited but the site was not relocated by intensive field survey. Extensive disturbance in the area for erosion control has likely resulted in the destruction of this site.

Site AZ U:5:72 (ASU) is situated immediately adjacent to the APE of the proposed project. The site is described as a small sherd scatter within a 25-square-meter area. This site had been previously evaluated as not eligible for the NRHP. This site location was revisited but the site was not relocated by intensive field survey. Extensive disturbance in the area associated with the construction of the existing transmission corridor has likely resulted in the destruction of this site.

AZ U:5:73 (ASU) is situated immediately adjacent to the APE of the proposed project. The site is described as a small scatter of chipped stone and ceramic artifacts within a 600-square-meter area. This site was previously evaluated as not eligible for the NRHP. This site location was revisited but the site was not relocated by intensive field survey. Extensive disturbance in the area associated with the construction of the existing transmission corridor has likely resulted in the destruction of this site.

The proposed transmission line crosses portions of three areas of archaeological interest; (1) the Calderwood Butte Archaeological District; (2) New River Archaeological District; and (3) Cave Creek Archaeological District. The New River Dam and Cave Creek archaeological districts have been determined eligible for inclusion on the NRHP. Calderwood Butte Archaeological District is on the state inventory. These areas represent zones of high archaeological potential that can be found in many localities across the northern margins of the Phoenix Basin.

Calderwood Butte Archaeological District

The Calderwood Butte Archaeological District encompasses approximately 4,480 acres along the lower Agua Fria River and contains more than 70 archaeological sites (Rogge and Darrington 2000). Previous research along the Agua Fria River suggests that this area has been occupied since AD 300 and it contains evidence of prehistoric and historic use. One of the most interesting sites within this area is the Westwing Site, AZ T:7:27 (ASU), a classic period Hohokam Village investigated by Arizona State University in the early 1970s (Weaver 1974). This area also contains evidence of prehistoric settlements and historic irrigation and ranching establishments. The proposed North Valley transmission line route crosses approximately 3½ miles of the Calderwood Butte Archaeological District in an area where two transmission lines already exist. No archaeological or historic sites are known to be present within this portion of the district.

New River Dam Archaeological District

New River Dam Archaeological District contains approximately 9,000 acres along the middle New River drainage. Currently, 43 archaeological sites have been recorded within this district. These sites range from large habitation sites to sherd and lithic scatters. The proposed transmission line follows the northern edge of the district for approximately 2 miles. No previously recorded sites are located within the APE within this portion of the district.

Cave Creek Dam Archaeological District

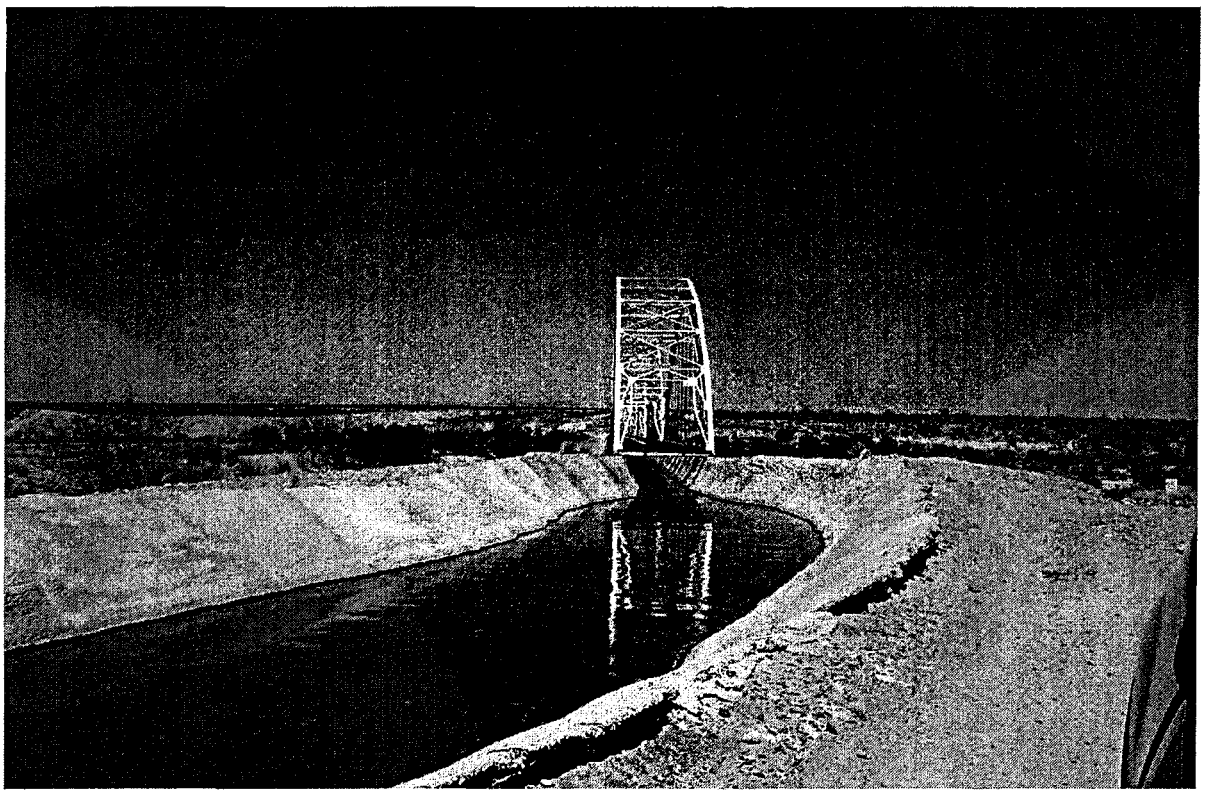
Cave Creek Dam Archaeological District contains approximately 8,000 acres within the Cave Creek Recreation Area. Prehistoric occupation of this area dates from AD 700. Currently, the inventory of known cultural resources includes 19 prehistoric sites, 3 historic sites, and 5 previously destroyed sites. These sites include habitation areas, field houses, garden plots,

agricultural terraces, water control features, canals, and petroglyph panels. The proposed transmission line crosses approximately 2 miles of the District. No previously recorded sites are located within the APE within this portion of the District.

The proposed transmission line crosses portions of two historic structures, the Beardsley Canal and the Black Canyon Road. Each of these structures are described below.

AZ T:3:55 (ASM) Beardsley Canal

AZ T:3:55 (ASM) refers to the historic Beardsley Canal alignment. This canal alignment was constructed in 1926 and is a part of the privately developed Maricopa County Water District irrigation system. It is 33 miles in length, and serves as the means by which surface water of the Agua Fria River stored in Lake Pleasant is delivered to water facilities in the Phoenix area. Photograph 3 is an overview of the Beardsley Canal as it occurs in the project area.



Photograph 3
Overview of AZ T:3:55 (ASM) looking northeast.

Original planning for the Beardsley Canal was begun in 1888 by an investor consortium called the Agua Fria Water and Land Company (AFWLC). The eventual leader of this private consortium was William Beardsley, who unveiled extensive plans for irrigation development including the construction of two storage dams, a diversion dam, and 50 miles of main canal with an additional 200 miles of laterals (Fenicle et al. 1994). Under Beardsley's plan, approximately 160,000 acres on the west side of the Agua Fria River would have been developed as irrigated agricultural land.

Initial construction of the diversion dam and an earthen canal began in 1892. Unfortunately, construction was halted in 1895 due to a series of financial difficulties and flooding episodes. These misfortunes lead to the eventual bankruptcy of the AFWLC, and the sale at auction of the diversion dam and canal alignment. In 1897, these properties were repurchased by a private group of investors and returned to Beardsley.

Beardsley did not abandon hope for the eventual completion of the project. In 1925 he formed the Beardsley-Agua Fria Water Conservation District and sold bonds in order to finance completion of the project. At the end of 1925, the project was at last given the green light to proceed and was renamed the Maricopa County Municipal Water Conservation District #1. Despite the name, the district remained a private entity.

William Beardsley died in December of 1925. Upon his death, plans for construction passed on to engineer Carl Pleasant, who was able to secure private funding for the project from a New York investment company. Donald Waddell was a partner at this firm, and the future Waddell Dam was named in his honor.

Construction on the project began again in 1926 to 1927 and followed the original route of the earlier project from the diversion dam to a point approximately 1.5 miles to the south. At this point, the new route diverged from the original alignment and followed an eastern corridor. Under Pleasant's guidance, the project was finally completed in 1935.

In her report on the historic resources of the Agua Fria River, Jackman (2000) concluded that the eligibility of the Beardsley Canal for the NRHP was undetermined. The Bureau of Reclamation has concluded that at least the upper portions of the canal are Register-eligible (Fenicle et al. 1994). A more complete assessment of the historic integrity of the canal in its entirety has yet to be completed.

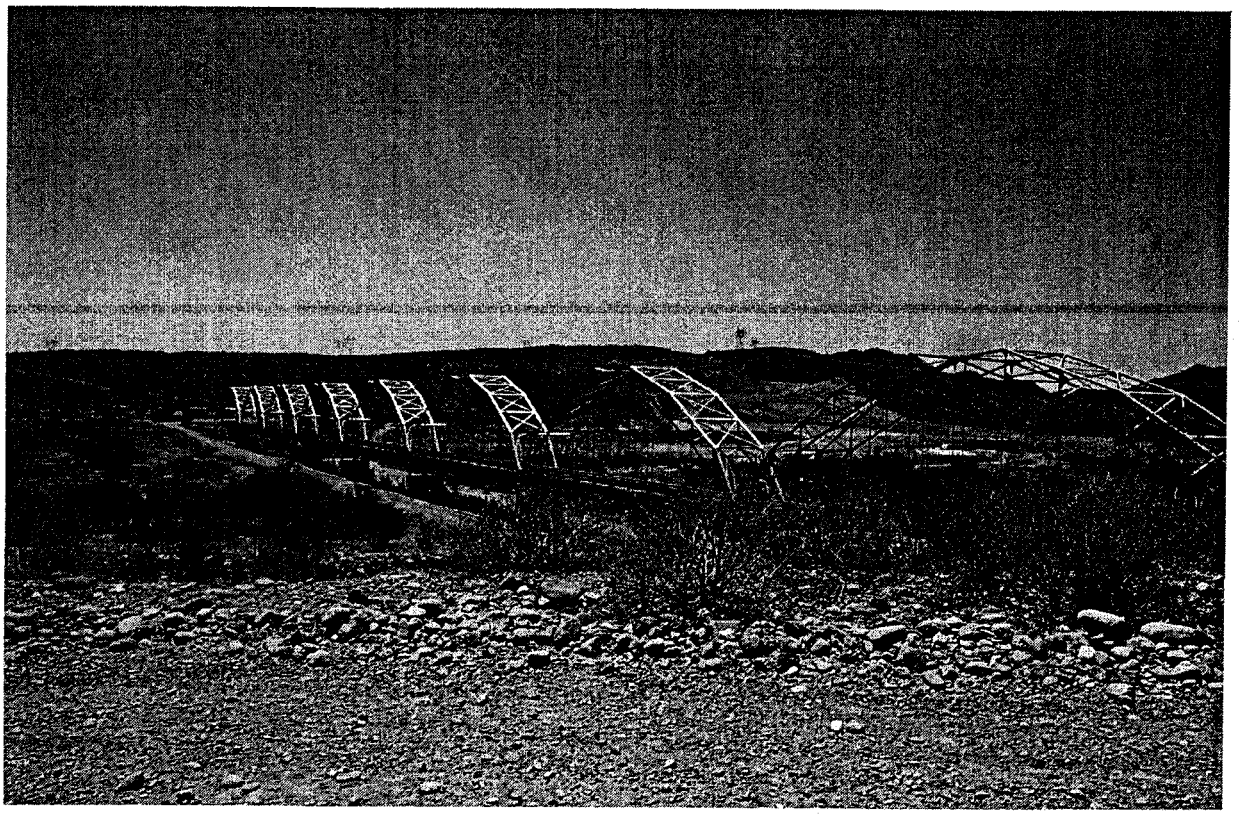
Linear features such as the Beardsley Canal are evaluated for NRHP eligibility on the basis of their integrity as demonstrated in specific project areas. Portions of AZ T:3:55 (ASM) have thus been evaluated by several other researchers along its original route (Bauer et al. 2001; Gage 2002).

The Beardsley Canal is an active water system and passes through the proposed project area in two areas. The first is located in the extreme southern portion of the proposed project to the

adjacent north of Jomax Road. In this area, the canal follows an elevated alignment above a well-developed intermittent wash.

In their recent survey of the power corridor to the adjacent west of the proposed project area, Gage (2002) completed an assessment of the canal alignment and found it to be eligible for inclusion on the NRHP under Criteria A and C. The canal is associated with the development of irrigation technology in the northern Phoenix Basin during the early nineteen hundreds. We concur with this assessment.

The second location in the proposed project area where the Beardsley Canal occurs is above the eastern terrace of the Agua Fria River to the east of CAP Reach 9. Here the canal is not elevated and empties into the Agua Fria flume. Photograph 4 is an overview of the Agua Fria flume as it occurs in the project area.



Photograph 4
Overview of AZ T:3:55 (ASM) flume looking southwest.

Examination of the canal alignment and flume in this area indicates that the canal retains its original historic integrity. We therefore conclude that this portion of the canal is also eligible for inclusion on the NRHP under the same criteria as mentioned above.

AZ T:4:131 (ASM) Black Canyon Road

AZ T:4:131 (ASM) refers to the historic Phoenix to Prescott Road, also known as the Black Canyon Road. This road alignment was originally given the site designation AZ T:4:131 (ASM) by Neal (1994) as part of the Desert Hills Development Project, several miles north of the project area.

The exact date of construction for the Black Canyon Road is unknown, however, it does occur on the General Land Office (GLO) plat map for Township 5 North, Range 2 East dated 1886, and the GLO plat map for Township 5 North, Range 3 East dated 1895.

The Black Canyon Road was originally constructed for use as a wagon road, and was used as a stagecoach line as early as 1889. Use of the road as a stagecoach and freight route continued until 1917 (Ellis et al. 2002). The road was subjected to improvements including grading and gravel base to make it suitable for automobile use in both 1917 and 1937. In 1937, the road was designated as SR 69. The road was paved and partially realigned in 1946 and 1956. Portions of the original road were also incorporated into I-17 during its construction in the 1960s.

Linear features such as historic road alignments are evaluated for NRHP eligibility on the basis of their integrity as demonstrated in specific project areas. Portions of AZ T:4:131 (ASM) have thus been evaluated by several other researchers along its original route.

The portion of the road as originally recorded was designated as not eligible for inclusion on the NRHP due to a lack of integrity demonstrated in the project area. However, Bilsbarrow et al. (1997) evaluated a portion of this road to the north of the New River interchange and determined it to be eligible under Criteria A, C, and D. Other researchers, such as Ellis et al. (2002), Crownover and Macnider (2001), and Montero and Walsh (2000), have examined portions of this road to the north of the current study area and have found it to be not eligible for inclusion on the NRHP.

The newly recorded portion of site AZ T:4:131 (ASM) that occurs in association with newly recorded site AZ T:4:374 (ASM) is observed to demonstrate historical integrity. It is likely that this portion of the road was abandoned after the route realignments of 1917 and 1937, as the road corridor appears to demonstrate width and configuration consistent with wagon roads rather than automobile conveyance routes. In the project area, this portion of AZ T:4:131 (ASM) is recommended eligible for inclusion on the NRHP under Criterion A for its relationship with early transportation routes within Maricopa County.

General Land Office Plat Maps

Review of the historic GLO plat maps for Township 4 North, Range 4 East dated 1916 depict road alignments in Sections 7, 8, 9, and 10. Examination of the Curry's Corner 7.5-minute

topographic quadrangle dated 1964 (photo-revised 1982), show none of these roads still in existence.

Review of the historic GLO plat maps for Township 4 North, Range 3 East dated 1895 depict a road alignment in Section 1 and a water pipe alignment in Section 2. Examination of the Union Hills 7.5-minute topographic quadrangle dated 1964 (photo-revised 1981), show neither the road nor the water pipe alignment still in existence.

Review of the historic GLO plat maps for Township 4 North, Range 2 East dated 1895 depict portions of the road from Phoenix to Prescott (Black Canyon Road) passing through Sections 1 and 2. This historic road alignment has been given the site designation of AZ T:3:131 (ASM) by previous researchers. Examination of the Union Hills 7.5-minute topographic quadrangle dated 1964 (photo-revised 1981), indicate that this road alignment was likely destroyed by the construction of the I-17/Happy Valley Road interchange corridor.

Review of the historic GLO plat maps for Township 5 North, Range 2 East dated 1895 depict portions of the road from Phoenix to Prescott (Black Canyon Road) passing through Sections 23, 26, and 35. This historic road alignment has been given the site designation of AZ T:3:131 (ASM) by previous researchers. Examination of the Biscuit Flat 7.5-minute topographic quadrangle dated 1965 (photo-revised 1981) does not show this road. Field examination found evidence for its existence at newly recorded site AZ T:4:374 (ASM), a historic road alignment associated with early twentieth century artifacts.

Review of the historic GLO plat maps for Township 5 North, Range 1 East dated 1895 depict portions of the road from Santos as passing through the project area in Sections 10 and 15. Examination of Biscuit Flat 7.5-minute USGS quadrangle dated 1965 (photo-revised 1981) indicates that that is the modern Lake Pleasant Road. In addition, the historic 1895 GLO plat depicts an unnamed road alignment as passing through the project area in Sections 8 and 17 along the west side of the Agua Fria River. Examination of the Baldy Mountain 7.5-minute USGS quadrangle dated 1964 (photo-revised 1981) shows no evidence of this road; however, as mapped on the GLO in Section 8 it appears to follow the modern transmission corridor where it crosses the Agua Fria. This may indicate that this historic road is currently utilized as the transmission line access road. If this is the case it has maintained none of its original integrity.

Review of the historic GLO plat maps for Township 5 North, Range 1 West dated 1924 depict road alignments in Section 25 and 36. Examination of the Calderwood Butte 7.5-minute topographic quadrangle dated 1957 (photo-revised 1981) shows the road alignment in Section 25 as still existing. However, this road alignment is located in the northwestern quarter of Section 25, and the proposed corridor is located in the extreme southeastern corner of the southeastern quarter. As such, this road will not be impacted by the proposed construction action. The road alignment in Section 36 is not mapped and no longer exists.

ISOLATED OCCURRENCES

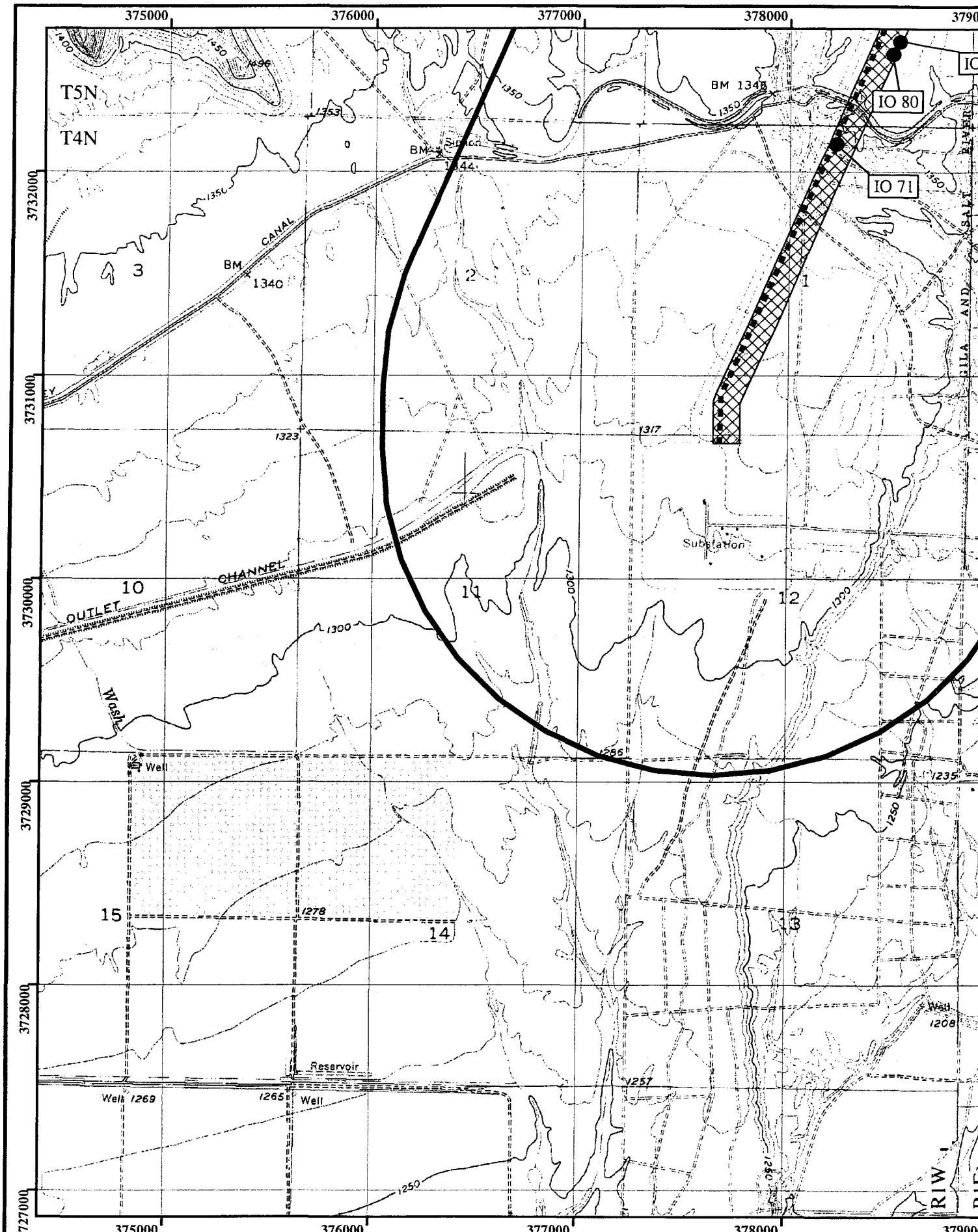
A total of 89 IOs were encountered during survey of the transmission line corridor (Figures 3a to 3i). Of these, 70 consisted of prehistoric artifacts, 15 were historic artifacts, 1 was a rock feature, and 3 were roadside shrines (Table 3).

TABLE 3
TABULATION OF ISOLATED OCCURRENCES

	IO Type	Description	Area	UTM
1	Historic	Soldier-top can	1x1 m	3729513N/412493E
2	Historic	Solarized glass, milk glass	1x1 m	3729873N/411862E
3	Shrine	Roadside shrine, Eric A. Benson	1x1 m	3730299N/409800E
4	Lithic	Tertiary flake, quartz crystal	1x1 m	3730406N/409063E
5	Historic	Metal, solarized glass	1x2 m	3730396N/407380E
6	Shrine	Pet graves	2x2 m	3730310N/401617E
7	Lithic	Primary flake, quartzite	1x1 m	3730427N/403721E
8	Lithic	Graver, white chert	1x1 m	3730436N/404554E
9	Historic	1947 US Coast and Geodetic Survey marker	1x1 m	3731519N/396152E
10	Lithic	Primary flake, chalcedony	1x1 m	3735959N/395614E
11	Historic	Four hole-in-top cans, porcelain plate base, solarized glass associated with AZ T:4:131 (ASM)	5x15 m	3735955N/395587E
12	Lithic	Tested cobble, quartzite	1x1 m	3736240N/395515E
13	Lithic	Primary flake, metaquartzite	1x1 m	3736405N/395277E
14	Lithic	Primary flake, metaquartzite	1x1 m	3736660N/394869E
15	Historic	Hole-in-top lid	1x1 m	3736659N/394750E
16	Lithic	Tested cobble, diorite	1x1 m	3736709N/394666E
17	Lithic	Bifacial core, fine-grained rhyolite	1x1 m	3736953N/394367E
18	Historic	Rock cairn	1x1 m	3736953N/394183E
19	Flaking station	Flaking station, 3 brown chert secondary flakes, 1 chalcedony secondary flake, 4 pieces brown chert shatter	5x5 m	3736454N/395059E
20	Lithic	Primary flake, chert, Primary flake, porphyritic basalt, Secondary flake, fine-grained rhyolite	1x22 m	3736334N/395243E
21	Lithic	Multidirectional fine-grained rhyolite, Secondary flake, porphyritic basalt	1x4 m	3736291N/395339E
22	Historic	Hole-in-top meat tin lid	1x1 m	3736156N/395565E
23	Lithic	Tested cobble, Secondary flake, metaquartzite	1x1 m	3738418N/394134E
24	Lithic	Unidirectional core, porphyritic basalt	1x1 m	3738370N/394105E
25	Lithic	Biface, metachalcedony	1x1 m	3738072N/394125E
26	Lithic	Multidirectional core, fine-grained rhyolite	1x1 m	3737864N/394088E
27	Lithic	Cobble scraper, metaquartzite	1x1 m	3737599N/394116E
28	Lithic	Primary flake, Secondary flake, Flake tool, fine-grained rhyolite	1x1 m	3737024N/394094E
29	Lithic	Primary flake, Multidirectional core, metaquartzite, Multidirectional core, porphyritic basalt	1x4 m	3737008N/394115E
30	Lithic	Secondary flake, metaquartzite	1x1 m	3737172N/394212E
31	Lithic	Multidirectional core, chalcedony	1x1 m	3737851N/394173E
32	Lithic	Primary flake, fine-grained rhyolite	1x1 m	3738612N/393864E

TABLE 3 TABULATION OF ISOLATED OCCURRENCES				
	IO Type	**Description**	**Area**	**UTM**
33	Lithic	2 Secondary flakes, porphyritic basalt	1x1 m	3738541N/393847E
34	Lithic	3 Secondary flakes, porphyritic basalt	1x2 m	3738647N/393017E
35	Lithic	Mulidirectional core, fine-grained diorite, Secondary flake, metaquartzite	1x8 m	3738648N/392670E
36	Historic	Rock cairn, 2 courses, deflated	1x1 m	3738610N/392692E
37	Lithic	Cobble tool, diorite	1x1 m	3738604N/392127E
38	Historic	Burro shoe	1x1 m	3738648N/391591E
39	Lithic	Unidirectional core/scraper plane, metachalcedony	1x1 m	3738543N/392043E
40	Historic	Rock cairn, two courses, (metavolcanic).	1x1 m	3738564N/392679E
41	Lithic	Secondary flake, fine-grained rhyolite, battered cobble, porphyritic basalt	1x1 m	3738519N/393437E
42	Lithic	Bifacial core, porphyritic basalt	1x1 m	3738628N/391024E
43	Lithic	Secondary flake, porphyritic basalt	1x1 m	3738609N/391079E
44	Lithic	Multidirectional core, porphyritic basalt	1x1 m	3738626N/391680E
45	Lithic	Multidirectional core, fine-grained rhyolite	1x1 m	3738507N/391694E
46	Historic	Rock cairn, one course, (metavolcanic).	1x1 m	3738527N/391470E
47	Lithic	Unidirectional core, porphyritic basalt	1x1 m	3738554N/390367E
48	Historic	Soldier-top can	1x1 m	3738531N/389894E
49	Lithic	Primary flake, Secondary flake, porphyritic basalt	1x1 m	3738633N/389175E
50	Lithic	Unidirectional core, fine-grained metavolcanic	1x1 m	3738636N/389123E
51	Flaking station	Flaking station, unidirectional core, 2 Secondary flakes, 3 tertiary flakes, shatter, porphyritic basalt	2x2 m	3738643N/388538E
52	Flaking station	Flaking station, Primary flake, Secondary flake, end scraper, porphyritic basalt	2x18 m	3738626N/388763E
53	Lithic	Multidirectional core, bifacial chopper, Secondary flake, porphyritic basalt	1x1 m	3738565N/389155E
54	Flaking station	Flaking station, approximately 20 flakes, primary to tertiary reduction, biface, porphyritic basalt	5x5 m	3738643N/388166E
55	Lithic	Secondary flake, porphyritic basalt	1x1 m	3738619N/388132E
56	Lithic	Multidirectional core, porphyritic basalt, Secondary flake, metavolcanic	1x20 m	3738647N/388043E
57	Lithic	Tertiary flake, porphyritic basalt	1x1 m	3738626N/387816E
58	Flaking station	3 Secondary flakes, tertiary flake, porphyritic basalt, Primary flake, 3 tertiary flakes, fine-grained basalt	10x10m	3738622N/387586E
59	Lithic	Unidirectional core, porphyritic basalt	1x1 m	3738666N/386364E
60	Lithic	Bifacial core, 2 Secondary flakes, 2 tertiary flakes, porphyritic basalt	7x7 m	3738590N/387558E
61	Historic	One-hinge upright tobacco tin	1x1 m	3738590N/387558E
62	Lithic	Unidirectional core, 2 Secondary flakes, end scraper, porphyritic basalt, modern rock cairn	10x14 m	3738577N/387916E
63	Lithic	Unidirectional core, porphyritic basalt	1x1 m	3738587N/388113E
64	Lithic	2 Primary flakes, 3 Secondary flakes (one with retouch), porphyritic basalt	3x6 m	3738559N/388239E
65	Historic	Three-hinge upright tobacco tin	1x1 m	3738690N/384856E
66	Lithic	Secondary flake, porphyritic basalt	1x1 m	3738663N/384845E
67	Lithic	Secondary flake, porphyritic basalt	1x1 m	3738664N/385531E

TABLE 3 TABULATION OF ISOLATED OCCURRENCES				
	IO Type	**Description**	**Area**	**UTM**
68	Lithic	Unidirectional core, Secondary flake, porphyritic basalt, 2 Secondary flakes, fine-grained basalt, disturbed context	2x20 m	3738626N/385837E
69	Lithic	Secondary flake, metaquartzite	1x1 m	3738525N/385735E
70	Lithic	Tertiary flake, porphyritic basalt	1x1 m	3738547N/385155E
71	Feature	Rock alignment, one course, metavolcanic (E/W) (N/S)	24x3.6 m	3732137N/378225E
72	Lithic	Flake tool, diorite	1x1 m	3734611N/379269E
73	Groundstone, ceramics	Rectangular mano, bifacial, complete, 5 Gila body sherds	2x7 m	3733880N/379065E
74	Flaking station	Flaking station, multidirectional core, 7 tertiary flakes, porphyritic basalt	4x13 m	3733336N/378859E
75	Lithic	Bifacial chopper, tertiary flake, fine-grained basalt, 2 Secondary flakes, porphyritic basalt	1x15 m	3733290N/378859E
76	Lithic	Unidirectional core, primary flake, porphyritic basalt	1x1 m	3733145N/378797E
77	Lithic	Flaking station, 1 Primary flake, 5 Secondary flakes, porphyritic basalt	3x3 m	3733102N/378774E
78	Lithic	Primary flake, 4 Secondary flakes, porphyritic basalt, tertaiary flake, chert, secondary flake, fine-grained basalt	2x3 m	3732910N/378617E
79	Lithic	Tertiary flake, chert, tertiary flake, quartz crystal	1x13 m	3732640N/378528E
80	Lithic	Unidirectional core, porphyritic basalt, soldier-top can	1x13 m	3732579N/378497E
81	Ceramic	Pot drop, 20 body sherds Gila Plain	2x2 m	3736456N/380146E
82	Shrine	Road shrine, "In Memory of John Schatz, Jan 23, 1973-Dec. 23, 2001"	1x1 m	3730334N/399743E
83	Lithic	Unidirectional core, fine-grained basalt	1x1 m	3738618N/390023E
84	Lithic/historic	Seven-hinge tobacco can, Tertiary flake, secondary flake, porphyritic basalt, Primary flake, tested cobble, 2 Secondary flakes, fine-grained basalt,	4x18 m	3739651N/381809E
85	Lithic	Bifacial core, 2 Secondary flakes, rhyolite, Tested cobble, Secondary flake, porphyritic basalt	10x10 m	3739989N/382013E
86	Flaking station	Porphyritic basalt, approximately 30 flakes	3x3 m	3740007N/382025E
87	Lithic	Primary flake, fine-grained basalt	1x1 m	3740369N/382321E
88	Lithic	Flake tool, fine-grained rhyolite	1x1 m	3740390N/382315E
89	Flaking station	Multidirectional core, approximately 15 flakes, porphyritic basalt	4x4 m	3740441N/382378E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376000
377000
378000
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3730000
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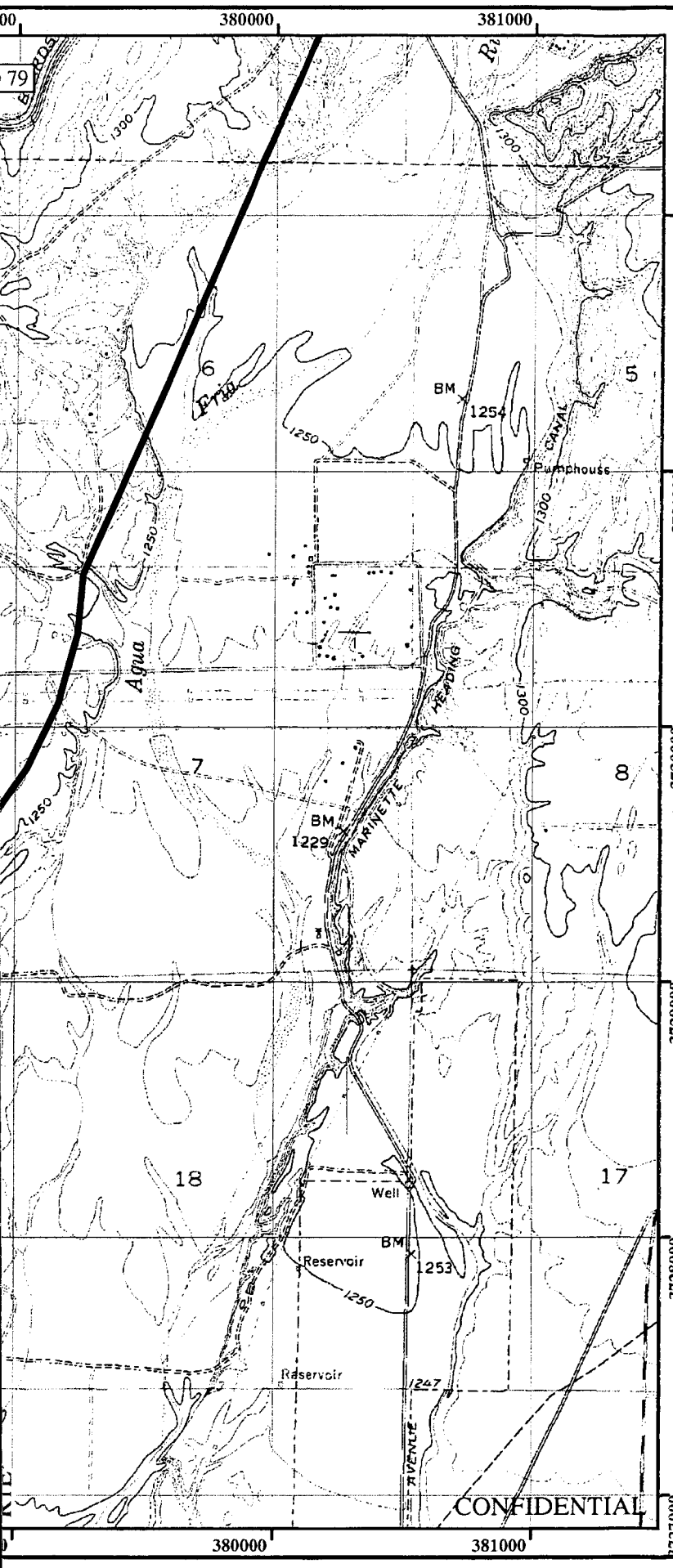
3727000
T5N
T4N
IO 80
IO 71
BM 1348
BM 1344
BM 1340
CANAL
CHANNEL
OUTLET
Wash
Substation
Well
Reservoir
Well 1269
1265
Well
1278
1257
1250
1235
1208
1323
1317
1286
1353
1350
1300
1200
1250
1400
1450
1496
1
2
3
10
11
12
13
14
15
GILA AND SALT RIVER



SURVEY RESULTS

Figure 3a

Legend

- Study Area Boundary
- Proposed Transmission Line
- Area Surveyed
- Isolated Occurrence

Sources:

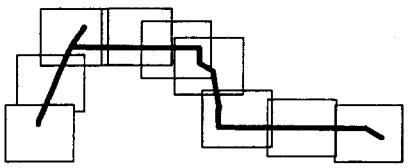
United States Geological Survey (USGS), Calderwood Butte, AZ (1981), 1:24,000-scale metric topographic map.

N
W E
S

Scale 1:24,000

0 0.25 0.5 1 Miles

Index Map



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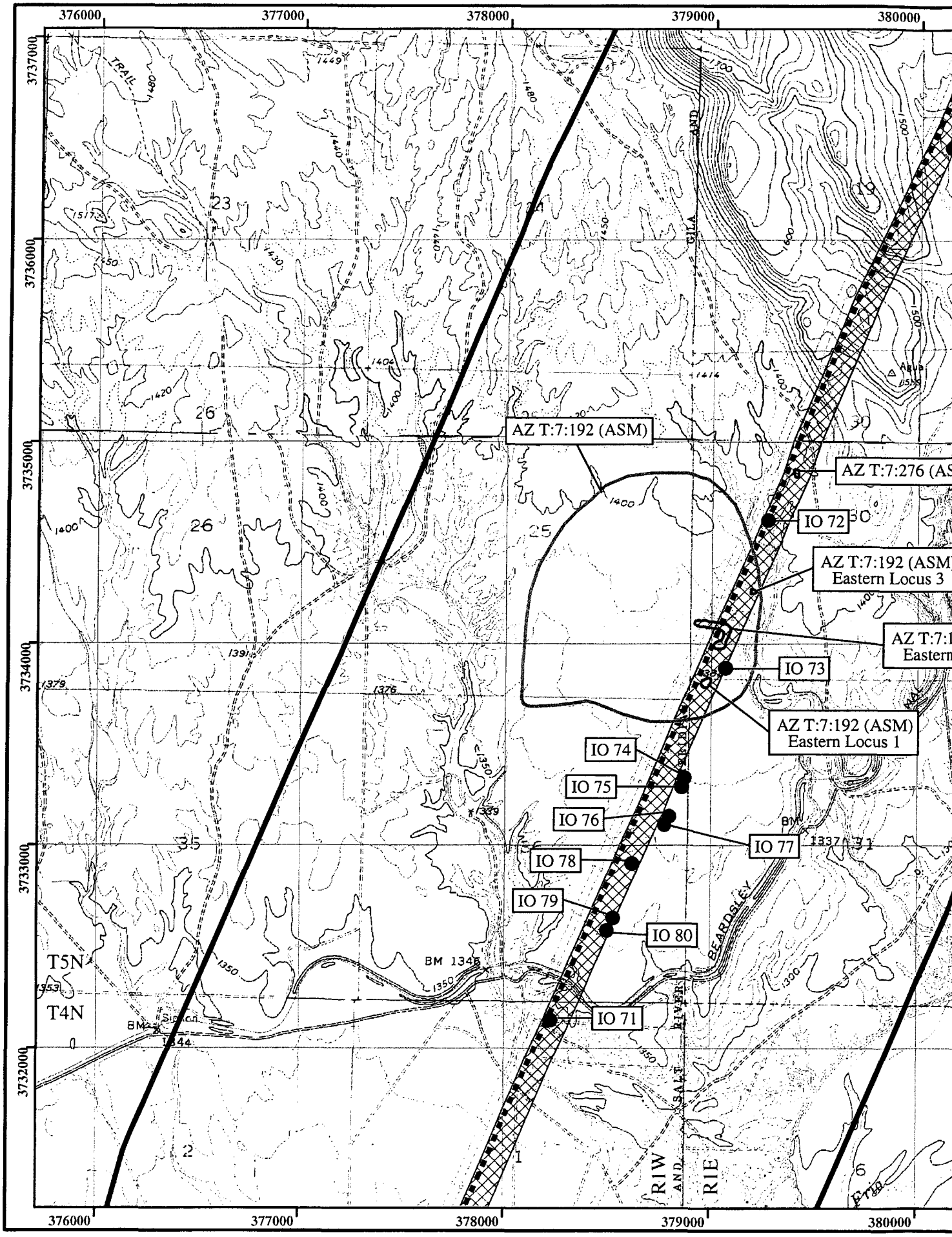
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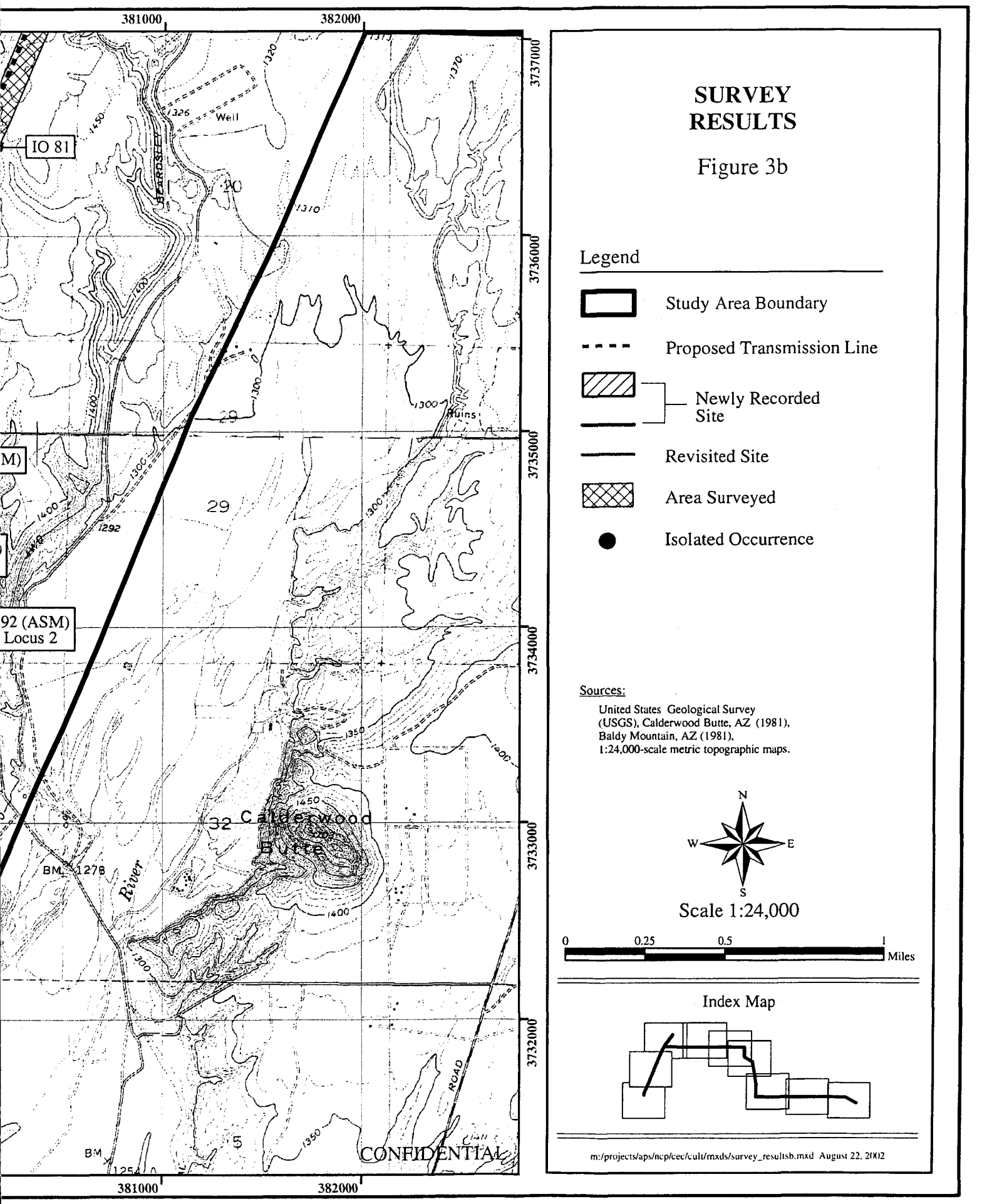
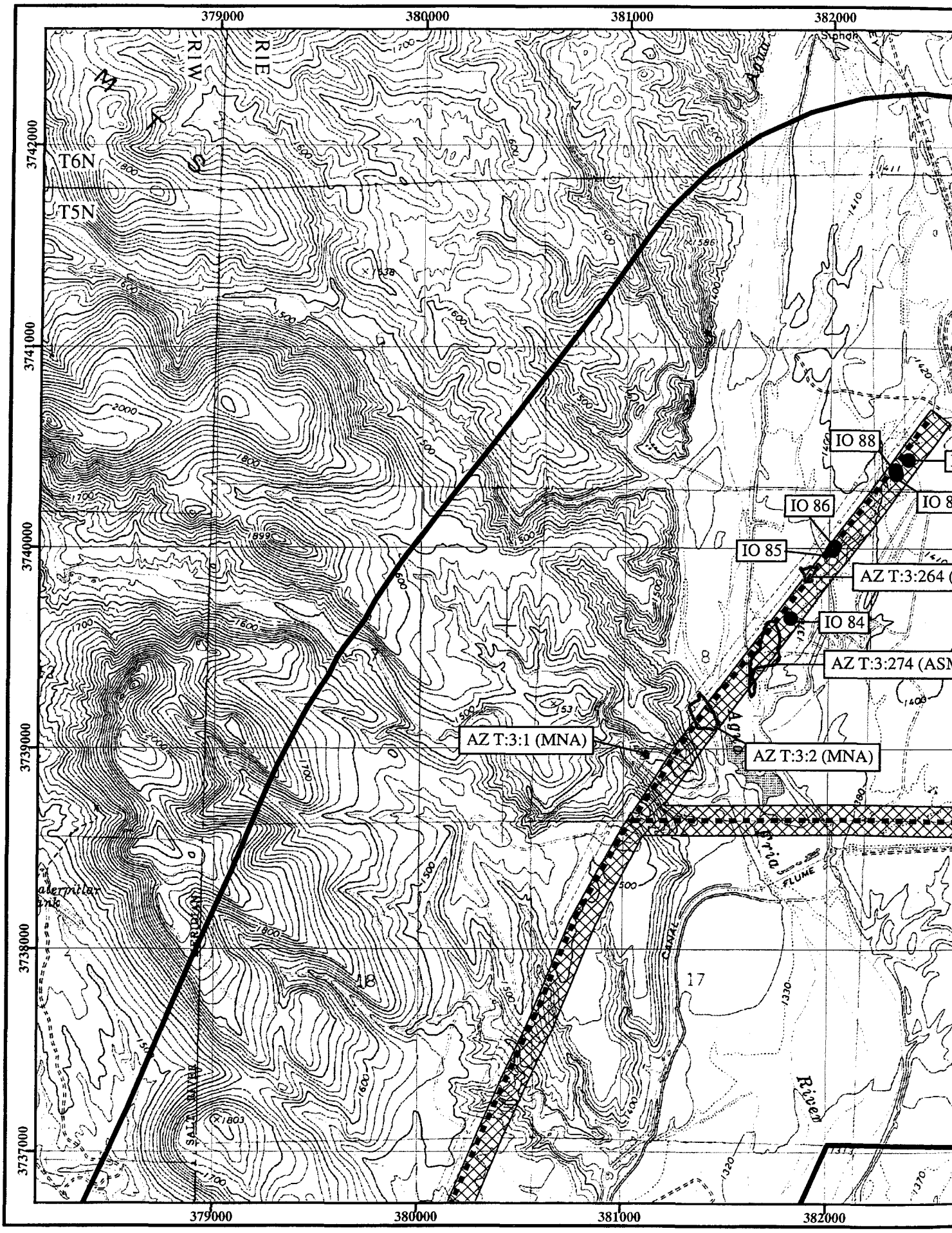
3737000
3736000
3735000
3734000
3733000
3732000
AZ T:7:192 (ASM)
AZ T:7:276 (AS
IO 72
AZ T:7:192 (ASM
Eastern Locus 3
AZ T:7:1
Eastern
IO 73
AZ T:7:192 (ASM)
Eastern Locus 1
IO 74
IO 75
IO 76
IO 77
IO 78
IO 79
IO 80
IO 71
T5N
T4N
R1W
R1E
GILA AND SALT RIVERS
BEARDSLEY
TRAIL
BM 1348
BM 1337
BM 1344
Siphon


SURVEY RESULTS
Figure 3b
Legend
Study Area Boundary
Proposed Transmission Line
Newly Recorded Site
Revisited Site
Area Surveyed
Isolated Occurrence
Sources:
United States Geological Survey (USGS), Calderwood Butte, AZ (1981), Baldy Mountain, AZ (1981), 1:24,000-scale metric topographic maps.
N
W
E
S
Scale 1:24,000
0
0.25
0.5
1
Miles
Index Map
m:/projects/aps/ncp/cec/cult/mxds/survey_resultsb.mxd August 22, 2002
IO 81
92 (ASM) Locus 2
Well
Ruins
Calderwood Butte
River
BM 1278
ROAD
CONFIDENTIAL
381000
382000
3737000
3736000
3735000
3734000
3733000
3732000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381000
382000
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3741000
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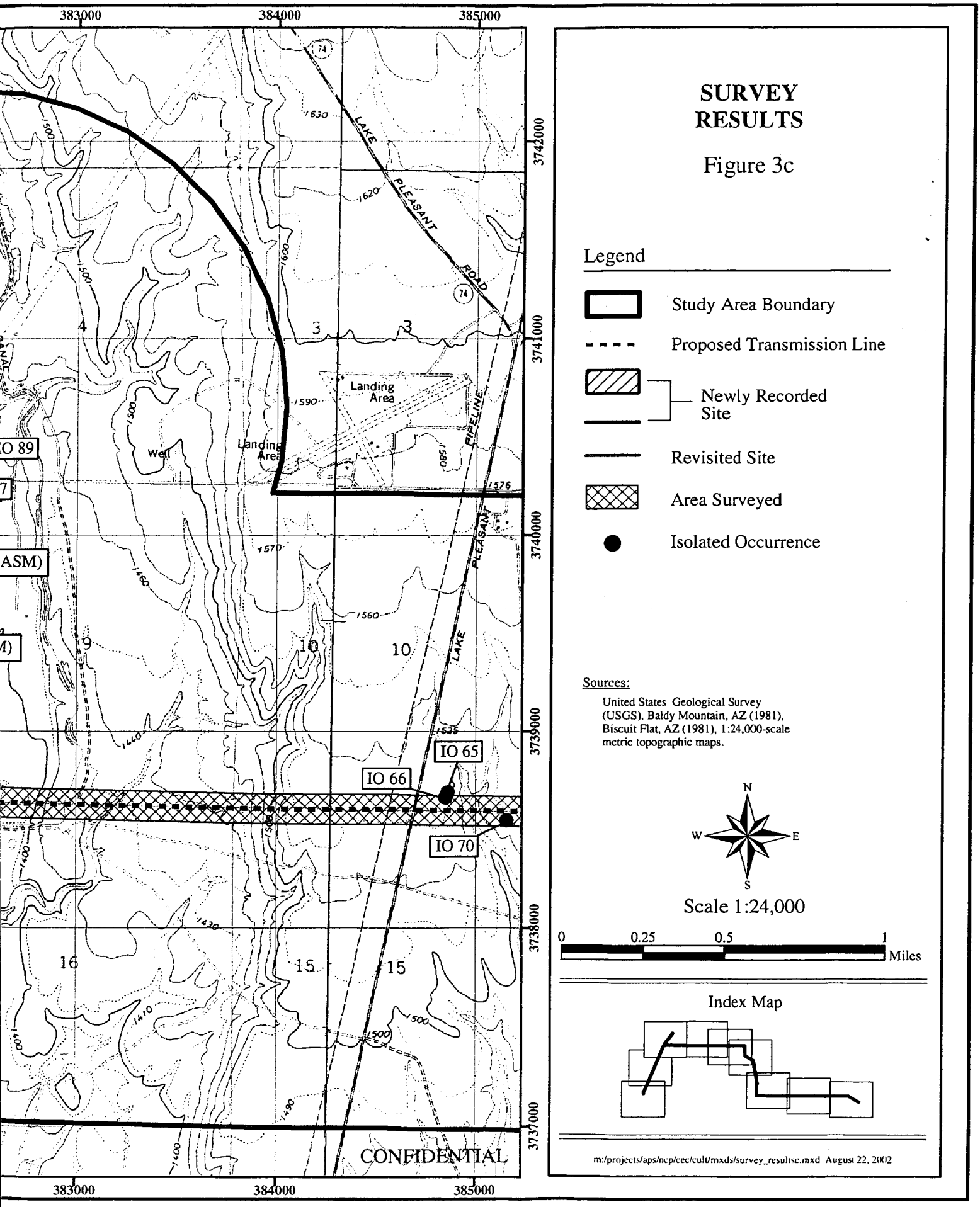
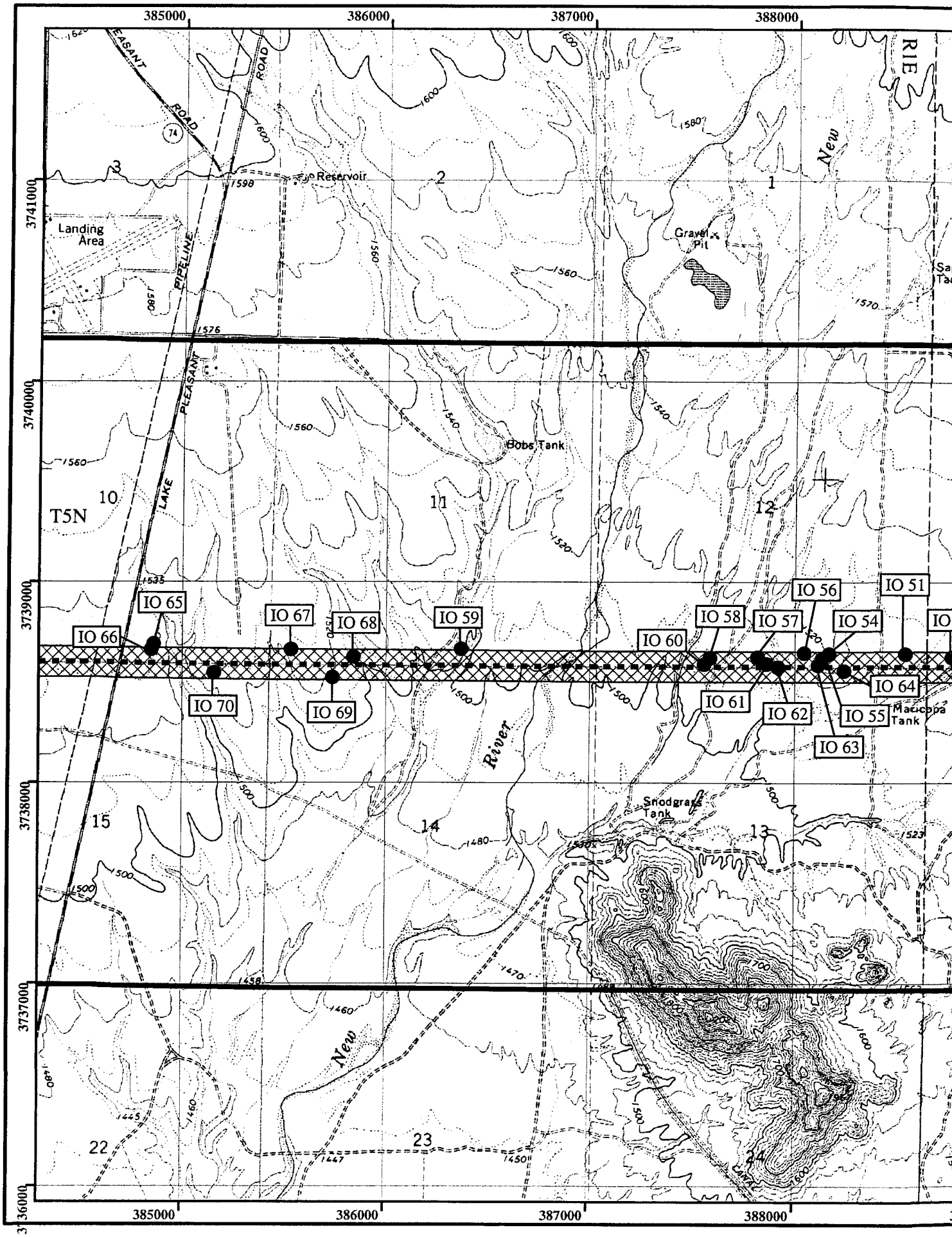
3739000
3738000
3737000
T6N
T5N
IO 88
IO 86
IO 85
IO 84
AZ T:3:264 (
AZ T:3:274 (ASN
AZ T:3:1 (MNA)
AZ T:3:2 (MNA)
Agua
Fria
FLUME
CANAL
River
SALT RIVER
MERIDIAN
Caterpillar
Tank
17
18
8


SURVEY RESULTS
Figure 3c
Legend
Study Area Boundary
Proposed Transmission Line
Newly Recorded Site
Revisited Site
Area Surveyed
Isolated Occurrence
Sources:
United States Geological Survey (USGS), Baldy Mountain, AZ (1981), Biscuit Flat, AZ (1981), 1:24,000-scale metric topographic maps.
N
W
E
S
Scale 1:24,000
0
0.25
0.5
1
Miles
Index Map
m:/projects/aps/ncp/cec/cult/mxds/survey_resultsc.mxd August 22, 2002
383000
384000
385000
3742000
3741000
3740000
3739000
3738000
3737000
LAKE PLEASANT ROAD
LAKE PLEASANT PIPELINE
Landing Area
Landing Area
Well
IO 89
(ASM)
IO 65
IO 66
IO 70
CONFIDENTIAL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386000
387000
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3740000
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3738000
3737000
3736000
PLEASANT ROAD
PIPELINE
LAKE
Landing Area
Reservoir
Gravel Pit
Bobs Tank
Snodgrass Tank
Maricopa Tank
River
New
T5N
IO 51
IO 54
IO 55
IO 56
IO 57
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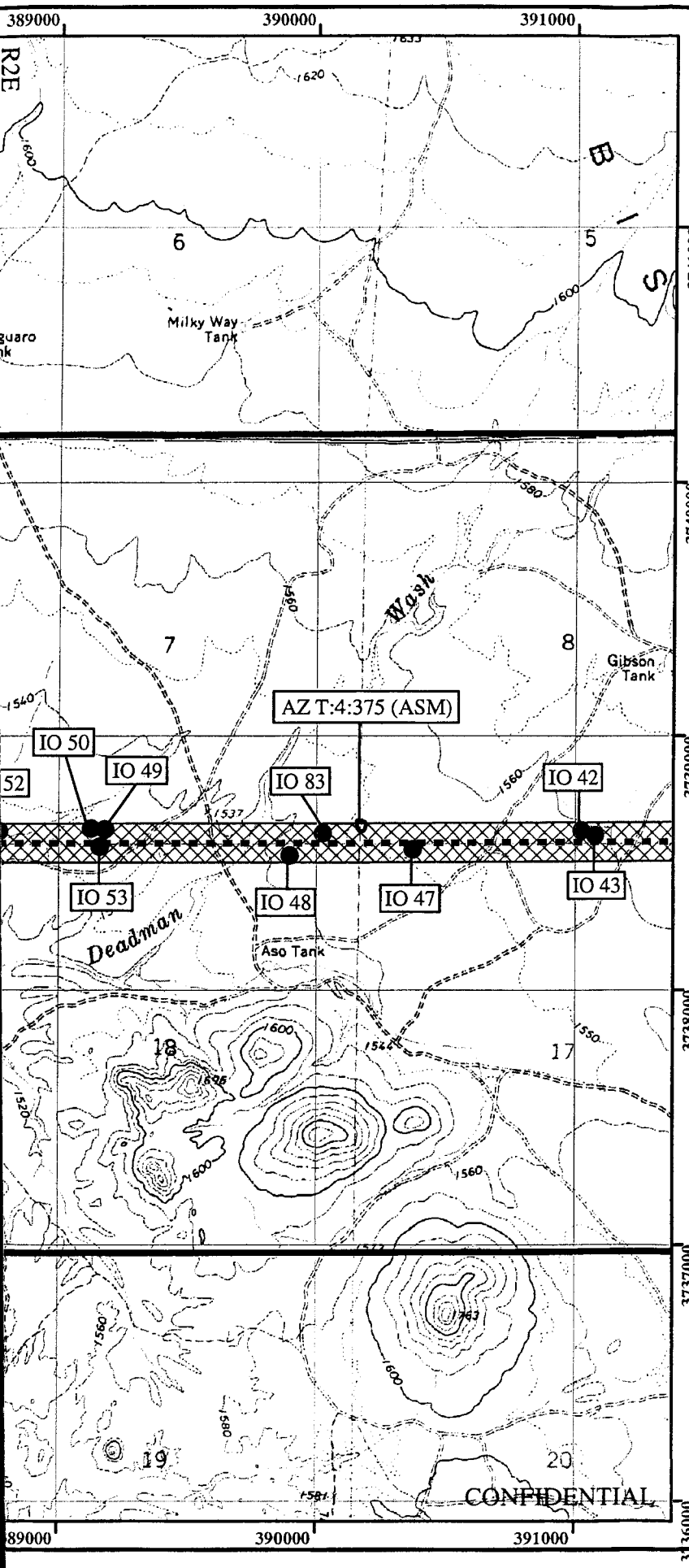
IO 59
IO 60
IO 61
IO 62
IO 63
IO 64
IO 65
IO 66
IO 67
IO 68
IO 69
IO 70



SURVEY RESULTS

Figure 3d

Legend

- Study Area Boundary
- Proposed Transmission Line
- Newly Recorded Site
- Area Surveyed
- Isolated Occurrence

Sources:

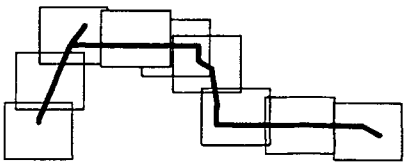
United States Geological Survey (USGS), Biscuit Flat, AZ (1981), 1:24,000-scale metric topographic map.

N
W E
S

Scale 1:24,000

0 0.25 0.5 1 Miles

Index Map



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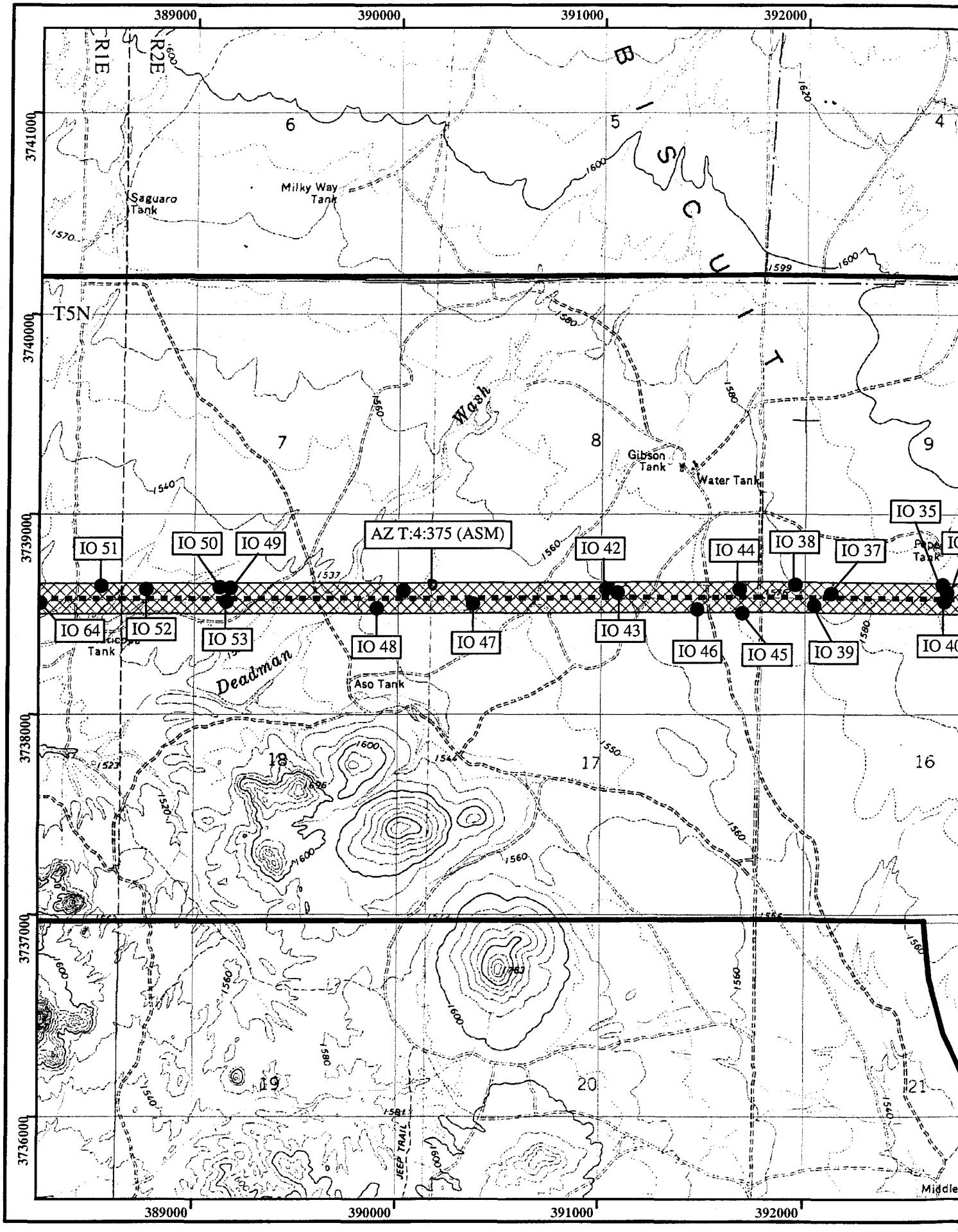
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R2E
T5N
B I S C U I T
Saguaro Tank
Milky Way Tank
Wash
Gibson Tank
Water Tank
Deadman
Aso Tank
JEEP TRAIL
Middle
AZ T:4:375 (ASM)
IO 35
IO 51
IO 50
IO 49
IO 42
IO 44
IO 38
IO 37
IO 64
IO 52
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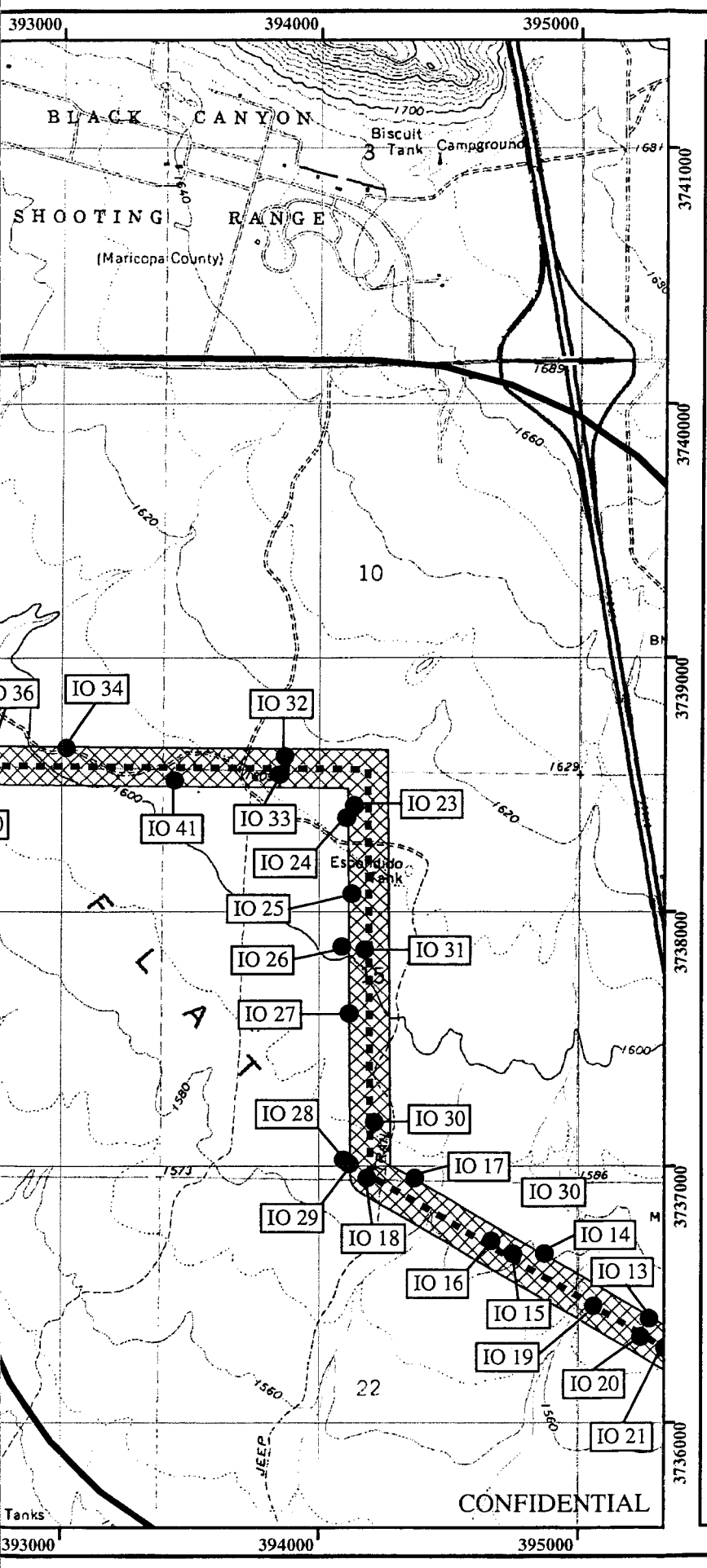
IO 48
IO 47
IO 43
IO 46
IO 45
IO 39
IO 40



SURVEY RESULTS

Figure 3e

Legend

- Study Area Boundary
- Proposed Transmission Line
- Newly Recorded Site
- Area Surveyed
- Isolated Occurrence

Sources:

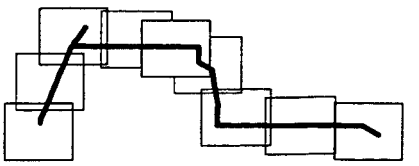
United States Geological Survey (USGS), Biscuit Flat, AZ (1981), 1:24,000-scale metric topographic map.

N
W E
S

Scale 1:24,000

0 0.25 0.5 1 Miles

Index Map



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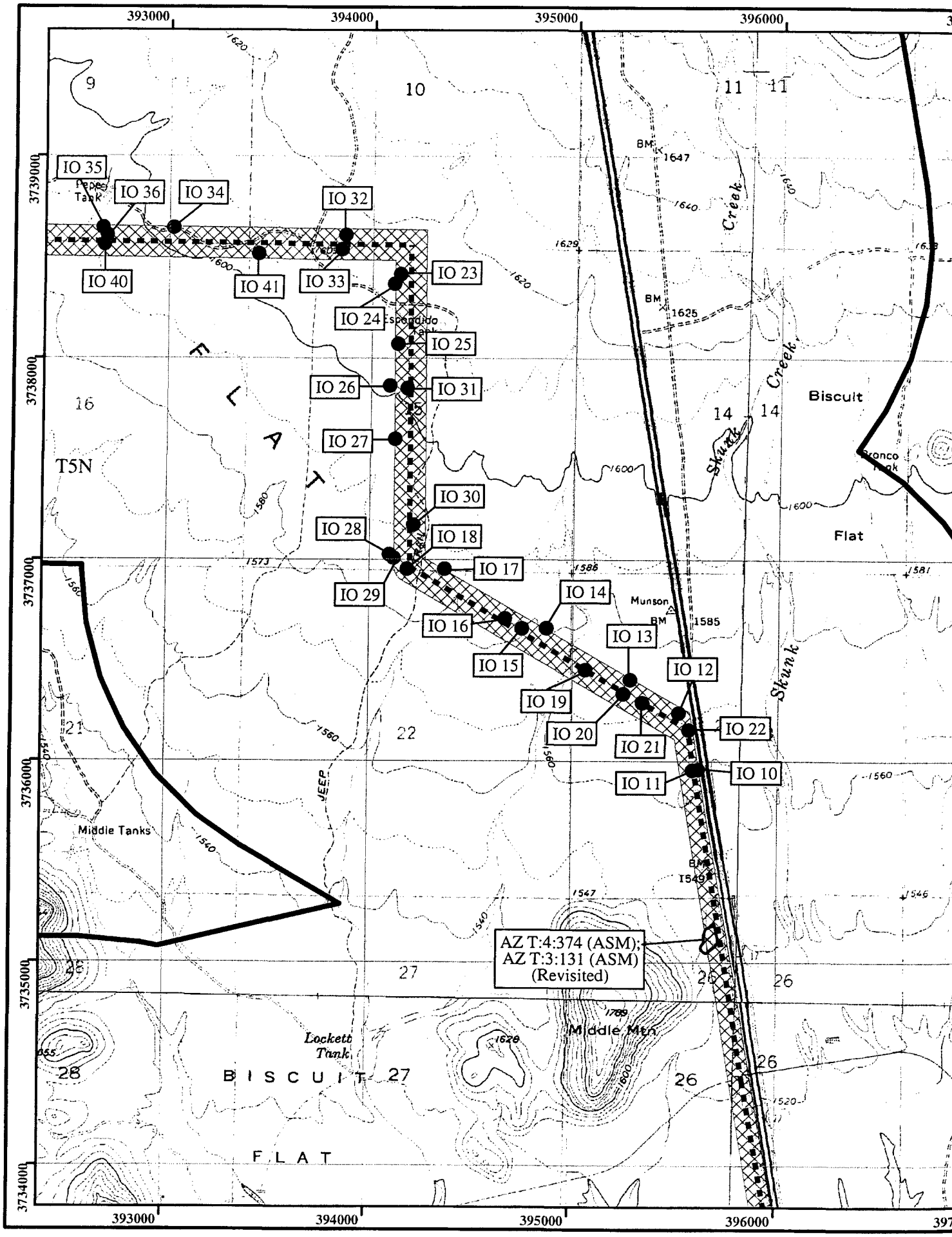
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IO 34
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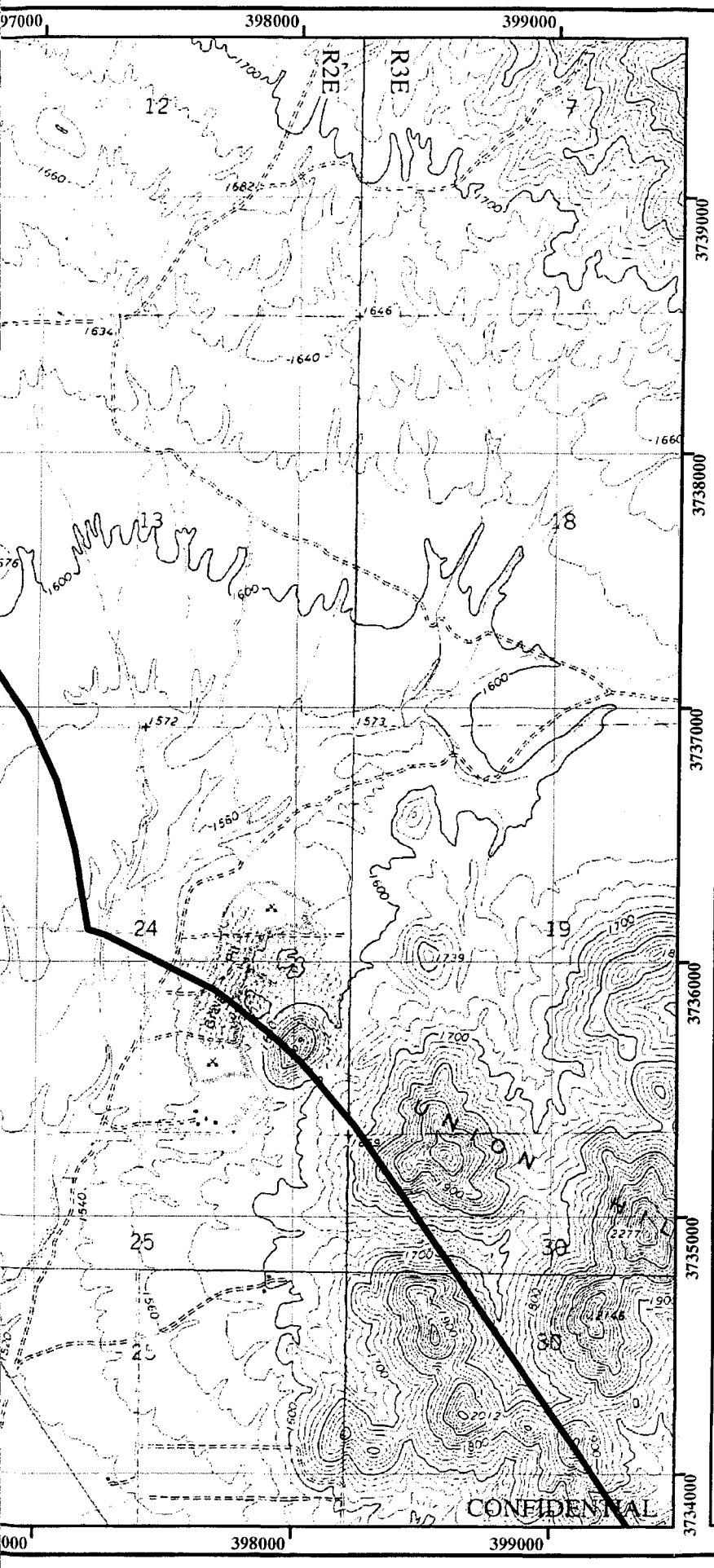
IO 25
IO 26
IO 31
IO 27
IO 30
IO 28
IO 18
IO 17
IO 29
IO 14
IO 16
IO 13
IO 15
IO 12
IO 19
IO 20
IO 21
IO 22
IO 11
IO 10
AZ T:4:374 (ASM);
AZ T:3:131 (ASM)
(Revisited)
T5N
FLAT
BISCUIT
FLAT
Biscuit
Flat
Skunk
Creek
Munson
Middle Tanks
Middle Mtn
Lockett Tank
Bronco Peak
Espondido
Pepes Tank
JEEP



SURVEY RESULTS

Figure 3f

Legend

- Study Area Boundary
- Proposed Transmission Line
- Newly Recorded Site
- Area Surveyed
- Isolated Occurrence

Sources:

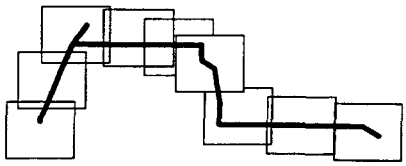
United States Geological Survey (USGS), Biscuit Flat, AZ (1981), Hedgpeth Hills, AZ (1981), New River SE, AZ (1981), Union Hills, AZ (1981) 1:24,000-scale metric topographic maps.

N
W E
S

Scale 1:24,000

0 0.25 0.5 1 Miles

Index Map



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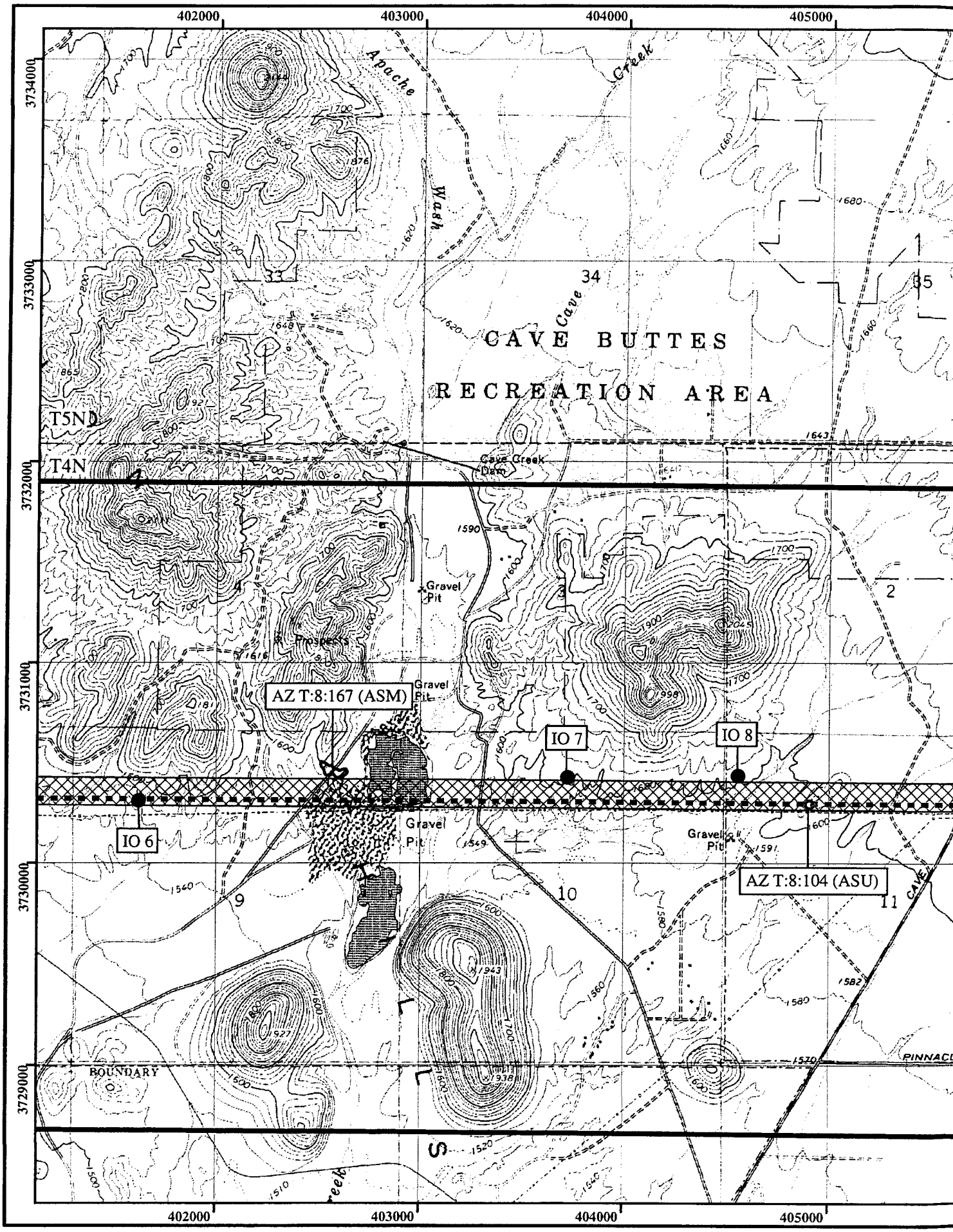
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Apache
Wash
Cave Creek
CAVE BUTTES
RECREATION AREA
T5N
T4N
Cave Creek Dam
Gravel Pit
Prospects
AZ T:8:167 (ASM)
IO 7
IO 8
IO 6
AZ T:8:104 (ASU)
BOUNDARY
PINNACL
CAVE
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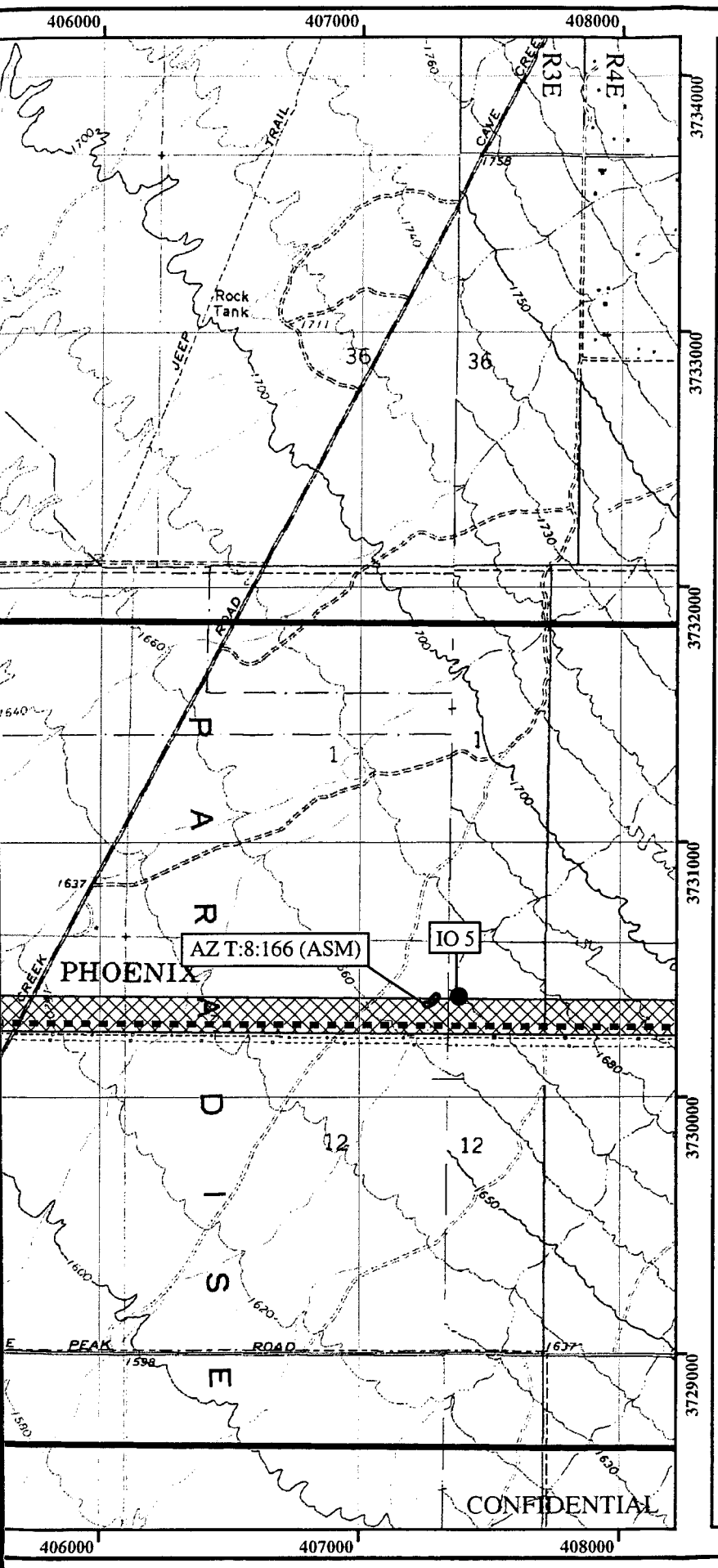
35
2
9
10
11



SURVEY RESULTS

Figure 3h

Legend

- Study Area Boundary
- Proposed Transmission Line
- Newly Recorded Site
- Revisited Site
- Area Surveyed
- Isolated Occurrence

Sources:

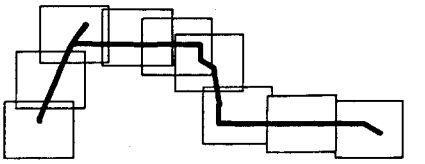
United States Geological Survey (USGS), Currys Corner, AZ (1982), Union Hills, AZ (1981), 1:24,000-scale metric topographic maps.

N
W E
S

Scale 1:24,000

0 0.25 0.5 1 Miles

Index Map



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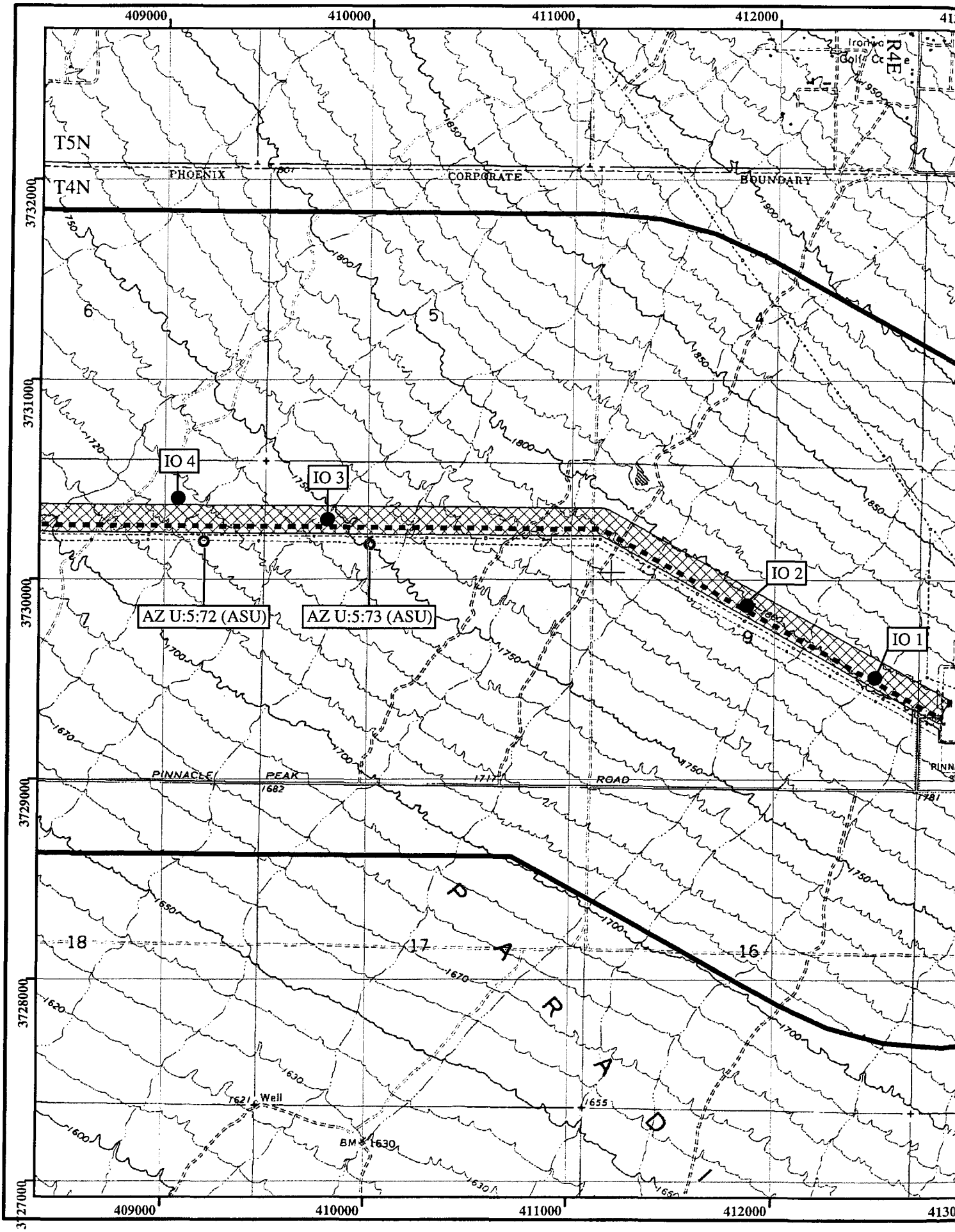
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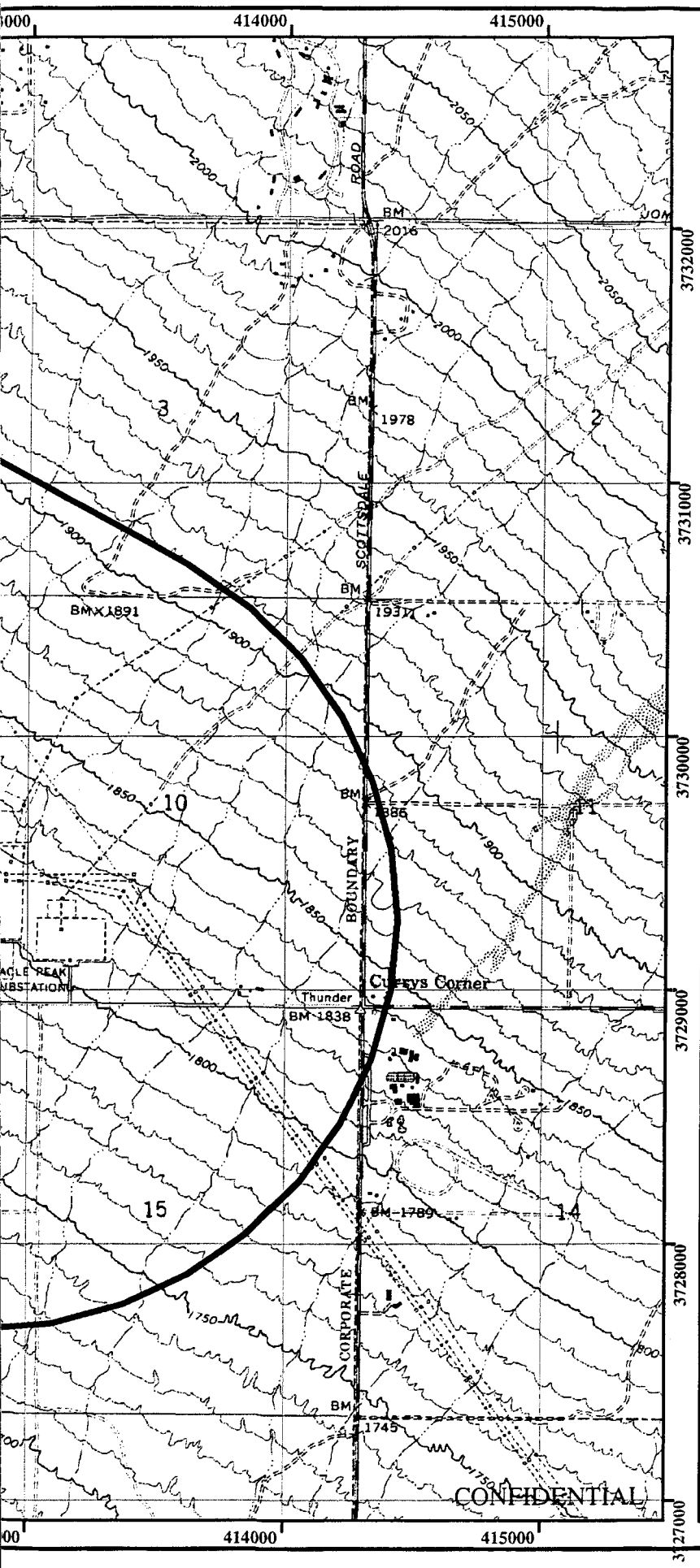
CORPORATE
BOUNDARY
6
5
4
9
18
17
16
IO 4
IO 3
IO 2
IO 1
AZ U:5:72 (ASU)
AZ U:5:73 (ASU)
PINNACLE
PEAK
ROAD
PARADISE
Well
BM 1630



SURVEY RESULTS

Figure 3i

Legend

- Study Area Boundary
- Proposed Transmission Line
- Revisited Site
- Area Surveyed
- Isolated Occurrence

Sources:

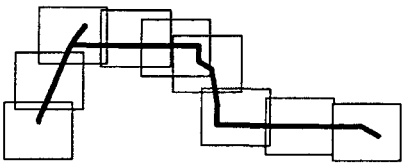
United States Geological Survey (USGS), Currys Corner, AZ (1982), 1:24,000-scale metric topographic maps.

N
W E
S

Scale 1:24,000

0 0.25 0.5 1 Miles

Index Map



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Of the 70 prehistoric IOs encountered during survey of the proposed project area, 32 consisted of single lithic artifacts such as debitage or tools. An additional 28 IOs were observed to consist of 2 or more lithic artifacts. Only a single IO consisted of ceramic artifacts.

Lithic isolates encountered in the proposed project area were represented by 8 material types. Porphyritic basalt was the most commonly represented (n=39), followed by fine-grained rhyolite (n=10), metaquartzite (n=6), fine-grained basalt (n=7), metachalcedony (n=2), chert (n=4), quartz crystal (n=2), and metavolcanic (n=2).

In terms of reduction, secondary flakes (n=56), were the most common stage of manufacture represented, followed by tertiary flakes (n=24), primary flakes (n=18), unidirectional cores (n=11), multidirectional cores (n=11), and bifacial cores (n=4).

Eight tools were represented in the IO index. Five of these (IOs 8, 25, 27, 37, and 39) were isolated tools, while the others occurred in association with debitage or other artifacts. Unifacial end and domed scrapers (n=3), were the most common tool type observed, followed by flake tools (n=2), a cobble tool (n=1), a biface (n=1), and a graver (n=1).

In addition, ten IOs were observed to be small flaking stations where the reduction of lithic materials took place. For the purposes of this report, flaking stations are defined as concentrations restricted to an area less than 10 by 10 meters in size and exhibiting five or more artifacts. Photograph 5 shows IO 54 as a representation of a flaking station in the proposed project area.

Of the 16 historic isolates encountered during survey for the proposed project, four were rock cairns, six were isolated historic cans, three were solarized glass scatters representing one glass item, one was a historic survey marker, one was an artifact scatter associated with the former Prescott to Phoenix road alignment, and one was a burro shoe. All of the historic artifacts encountered during survey were restricted in their distribution across the landscape to the eastern and central portions of the project area.

The rock cairns (IOs 18, 36, 40, and 46) encountered during survey were restricted in their distribution to the central portion of the project area on Biscuit Flat. All were constructed of native metavolcanic and vesicular basalt cobbles and were one or two courses in height. These rock cairns were likely associated with ranching activity in the area, and lacked associated artifacts necessary to demonstrate temporal affiliation with either modern or historic activities.

Of the six historic cans encountered during survey of the proposed project (IOs 1, 15, 22, 48, 61, and 65), two (IOs 1 and 48) were soldier-top cans, two (IOs 15 and 22) were hole-in-top cans, and two (IOs 61 and 65) were upright tobacco tins.

Photograph 5
Flaking Station, IO 54.

Hole-in-top cans were manufactured between 1880-1920. IO 22 is a rectangular hole-in-top can of the top used for canned meat production. The soldier-top cans observed on site had crimped seams and were of dimensions commonly manufactured between 1917-1929. These cans were typically used for condensed or evaporated milk production. Multi-hinged upright tobacco tins such as IO 65 were manufactured between 1907-1948, while single-hinged upright tobacco tins such as IO 61 were manufactured between 1945-present.

The three solarized glass scatters encountered during survey (IOs 2, 5, and 11) are definitive historic temporal indicators. Sun-colored amethyst (SCA) glass is indicative of manganese glass manufactured between 1880 and 1917.

IO 11 is an artifact scatter of historic solarized glass, ceramics and four hole-in-top cans associated with the former Prescott to Phoenix road alignment. The historic road alignment itself was not immediately evident in this areas, and may have been re-graded to serve as the fenceline access road that runs along the west side of I-17. Materials observed in association with IO 11 indicate temporal affiliation with the period between 1880 and 1920.

IO 9 is a historic azimuth located on the west side of I-17. This azimuth is marked "U.S. Coast and Geodetic Survey Azimuth Mark 1947 Skunk." This designation refers to the Skunk Creek crossing located north of the azimuth point.

The final historic isolate encountered during survey of the proposed project area was IO 38, a small burro shoe. No temporal affiliation could be determined for this artifact.

IO 71, an unusual rock feature of unknown function, was encountered in the extreme southwestern potion of the project area just south of the Beardsley Canal crossing. This feature consisted of a linear rock alignment measuring 78 feet (east/west) by 12 feet (north/south). The alignment was one course high and constructed out of native metavolcanic cobbles. Centerline of this alignment followed a bearing of 98 degrees. A large cholla cactus was observed growing out of the center of the alignment. No temporal affiliation could be determined for this feature. The rocks associated with this feature did not exhibit infilling or siltation indicative of great age, and is likely associated with modern recreational use of the area.

Of the three roadside shrines encountered during survey, two (IOs 3 and 89) were roadside shrines dedicated to traffic fatalities, and one (IO 6) was a pair of pet graves. Isolate 3, a road shrine located on the existing pipeline corridor at its point of crossing at Tatum Road is dedicated to the memory of Eric A. Benson, 1966-1999. Isolate 89, located on the existing pipeline corridor at its crossing at Happy Valley Road/7th Avenue, is dedicated to the memory of John Schatz, 1973-2001. Isolate 6, located on the north side of the pipeline access road approximately ¼ mile to the east of Happy Valley Road/7th Avenue, consists of two pet graves.

NEWLY RECORDED SITES

A total of six new sites were identified by survey of the proposed transmission corridor. These sites are tabulated in terms of their description and location in Table 4. A more detailed description of each site follows below in text.

TABLE 4
NEWLY RECORDED CULTURAL RESOURCES

Site Number	Quadrangle	Jurisdiction	Chronology	Description	Eligibility
AZ T:8:166 (ASM)	Union Hills	State	Historic	Artifact scatter	Not eligible
AZ T:8:167 (ASM)	Union Hills	State, Private	Prehistoric	Artifact scatter	Not eligible
AZ T:4:374 (ASM)	Biscuit Flat	Private	Historic	Artifact scatter	Not eligible
AZ T:4:131 (ASM)	Biscuit Flat	Private	Historic	Road alignment	Eligible
AZ T:4:375 (ASM)	Biscuit Flat	State	Prehistoric	Lithic scatter	Not eligible
AZ T:3:274 (ASM)	Baldy Mountain	State	Prehistoric	Artifact scatter	Eligible
AZ T:7:276 (ASM)	Calderwood Butte	State	Prehistoric	Artifact scatter	Not eligible

AZ T:8:166 (ASM)

Site AZ T:8:166 (ASM) is a small historic trash scatter situated in the project APE on lands under the jurisdiction of the ASLD. This location is depicted on the Union Hills 7.5-minute USGS topographic quadrangle in the southwest ¼ of the southeast ¼ in Section 1, Township 4 North, Range 3 East. UTM grid coordinates for this location are 3730198mN/407414mE (see Figure 3h).

Environmental Setting

The site is located in Maricopa County on lands owned by the ASLD. It is situated in an open exposure on a bajada flat in the northern Phoenix Basin. The site is approximately 1½ miles to the east of the Union Hills at an elevation of 1,660 feet above mean sea level.

The Phoenix Basin is part of the greater Basin and Range physiographic province. This basin was formed by fault block uplift and metamorphic core uplift (Abbott 2000). Stream sediments and erosional deposits originating from local mountains have accumulated and settled to partially fill the basin floor.

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region in the Lower Colorado River Valley subdivision of the Sonoran desertscrub biotic community (Brown 1994). Site AZ T:8:166 (ASM) is located on the western bank of one of the numerous small, north-south tending seasonal drainages that are observed to crosscut the survey corridor in this area.

Vegetation on site was observed to be dominated by species commonly associated with the Lower Colorado River Valley biotic community. Creosotebush (*Larrea tridentata*), gold cholla (*Opuntia echinocarpa*), mesquite (*Prosopis* spp.), cat-claw acacia (*Acacia greggii*), and paloverde (*Cercidium* spp.) were all abundantly present both on site and in the surrounding area.

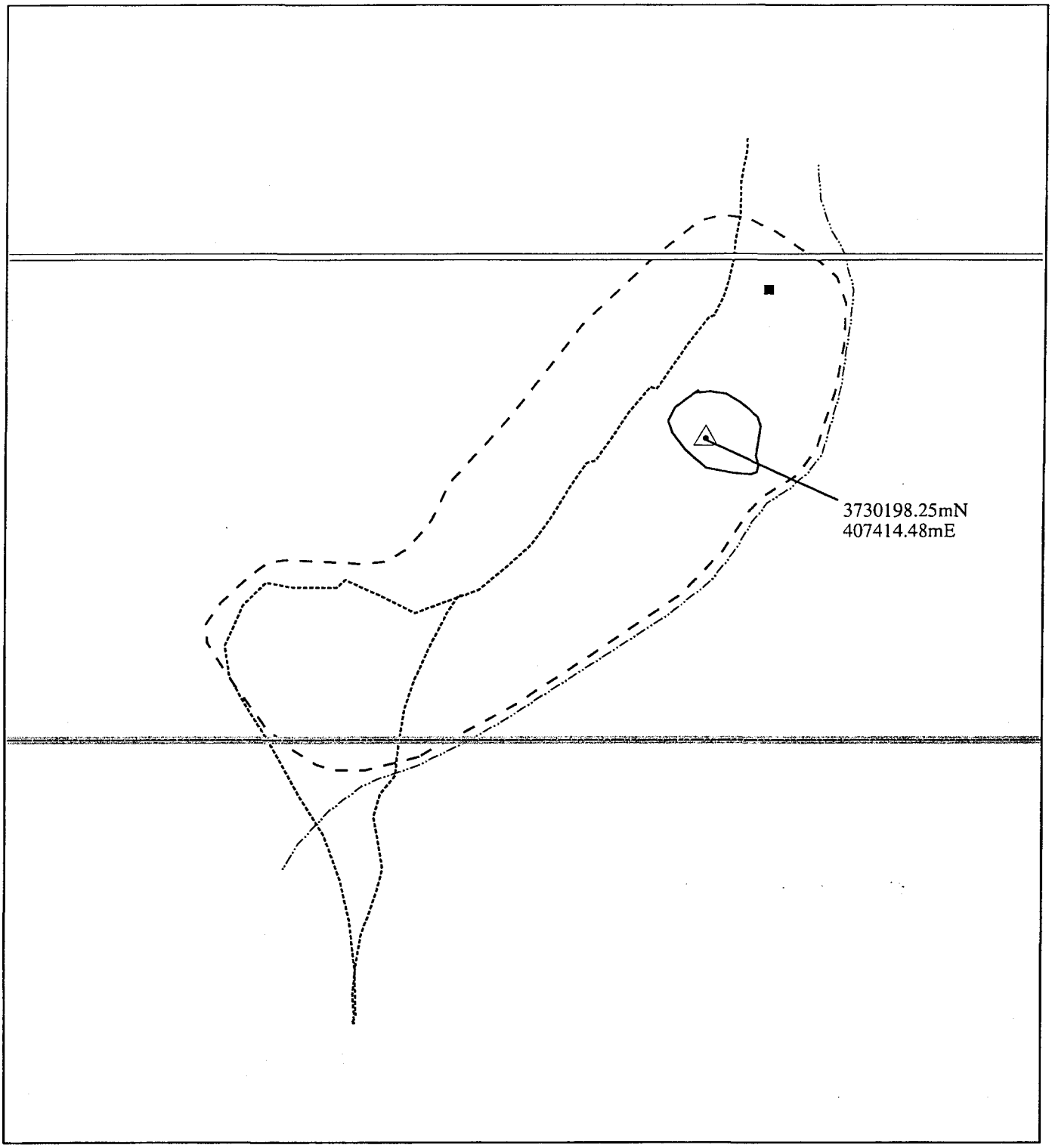
Description

Site AZ T:8:166 is a low-density historic trash scatter situated in an open exposure in the northern Phoenix Basin (Figure 4). The site is located on the west side of a small, north-south tending intermittent drainage. A well-developed north-south tending two-track road was observed to cut through the western portion of the site. Most artifacts were observed on the east side of this road. Site integrity is thus noted as fair to good. Photograph 6 is an overview of the site area.

Photograph 6
Overview of AZ T:8:166 (ASM) looking north.

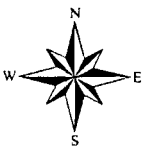
Site dimensions are approximately 33 meters (north/south) by 42 meters (east/west) for a total area of 1,386m2. Approximately 35 historic artifacts were observed in this area for a total artifact density of 0.02 artifacts/m2.

Materials observed at AZ T:8:166 (ASM) were concentrated in a 3 by 3 meter area in the center of the site, with other materials radiating out from this concentration in a uniformly sparse distribution. Three artifact classes, metal, glass, and ceramics, were noted at the site.



0 5 10 20 Meters

- - -	Site Boundary	═══	Right-of-Way
----------	Road	-·-·-	Wash
———	Artifact Concentration	△	Site Datum
——·——	Centerline	■	Modern Trash



Newly Recorded Site
AZ T:8:166 (ASM)

Figure 4

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Evidence of Site Age and Function

The most common artifact type observed at site AZ T:8:166 (ASM) was metal. Much of the metal observed was extremely degraded and non-diagnostic. Identifiable non-diagnostic metal artifacts included a spice shaker lid and two metal canning jar caps.

Diagnostic metal artifacts observed at the site included soldier-top cans (n=4), hole-in-top cans (n=2), the embossed lid of a Calumet baking powder tin, a tin lid embossed "Canco," and a five-hinge tobacco tin.

Hole-in-top cans were manufactured between 1880 and 1920. The soldier-top cans observed on site had crimped seams and were of dimensions commonly manufactured between 1917 and 1929. These cans were typically used for condensed or evaporated milk production.

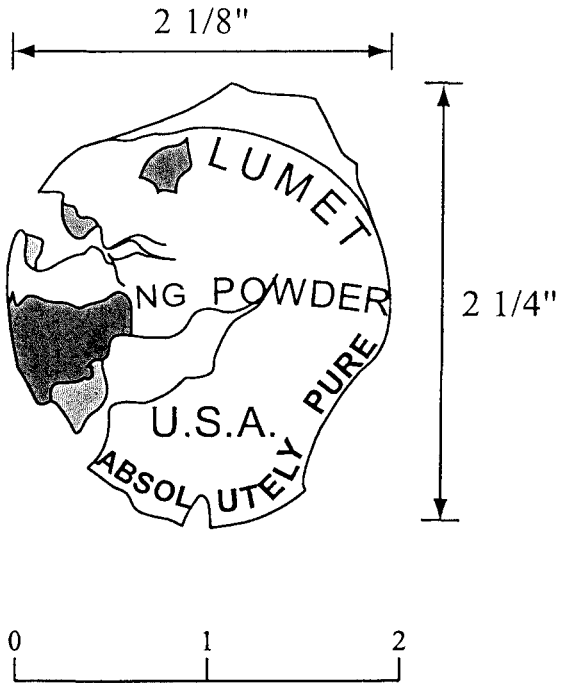
Calumet backing powder tin lids are commonly associated with the period between 1890 and 1940. "Canco" is a trademark of the American Can Company manufactured post-1910. Upright five-hinge tobacco tins such as the one observed on site were manufactured between 1907 an 1948.

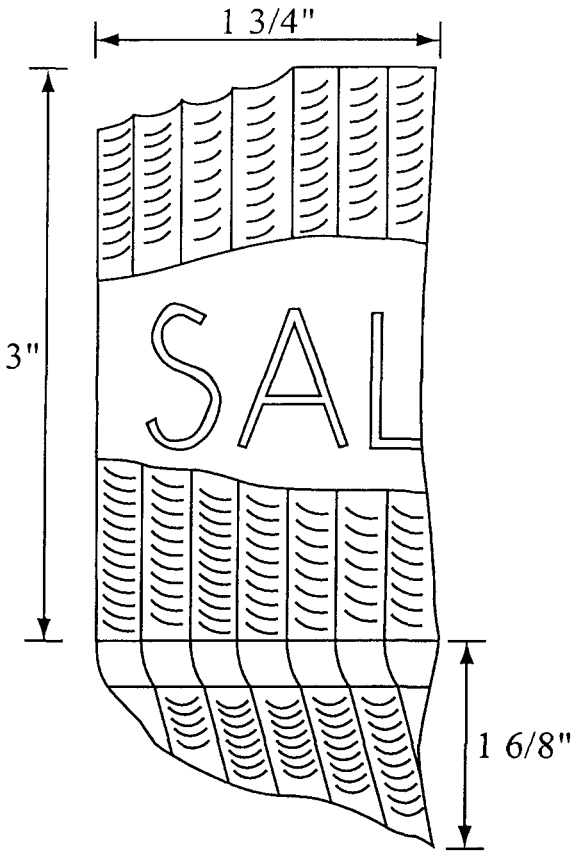
Glass was the second most common artifact type observed at site AZ T:8:166 (ASM). Glass types observed at the site were clear, aqua, and SCA. SCA glass is indicative of manganese glass manufactured between 1880 and 1917. Clear glass on site was manufactured post-1917 without the manganese that causes the glass to turn purple when exposed to sunlight. Aqua glass was commonly manufactured between 1880 and 1920.

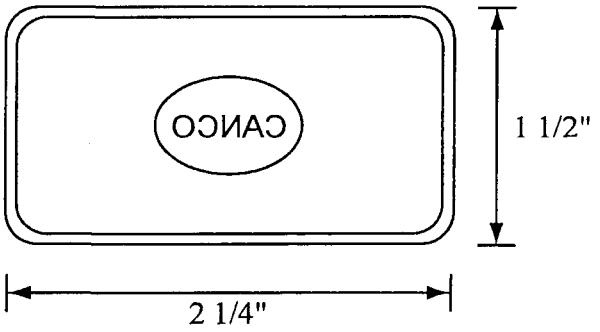
Maker's marks observed on glass artifacts at AZ T:8:166 (ASM) included a base embossed with "O.D." and a base embossed with the letter "O" superimposed over the letter "W." Fragments of a glass salt jar embossed with the word "SAL-" were also observed. These were not identified as to dates of manufacture. Figure 5 shows the marker's marks identified at AZ T:8:166 (ASM).

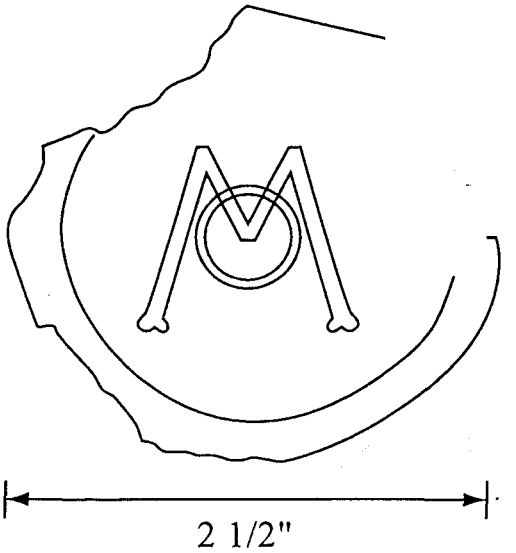
Ceramics observed on site were both white earthenware and terracotta. No maker's marks were observed and neither ceramic types are considered to temporally diagnostic.

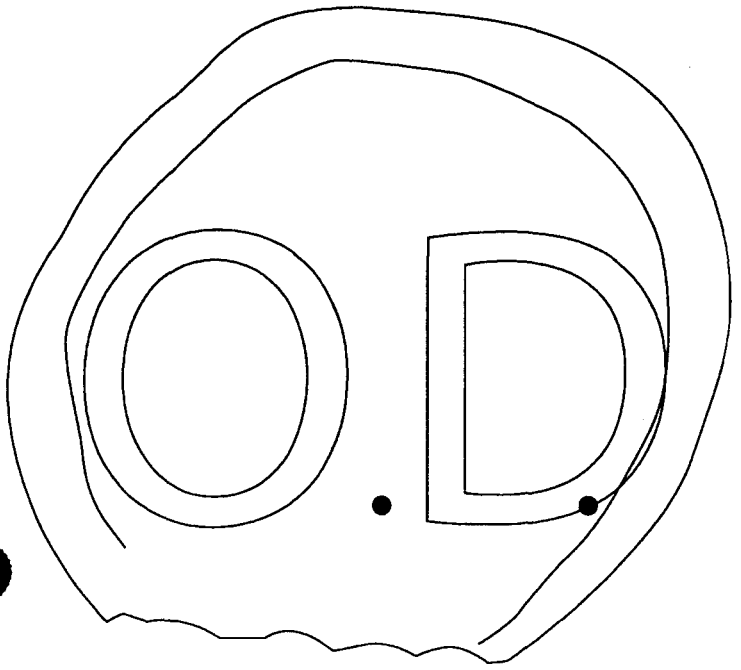
Artifacts observed at site AZ T:8:166 (ASM) indicate that the materials present were manufactured between 1880 and 1947 and were deposited either during this timeframe or after. Materials present were not necessarily indicative of household refuse but more provisionary in nature, reflecting items easy to pack as travel provisions. Given the discrete nature of the deposit and the relative remoteness of the site area, it is likely that the site materials represent a single depositional episode associated with refuse from a temporary historic campsite in the area.











3 1/2 Diameter

- surface dirt

AZ T:8:166 (ASM)

Maker's Marks

Illustration: A. Kirkland

Figure 5

National Register Assessment

Site AZ T:8:166 is a low-density historic trash scatter situated in an open exposure in the northern Phoenix Basin. The site is located on the west side of a small, north-south tending intermittent drainage. A well-developed north-south tending two-track road cut through the western portion of the site, and as such site integrity is fair.

Field observations at AZ T:8:166 (ASM) suggest no indication of any buried deposits present at the site. As such the data potential of the site is limited, and has likely been exhausted by surface inventory of the site. Further study of the site is unlikely to yield any new information and no other historic values have been identified to warrant preservation. For this reason, it is our recommendation that the site is ineligible for NRHP listing.

AZ T:8:167 (ASM)

Site AZ T:8:167 (ASM) is a lithic and ceramic scatter situated in the APE of the proposed project south of the Cave Buttes Recreation Area. It is located on privately owned land and lands owned by the ASLD. This location is depicted on the Union Hills 7.5-minute USGS topographic quadrangle in the southwest ¼ of the southeast ¼ of Section 4, Township 4 North, Range 3 East. UTM grid coordinates for this location are 3730274mN/402678mE (see Figure 3h).

Environmental Setting

The site is located in Maricopa County in a southern exposure on a secondary finger ridge at the base of the Union Hills in the northern Phoenix Basin. The site is situated approximately at an elevation of 1,600 feet above mean sea level.

The Phoenix Basin is part of the greater Basin and Range physiographic province. This basin was formed by fault block uplift and metamorphic core uplift (Abbott 2000). Stream sediments and erosional deposits originating from local mountains have accumulated and settled to partially fill the basin floor.

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region in the Lower Colorado River Valley Subdivision of the Sonoran desertscrub biotic community (Brown 1994). Site AZ T:8:167 (ASM) is located on the western bank of Cave Creek to the adjacent southwest of the present-day Cave Creek Dam.

Vegetation on site was dominated by species commonly associated with the Lower Colorado River Valley biotic community. Creosotebush (*Larrea tridentata*), gold cholla (*Opuntia echinocarpa*), mesquite (*Prosopis* spp.), cat-claw acacia (*Acacia greggii*), and paloverde (*Cercidium* spp.) were all abundantly present both on site and in the surrounding area.

Description

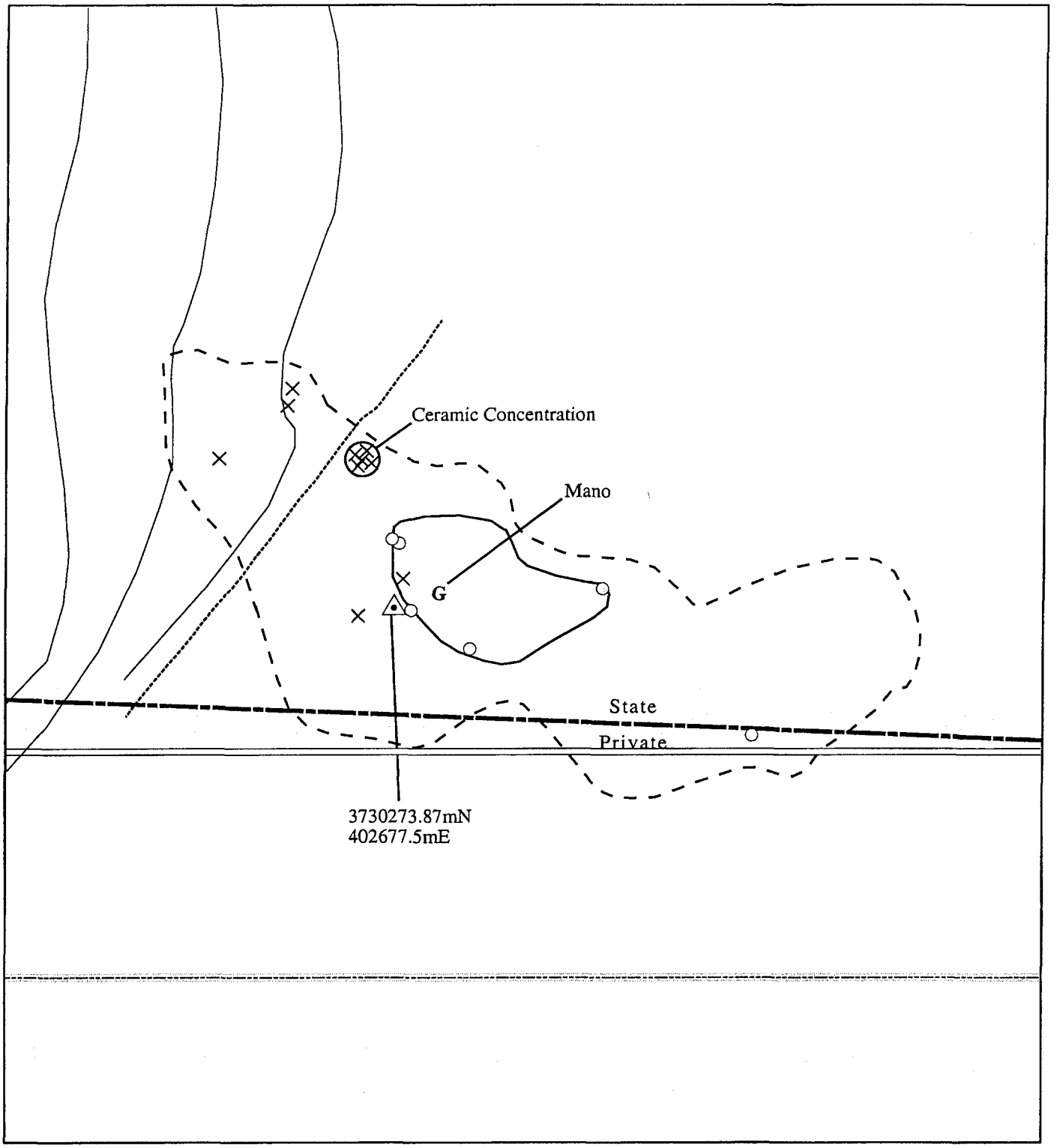
Site AZ T:8:167 (ASM) is a sparse artifact scatter (Figure 6). The western portion is bisected by a northeast-southwest tending dirt road cut into the side slope of the site. Artifacts were observed on both sides of the road, as well in push piles along the eastern side of the road, indicating that construction of the road impacted the integrity of the site. Despite this, site integrity is good. Photograph 7 is an overview of the site area.

Photograph 7
Overview of AZ T:8:167 (ASM) looking east.

The exposed ground surface contains desert pavement, although in places creosote, palo verde, saguaro, and cholla disrupt the desert pavement. Various raw materials such as igneous basalts interspersed with quartzite and sedimentary siltstones are present as cobbles on site.

Site dimensions are approximately 58 meters (north/south) by 112 meters (east/west) for a total area of 6496m2. Approximately 60 artifacts were observed in this area for a total artifact density of 0.01 artifacts/m2.

Materials observed at AZ T:8:167 (ASM) were observed to be concentrated in a 10 (north/south) by 15 (east/west) meter area in the center of the site, with other materials radiating out from this concentration in a uniformly sparse distribution. Three artifact classes, lithics, groundstone, and ceramics, were noted at the site. A complete inventory of observed surface materials was tabulated during recording of the site.



0 10 20 40 Meters

Newly Recorded Site
AZ T:8:167 (ASM)

Figure 6

– – –	Site Boundary	———	Contour Line
----------	Road	△	Site Datum
———	Artifact Concentration	G	Ground Stone
———	Centerline	×	Sherd
═══	Right-of-Way	○	Tool
▬ ▬	Jurisdiction Boundary		

N W E S

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The lithic assemblage observed at site AZ T:8:167 (ASM) was dominated by metavolcanic material (n=25), followed by quartzite (n=7), chert (n=6), basalt (n=3), jasper (n=1), siltstone (n=1) and obsidian (n=1). Of these materials, chert, jasper, and obsidian are exotic in origin, while metavolcanic, quartzite, siltstone, and basalt are locally available materials.

Groundstone was present at the site. One shouldered unifacial mano fragment manufactured from sandstone was identified during surface recordation of the site. The length of this artifact measured 7 centimeters (incomplete), the width measured 10.5 centimeters (complete), and the thickness was 7 centimeters (complete).

The ceramic assemblage observed on site consisted of Gila Plain-Salt variety body sherds. Five body sherds were observed over the general site area, and another four were observed in a 1 by 1 meter concentration in the north-central portion of the site.

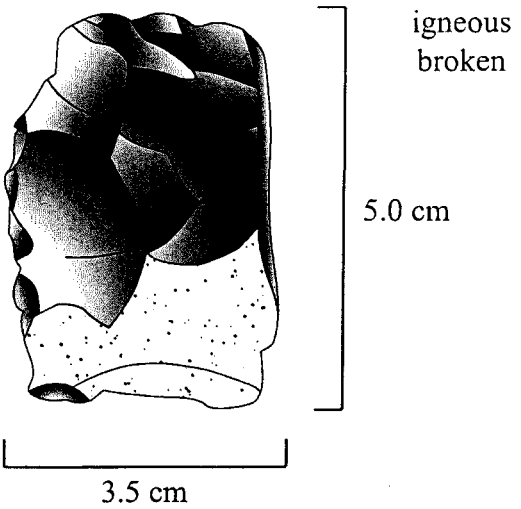
Several expedient tools (n=12) were observed on site (Figure 6). The majority of these (n=10) were unifacial end scraper and side scraper flake tools with percussion-flaked lateral margins. A small chert thumbnail scraper with pressure flaked lateral margins and a bifacial metavolcanic chopper tool with percussion-flaked lateral margins were also noted. The majority of the unifacial flake scrapers observed were manufactured from metavolcanic materials (n=6); however, quartzite, chert, obsidian and siltstone tools (n=4) were also noted. Figure 7 shows the tools identified at site AZ T:8:167 (ASM).

Table 5 presents the debitage index observed at site AZ T:8:167 (ASM). Metavolcanic materials (n=16) were observed to dominate the debitage assemblage, followed by quartzite (n=7), basalt (n=3), chert (n=5) and jasper (n=1). The debitage index clearly indicates a reliance on locally available materials, with exotic materials occurring predominately as shatter or tertiary flakes, indicating an emphasis on late-stage tool rejuvenation. Locally available materials tend to reflect a greater emphasis on mid- to late-stage manufacture indicative of the manufacture of expedient tools.

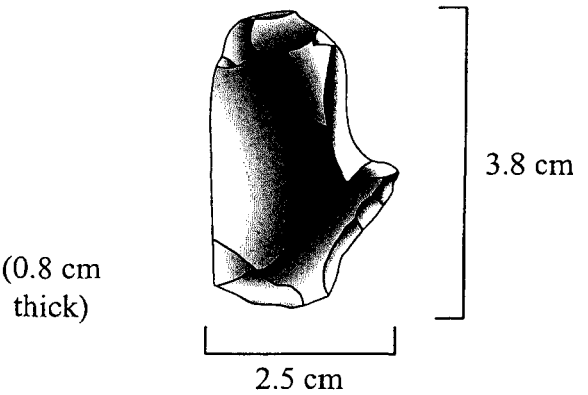
TABLE 5
DEBITAGE INDEX: AZ T:8:167 (ASM)

Material	Stage of Manufacture					Total
	Core	Primary	Secondary	Tertiary	Shatter	
Metavolcanic	Multidirectional	3	10	1	1	16
Quartzite	Multidirectional	0	2	3	1	7
Basalt	0	0	1	2	0	3
Jasper	0	0	0	0	1	1
Chert	0	1	0	1	3	5
TOTALS	**2**	**4**	**13**	**7**	**6**	**32**

Uniface / Scraper

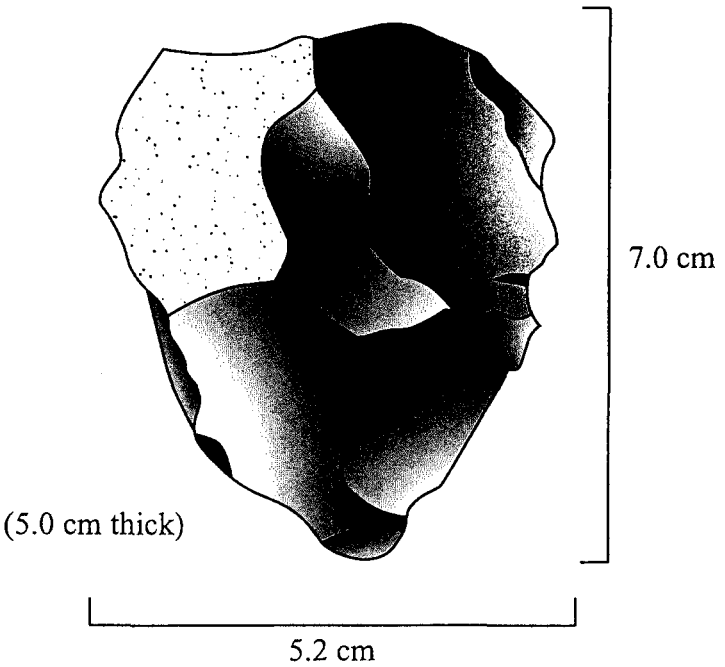


Flake Tool

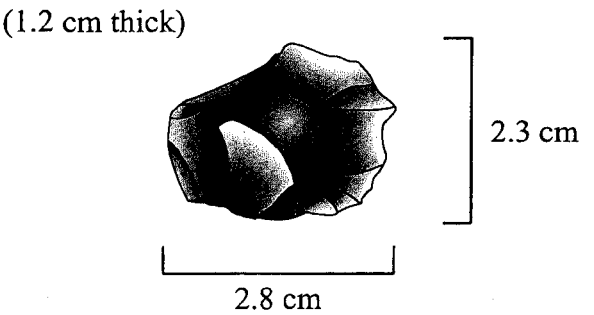


Core 1

multidirectional - metabolcanic



Thumbnail Scraper



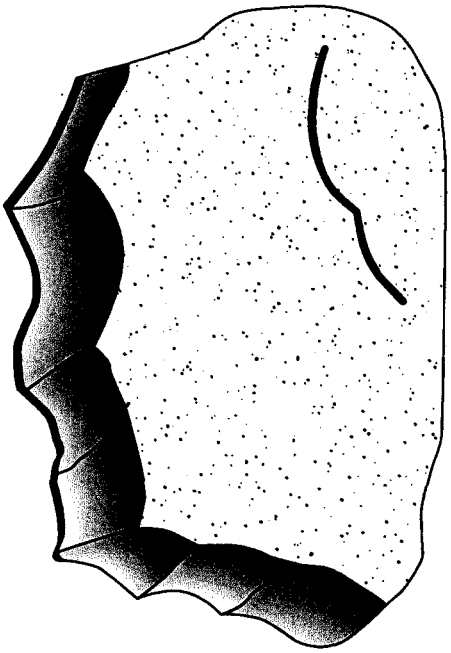
Lithic Tools at

AZ T:8:167 (ASM)

Illustration: K. Rebnegger

Figure 7a

Cobble Tool



Lithic Tools at

AZ T:8:167 (ASM)

Illustration: K. Rebnegger

Figure 7b

Evidence of Site Age and Function

No diagnostic artifacts were observed at site AZ T:8:167 (ASM). The site assemblage likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. Ceramics noted on site were non-diagnostic plain ware varieties that have a long temporal use span throughout later prehistory into the Protohistoric and Early Historic periods.

Tools observed on site are expedient and task-specific in nature. Their presence in the site assemblage may be an indication of the short use-life of expedient tools, as tools of this type could easily be manufactured from available material and discarded upon completion of a specific task.

The lithic assemblage observed indicates that production at the site focused on the reduction of raw material. Raw material is locally available in the form of large- to medium-sized cobbles associated with small dry washes in the site vicinity. The debitage assemblage present at the site indicates that cobble testing occurred for the purpose of producing expedient, task-specific tools or flake blanks. The lack of primary flakes in the assemblage may indicate that these flakes were either taken from the site as flake blanks or that these flakes were further reduced to secondary stage during the production of expedient tools. The lack of tertiary flakes indicates that tool rejuvenation or the manufacture of formal artifacts was not a focus of tool production practiced at the site.

The presence of ceramics and groundstone at the site indicates an emphasis on the collecting and processing of locally available plant resources. Mesquite is only one of the resources available at this location. Mesquite stands are located in close proximity to the site along the natural channel of Cave Creek. The pods of this tree were harvested and ground into meal by the native inhabitants of the area.

National Register Assessment

Site AZ T:8:167 (ASM) likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. Materials observed are indicative of short-term use of the site as a limited use area where resource procurement took place. The lithic assemblage present at the site suggests that cobble-testing for the purpose of producing expedient task-specific tools was the dominant emphasis of tool manufacture that took place at the site. The presence of ceramics and groundstone at the site suggests a possible emphasis on the collecting and processing of locally available plant resources.

Field observations at AZ T:8:167 (ASM) revealed no indication of any buried deposits present at the site. The presence of native desert pavement in formation across the site surface indicates that there is little or no potential for a subsurface component of the site to exist.

As such the data potential of the site is limited, and has likely been exhausted by surface inventory of the site. Further study of the site is unlikely to yield any new information and no other historic values have been identified to warrant preservation. For this reason, it is our recommendation that the site is ineligible for NRHP listing.

AZ T:4:374 (ASM) and AZ T:3:131 (ASM)

Site AZ T:4:374 (ASM) is a historic trash scatter associated with a historic road alignment (see Figure 3f). The site is located in the APE of the proposed project on privately owned land. This location is depicted on the Biscuit Flat 7.5-minute USGS topographic quadrangle in the northeast ¼ of the northwest ¼ of Section 26, Township 5 North, Range 2 East. UTM grid coordinates for the site datum are 3735151mN/395691mE.

Environmental Setting

The site is located in Maricopa County in an open exposure on a bajada flat at the base of Middle Mountain in the northern Phoenix Basin. The site is situated approximately at an elevation of 1,550 feet above mean sea level.

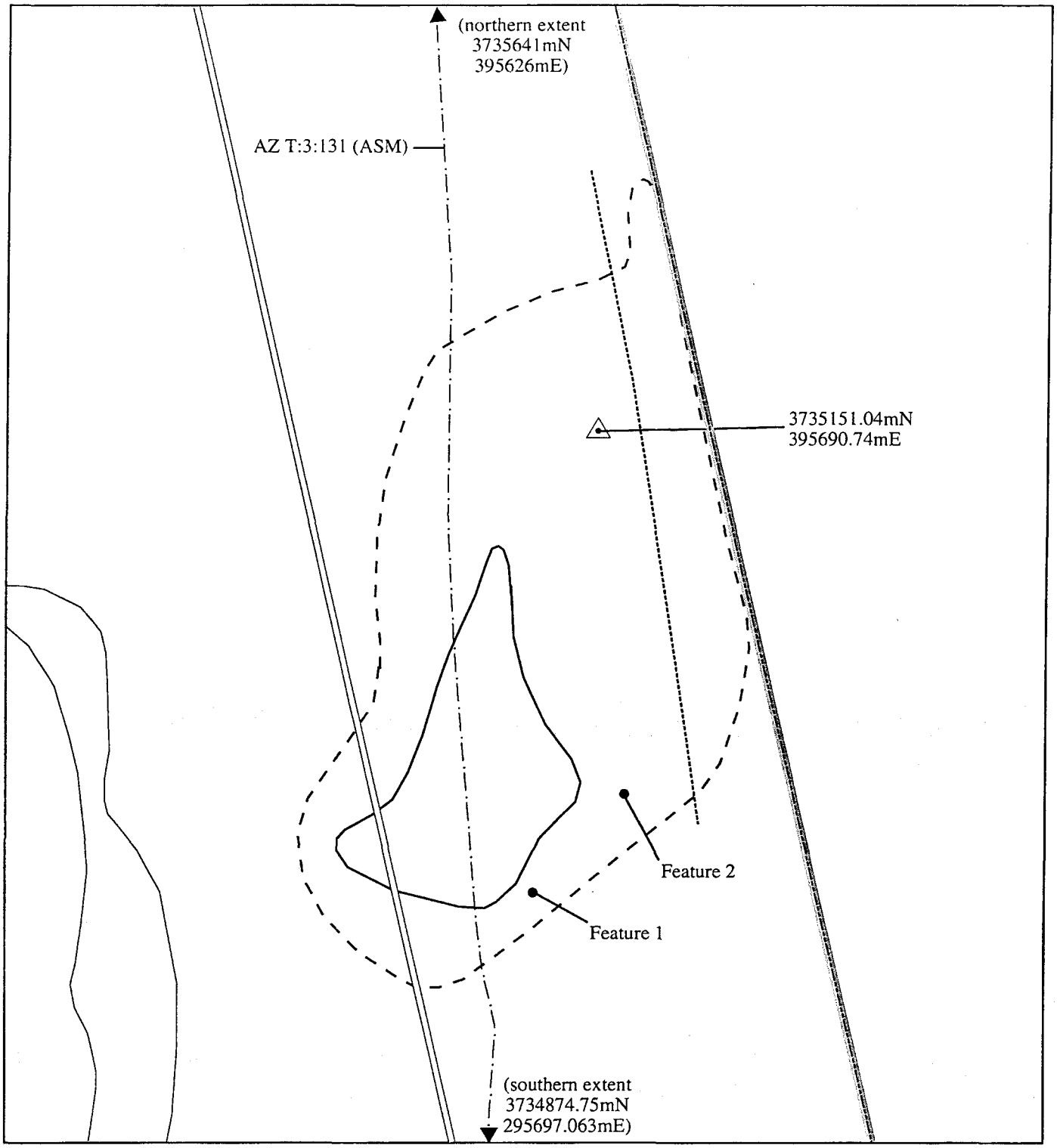
The Phoenix Basin is part of the greater Basin and Range physiographic province. This basin was formed by fault block uplift and metamorphic core uplift (Abbott 2000). Stream sediments and erosional deposits originating from local mountains have accumulated and settled to partially fill the basin floor.

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Brown 1994).

Vegetation on site was dominated by species commonly associated with the Lower Colorado River Valley biotic community. Creosotebush (*Larrea tridentata*), and gold cholla (*Opuntia echinocarpa*), were abundantly present both on site and in the surrounding area.

Description

Site AZ T:4:374 (ASM) is a low-density historic trash scatter associated with the former Phoenix to Prescott road alignment (Figure 8). It is situated in an open exposure on a bajada flat at the base of Middle Mountain. A well-developed modern road is observed to cut through the eastern portion of the site. Artifacts were observed in the berm of the modern road, indicating some degree of site impact. Despite this, site integrity is noted to be good. Photograph 8 is an overview of the site area.



0 10 20 40 Meters

Site Boundary		Centerline	
Artifact Concentration		Right-of-Way	
Modern Road		Contour Line	
Historic Road		Site Datum	
		Site Feature	

Newly Recorded Site AZ T:4:374 (ASM) and Previously Recorded Site AZ T:3:131 (ASM)

Figure 8

m:/projects/aps/ncp/cec/mxds/site374.mxd

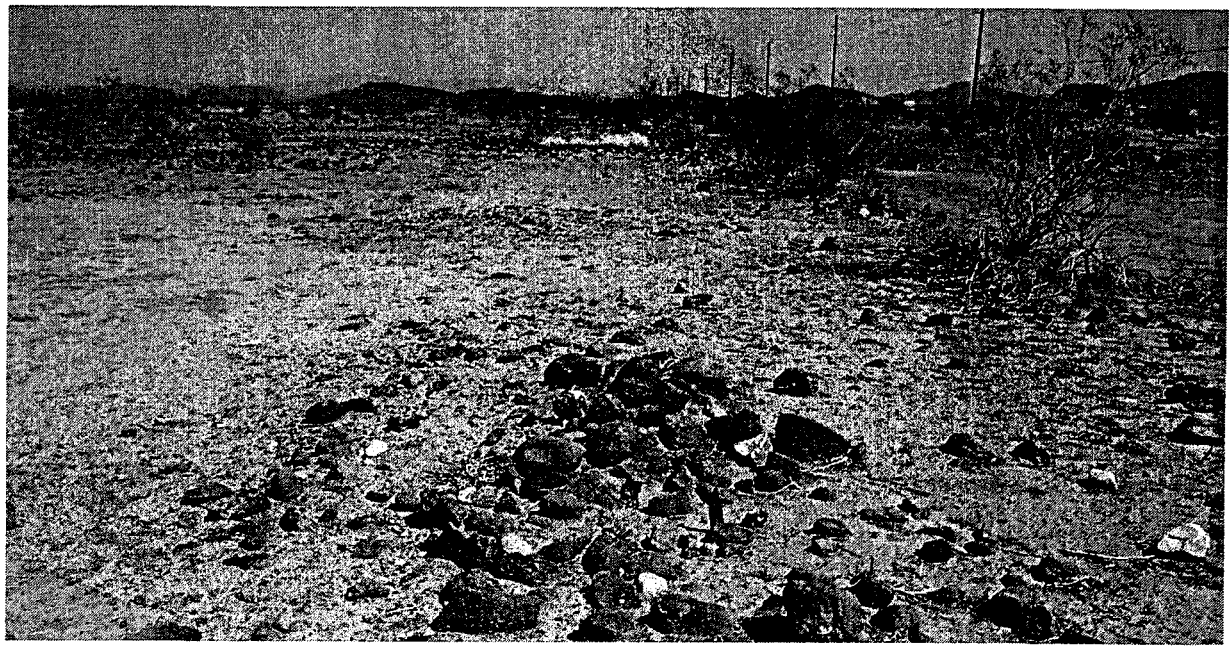
Photograph 8
Overview of AZ T:4:374 (ASM) looking south.

Site dimensions are approximately 132 meters (north/south) by 69 meters (east/west) for a total area of 9108m2. Approximately 50 artifacts were observed in this area for a site density of .005 artifacts/m2.

Two features were noted at site AZ T:4:374 (ASM). Feature 1 is a small rock ring measuring 66 inches in diameter. It is manufactured from native vesicular basalt and metavolcanic cobbles and is one course high. A single steel beer can was associated with Feature 1. The feature is observed to have been infilled by aeolian deposition. Rocks are observed to exhibit attributes consistent with thermal alteration and likely represents a camping episode that took place at that location. Temporal affiliation for this feature cannot be determined. Photograph 9 is an overview of Feature 1.

Feature 2 is a small cluster of native vesicular basalt and metavolcanic cobbles measuring 120 inches in length (north/south) and 57 inches in width (east/west). Cobbles are stacked one course high and do not exhibit any attributes consistent with thermal alteration. A small stub of milled wood measuring 2.5 inches by 1.5 inches was observed in the southern portion of the feature. A solarized glass scatter consisting of approximately 20 pieces of bottle glass was noted to occur over the top of Feature 2, indicating that the feature was constructed prior to the deposition of the glass. Exact temporal affiliation for this feature cannot be determined at this time. Photograph 10 is an overview of Feature 2.

Photograph 9
Overview of AZ T:4:374 (ASM) Feature 1 looking west.

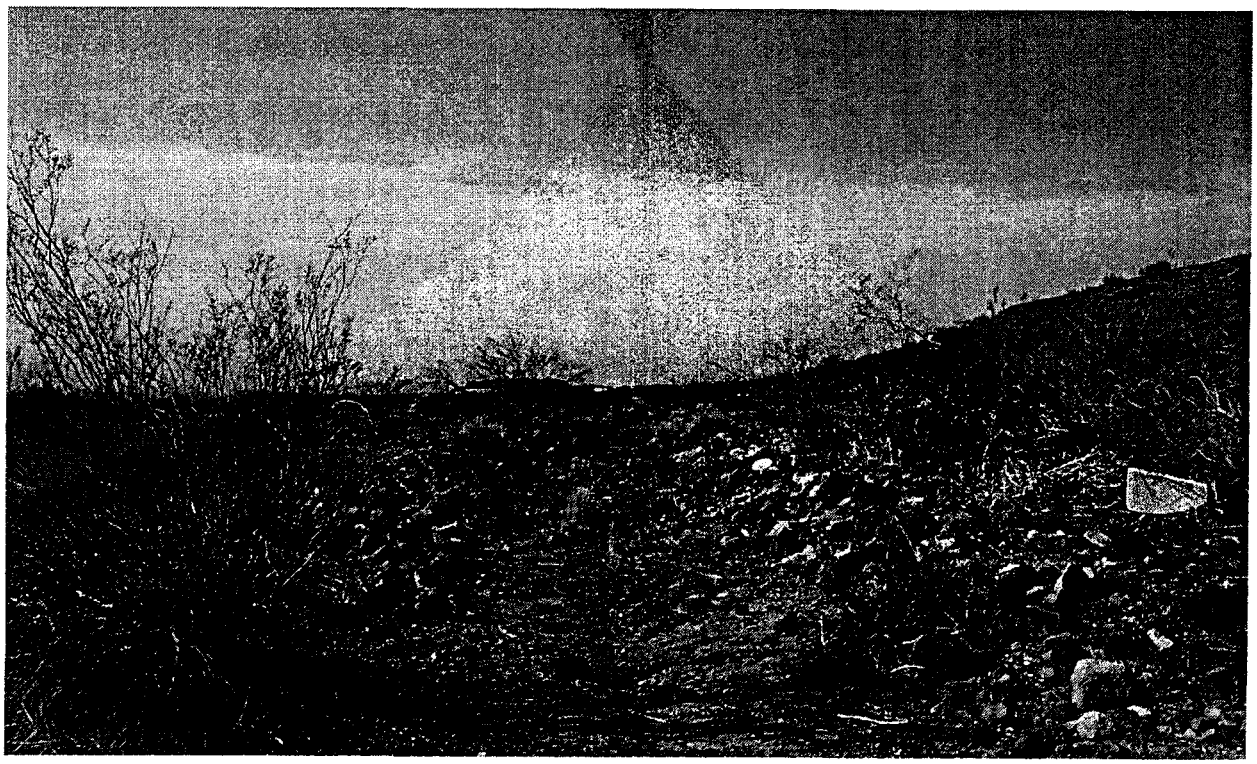


Photograph 10
Overview of AZ T:4:374 (ASM) Feature 2 looking north.

Materials observed at site AZ T:4:374 (ASM) were observed to be concentrated in a 60 (north/south) by 40 (east/west) meter area in the center of the site in association with a historic road alignment. Other materials were observed to radiate out from this main area of concentration in a uniformly sparse distribution. Three artifact classes, metal, glass, and ceramics, were noted to be present at the site. A complete inventory of observed historic artifacts was compiled during recording of the site.

The historic road alignment observed at the site is the former Prescott to Phoenix road, also known as the Black Canyon Road. This road alignment has been designated as site AZ T:3:131 (ASM) by Neal (1994). Photograph 11 shows site AZ T:3:131 as it occurs in the project area. The exact date of construction for this road is unknownl however, it does occur on the 1895 GLO plat map for Township 5 North, Range 3 East and on the 1886 GLO plat map for Township 5 North, Range 2 East.

The Black Canyon Road was originally constructed for use as a wagon road, and was used as a stagecoach line as early as 1889. Use of the road as a stagecoach and freight route continued until 1917 (Ellis et al. 2002). The road was subjected to improvements including grading and gravel base to make it suitable for automobile use in both 1917 and 1937. In 1937, the road was designated as SR 69. The road was paved and partially realigned in 1946 and 1956. Portions of the original road were also incorporated into I-17 during its construction in the 1960s.



Photograph 11
Overview of AZ T:3:131 (ASM) looking south.

The road is observed to pass through the western portion of the site in a north-south orientation. Large native cobbles are built up along the side of the alignment to height of two feet above the actual roadbed. The width of the roadbed is nine and one-half feet, while the width between the built-up berms along the roadbed is 15.5 feet.

The portion of site AZ T:3:131 (ASM) that occurs in association with newly recorded site AZ T:4:374 (ASM) retains its historical integrity. It is likely that this portion of the road was abandoned after the route realignments of 1917 and 1937, as the road corridor appears to demonstrate width and configuration consistent with wagon roads rather than automobile conveyance routes.

Evidence of Site Age and Function

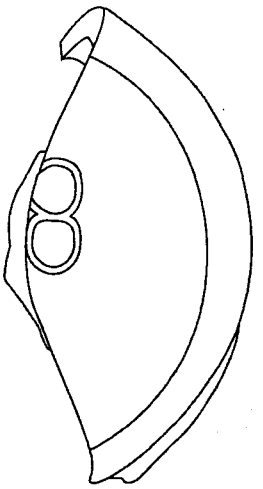
The most common artifact type observed at site AZ T:4:374 (ASM) was metal. Some degraded and non-diagnostic metal was observed, but for the most part metal observed as part of the site assemblage was well preserved. Non-diagnostic artifacts observed at the site included a soldiered-spout fuel jerry can, a screw-top jar lid, a round metal pail, a paint can, and an unidentifiable automobile fender.

Diagnostic metal artifacts observed at the site included cylindrical sanitary cans (n=5), steel beer or soda cans with church key openings (n=6), 3-, 4- and 5-hinge tobacco tins (n=4), cylindrical hole-in-top tins (n=3), rectangular hole-in-top meat tins (n=2), a soldier-top condensed milk tin (n=1), and an oval sardine tin (n=1).

Hole-in-top cans were manufactured between 1880-1920, and were replaced by sanitary cans beginning as early as 1904. Multi-hinged upright tobacco tins such as those observed on site were manufactured between 1907 and 1948. Steel beer cans with church key openings were manufactured between 1935 and 1960s, with production halting during World War II. The soldier-top condensed milk tin observed at the site was of dimensions commonly manufactured between 1917 and 1929.

Glass was the second most common artifact type observed at the site. Most glass on site was bottle glass, with one clear glass screw-top jar fragment also observed. Colored glass observed at the site was aqua, SCA, olive, and clear. SCA glass is indicative of clear glass manufactured with manganese that was produced between 1880 and 1917. Clear glass on site was manufactured post-1917 without the manganese that causes the glass to turn purple when exposed to sunlight. Aqua glass was commonly manufactured between 1880 and 1920.

Only one partial maker's mark was noted at AZ T:4:374 (ASM). This was an aqua glass bottle base embossed with what appears to be the number "8." This mark was not identified as to temporal affiliation of manufacture. Figure 9 shows the partial "8" of the maker's mark on the bottle.



Pale blue bottle
Partial maker mark

0 1 2 3

10 SCALE 1:1

Illustration: A. Kirkland

AZ T:4:374 (ASM)

Maker's Marks

Figure 9

Ceramics observed on site were restricted to brown porcelain insulator fragments. These were too fragmentary to be identified as to type. Their presence on site may be associated with either the telegraph line following the Prescott to Phoenix road alignment or with an existing modern transmission line located to the adjacent east of the site along I-17.

In addition to the historic materials observed on site, an isolated fine-grained rhyolite tertiary flake was also observed. This artifact was not assigned an isolate number and is discussed here in text only.

National Register Assessment

Site AZ T:4:374 (ASM) is a low-density historic trash scatter associated with a historic road alignment that is situated in an open exposure at the base of Middle Mountain in the northern Phoenix Basin. A well-developed modern road cuts through the middle portion of the site. Artifacts were observed in the berm of the modern road, indicating some degree of site impact. Despite this, site integrity is good.

Artifacts observed at site AZ T:4:374 (ASM) indicate that the materials present were likely deposited as discard as a result of travel along the Prescott to Phoenix road alignment. Materials present were not indicative of household refuse but were more provisionary in nature, reflecting items easy to pack as travel provisions. Diagnostic artifacts observed at the site were largely manufactured between 1880 and 1940, and likely represent a series of depositional episodes associated with travel along the roadway.

Field observations at AZ T:4:374 (ASM) revealed no indication of any buried deposits present at the site. While site integrity is good, data potential of the site is limited. It is likely that the information potential of the site has been exhausted by surface inventory. Further study of the site is unlikely to yield any new information and no other historic values have been identified to warrant preservation. For this reason, it is our recommendation that the site is ineligible for NRHP listing.

The historic road alignment observed at the site is the former Prescott to Phoenix road, Arizona T:3:131 (ASM). The exact date of construction for this road is unknown; however, it does occur on the 1895 GLO plat map for Township 5 North, Range 3 East. The portion of this historic road alignment that passes through the site is intact. This road alignment is observed to be intact outside of the northern and southern boundaries of site AZ T:4:374 (ASM) for a total distance of 767 meters (2,531 feet). UTM grid coordinates for the intact portion of the road alignment are 3734874mN/ 295697mE at the southern terminus, and 3735641mN/395626mE for the northern terminus.

In the project area, this portion of AZ T:3:131 (ASM) is recommended to be eligible for inclusion on the NRHP under Criterion A for its relationship with early Maricopa County transportation. We therefore recommend that AZ T:3:131 (ASM) be avoided by future proposed

construction action, and that archaeological monitoring be required when construction work in the vicinity is scheduled to commence.

AZ T:4:375 (ASM)

Site AZ T:4:375 (ASM) is a small lithic scatter located in the APE of the proposed project on Arizona State Trust land (see Figures 3e and 3f). This location is depicted on the Biscuit Flat 7.5-minute USGS topographic quadrangle in the southwest ¼ of the southwest ¼ of Section 8, Township 5 North, Range 2 East (Figure 3d). UTM grid coordinates for the site datum are 3738639mN/390174mE.

Environmental Setting

The site is located in Maricopa County on State Trust land. It is situated in an open exposure on a bajada flat approximately ½ mile to the north of the Deem Hills in the northern Phoenix Basin. The site is situated approximately at an elevation of 1,550 feet above mean sea level.

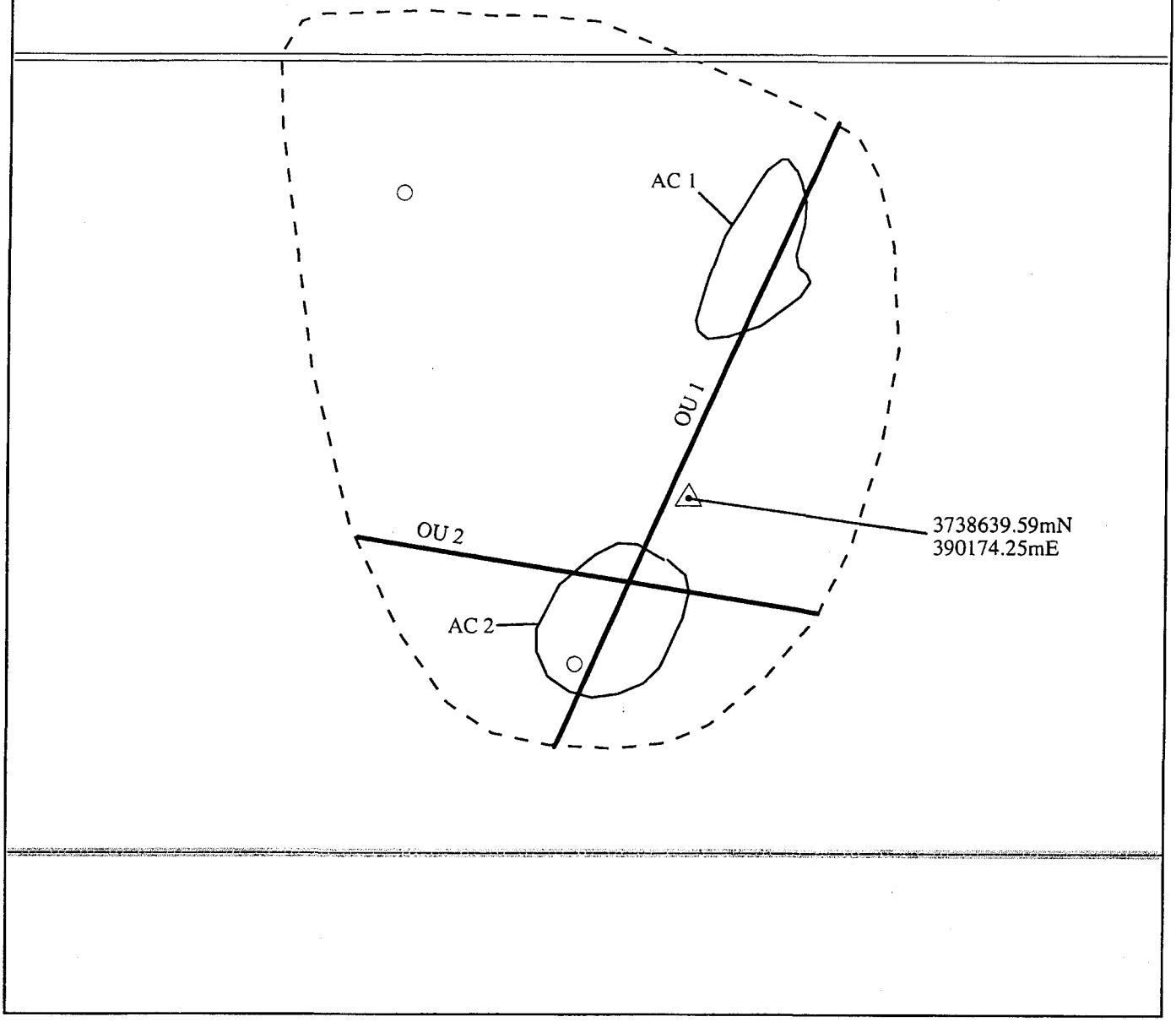
The Phoenix Basin is part of the greater Basin and Range physiographic province. This basin was formed by fault block uplift and metamorphic core uplift (Abbott 2000). Stream sediments and erosional deposits originating from local mountains have accumulated and settled to partially fill the basin floor.

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Brown 1994).

Vegetation on site was dominated by species commonly associated with the Lower Colorado River Valley biotic community. Creosotebush (*Larrea tridentata*), saguaro (*Carnegiea* gigantea), and gold cholla *(Opuntia echinocarpa)* were all abundantly present both on site and in the surrounding area.

Description

Site AZ T:4:375 (ASM) is a moderate density lithic scatter on desert pavement in an open exposure on Biscuit Flat (Figure 10). It is approximately 1 mile to the north of the Deem Hills. With the exception of an ephemeral cattle trail passing through the center of the site, no other site impacts were noted. Overall site integrity is above average. Photograph 12 is an overview of the site area.



0 5 10 20 Meters

Newly Recorded Site
AZ T:4:375 (ASM)

Figure 10

Site Boundary	Right-of-Way
Artifact Concentration (AC)	Observation Unit (OU)
Centerline	Site Datum
	Tool

N W E S

m:/projects/aps/ncp/cec/mxds/site375.mxd

Photograph 12
Overview of AZ T:4:375 (ASM) looking north.

Site dimensions are 43 meters (north/south) by 34 meters (east/west) for a total site area of 1462m2. Approximately 80 artifacts were observed in this area for a total artifact density of .05 artifacts/m2.

Materials observed at site AZ T:4:375 (ASM) were noted to occur in two large, discrete concentrations. Cultural material observed outside of the boundaries of these concentrations was extremely sparse. A complete surface inventory of items within the two lithic concentrations and in two observational units set across the site was compiled during the recording of the site.

Table 6 presents the lithic assemblage observed at site AZ T:4:375 (ASM). Four material types were noted to be present in the site assemblage. Porphyritic basalt (n=69) was the dominant material types noted, followed by metachalcedony (n=2), chert (n=1), and fine-grained basalt (n=1). Porphyritic basalt and metachalcedony were noted to be locally available as raw material cobbles associated with washes and exposed desert pavement, while the chert and fine-grained basalt are from unknown sources.

TABLE 6 DEBITAGE INDEX: AZ T:4:375 (ASM)							
		Stage of Manufacture					
Provenience	**Material**	**Core**	**Primary**	**Secondary**	**Tertiary**	**Shatter**	**Total**
OU 1	Porphyritic basalt	MD*	2	12	0	8	**23**
OU 2	Porphyritic basalt	MD*	1	5	0	4	**11**
	Metachalcedony	0	0	1 (tool)	0	0	**1**
Concentration 1	Porphyritic basalt	0	1	18	0	0	**19**
	Metachalcedony	0	0	1	0	0	**1**
Concentration 2	Porphyritic basalt	MD*	1	14	0	0	**16**
	Chert	0	1	0	0	0	**1**
	Fine-grained basalt	0	0	1	0	0	**1**
TOTAL		**3**	**6**	**52**	**0**	**12**	**73**
***Multidirectional**							

The source for the metaquartzite and metachalcedony cobbles has been documented at quarry sites in the New River Mountains at sites AZ T:4:372 (ASM) and AZ T:4:176 (ASM). These quarry sites are located approximately 2 miles to the north of the proposed project area. At site AZ T:4:372 (ASM), Ellis et al. (2002) documented the presence of 2,000 to 3,000 lithic waste flakes on the surface of the site.

The debitage index indicates that early- to mid-stage tool production was the primary focus of tool manufacturing activity that took place at the site. Secondary flakes dominated the assemblage (n=52), followed by non-diagnostic shatter (n=12), primary flakes (n=6), and cores (n=3). All of the cores observed were multidirectional.

In addition to the debitage observed on site, two tools were noted. The first is a bifacial porphyritic basalt cobble chopper with one percussion flaked end. The second was a percussion flaked unifacial dome scraper manufactured from fine-grained basalt.

Evidence of Site Age and Function

The lithic assemblage observed indicates that production at site AZ T:4:375 (ASM) focused on the early- to mid-stage reduction of raw material. Raw material is locally available in the form of large- to medium-sized cobbles associated with washes and exposed desert pavement both at the site and in the surrounding area. Materials observed are thus indicative of short-term use episodes associated cobble-testing and early- to mid-stage lithic reduction for the purpose of producing expedient tools.

Tools observed on site are expedient and task-specific in nature. Their presence in the site assemblage may be an indication of the short-use life of expedient tools, as tools of this type could easily be manufactured from available material and discarded upon completion of a specific task.

The lack of primary flakes in the assemblage may indicate that these flakes were either taken from the site as flake blanks or that these flakes were further reduced to secondary stage during the production of expedient tools. The lack of tertiary flakes indicates that tool rejuvenation or the manufacture of formal artifacts was not a focus of tool production practiced at the site.

No diagnostic materials were identified at this site that would indicate site age.

National Register Assessment

Site AZ T:4:375 (ASM) is a moderate density lithic scatter on desert pavement in an open exposure on Biscuit Flat approximately 1 mile to the north of the Deem Hills. With the exception of an ephemeral cattle trail passing through the center of the site, no site impacts were noted. Overall site integrity is above average.

Site AZ T:4:375 (ASM) likely represents a use area that was utilized during the prehistoric or protohistoric periods. Materials observed are indicative of short-term use episodes associated with cobble-testing and early- to mid-stage lithic reduction for the purpose of producing expedient tools or formal artifacts.

Field observations at AZ T:4:375 (ASM) suggest no indication of any buried deposits present at the site. The presence of native desert pavement in formation on the site surface indicates that there is little potential for a subsurface component of the site to exist.

As such the data potential of the site is limited, and has likely been exhausted by surface inventory of the site. For this reason, it is our recommendation that the site is ineligible for NRHP listing.

AZ T:3:274 (ASM)

Site AZ T:3:274 (ASM) is an extensive sherd and lithic scatter located in the APE of the proposed project on lands owned by the ASLD (see Figure 3c). This location is depicted on the Baldy Mountain 7.5-minute USGS topographic quadrangle in the southwest ¼ of the northeast ¼ of Section 8, Township 5 North, Range 1 East. UTM grid coordinates for AZ T:3:274 (ASM) Locus 1 are 3739561mN/381696mE. UTM grid coordinates for AZ T:3:274 (ASM) Locus 2 are 3739343mN/381620mE.

Environmental Setting

The site is located in Maricopa County in open exposure on an elevated terrace above the east bank of the Agua Fria River in the northern Phoenix Basin region. The foothills of the Hieroglyphic Mountains are located across the Agua Fria approximately ⅛ mile to the west. The site is situated approximately at an elevation of 1,370 feet above mean sea level.

The Phoenix Basin is part of the greater Basin and Range physiographic province. This basin was formed by fault block uplift and metamorphic core uplift (Abbott 2000). Stream sediments and erosional deposits originating from local mountains have accumulated and settled to partially fill the basin floor.

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Brown 1994).

Vegetation on site was dominated by species commonly associated with the Lower Colorado River Valley biotic community. Creosotebush (*Larrea tridentata*), saguaro (*Carnegiea* gigantea), gold cholla *(Opuntia echinocarpa*), and paloverde *(Cercidium* spp.) were all abundantly present both on site and in the surrounding area.

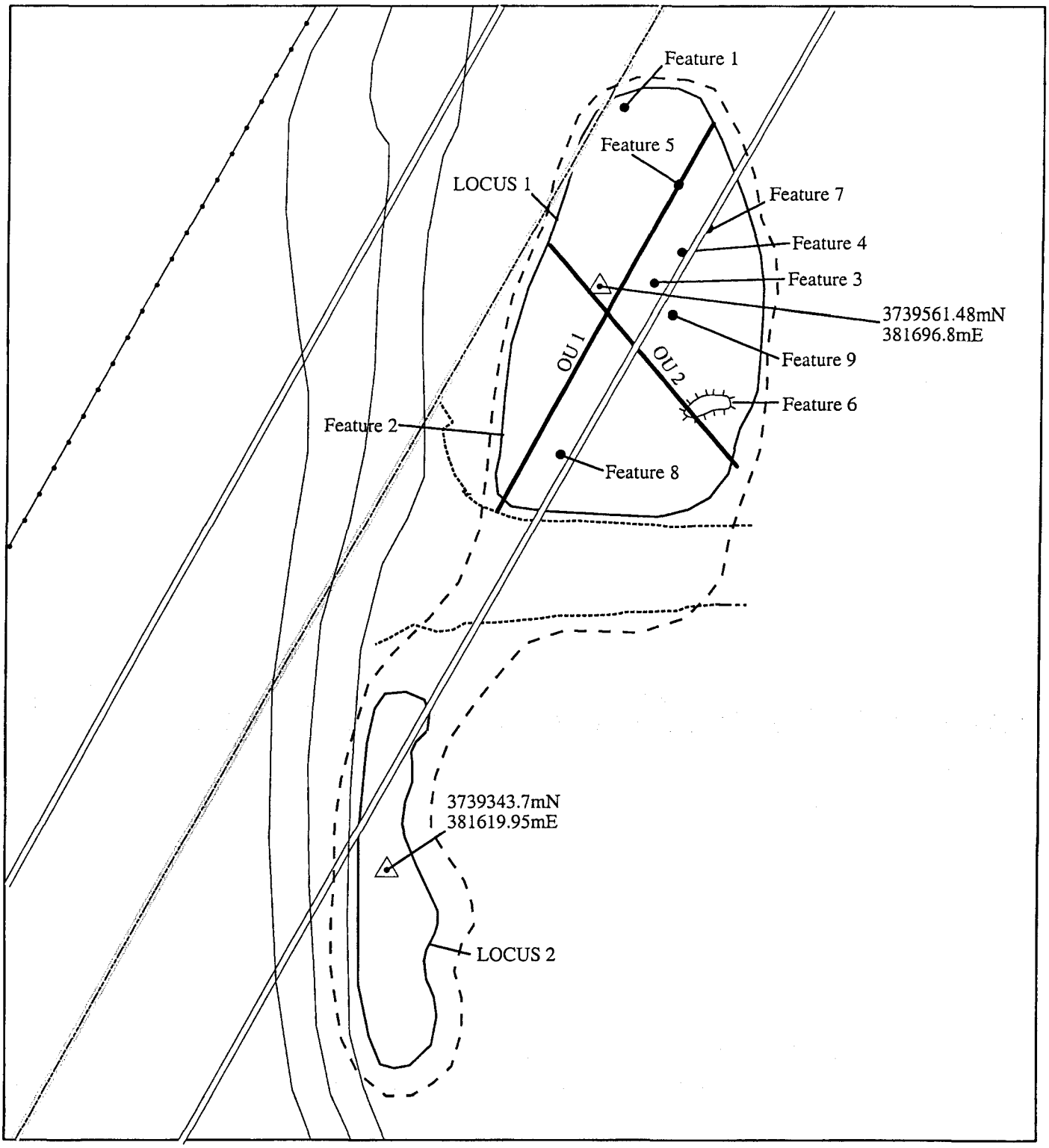
Description

Site AZ T:3:274 (ASM) is an extensive sherd and lithic scatter situated in open exposure on an elevated terrace above the east bank of the Agua Fria River (Figure 11).

Materials observed at site AZ T:3:274 (ASM) were noted to occur in two discrete loci, with a sparse scatter of artifacts connecting the two. Locus 1, the northernmost loci, is situated slightly above and overlooking Locus 2 on an elevated terrace. Locus 2, the southernmost loci, is situated to the south of Locus 1 on an elevated terrace overlooking the east bank of the Agua Fria River.

Locus 1

Locus 1 is a large, discrete sherd and lithic scatter located on an elevated terrace above and overlooking Locus 2 (Photograph 13). The dimensions of Locus 1 are 100 meters (east/would) by 160 meters (north/south) for a total area of 16000m2. Materials were tabulated in two observation units (OUs) across the site. Based on artifact counts derived from these OUs an estimated 2,880 artifacts may be present on the surface of the site.



0 25 50 100 Meters

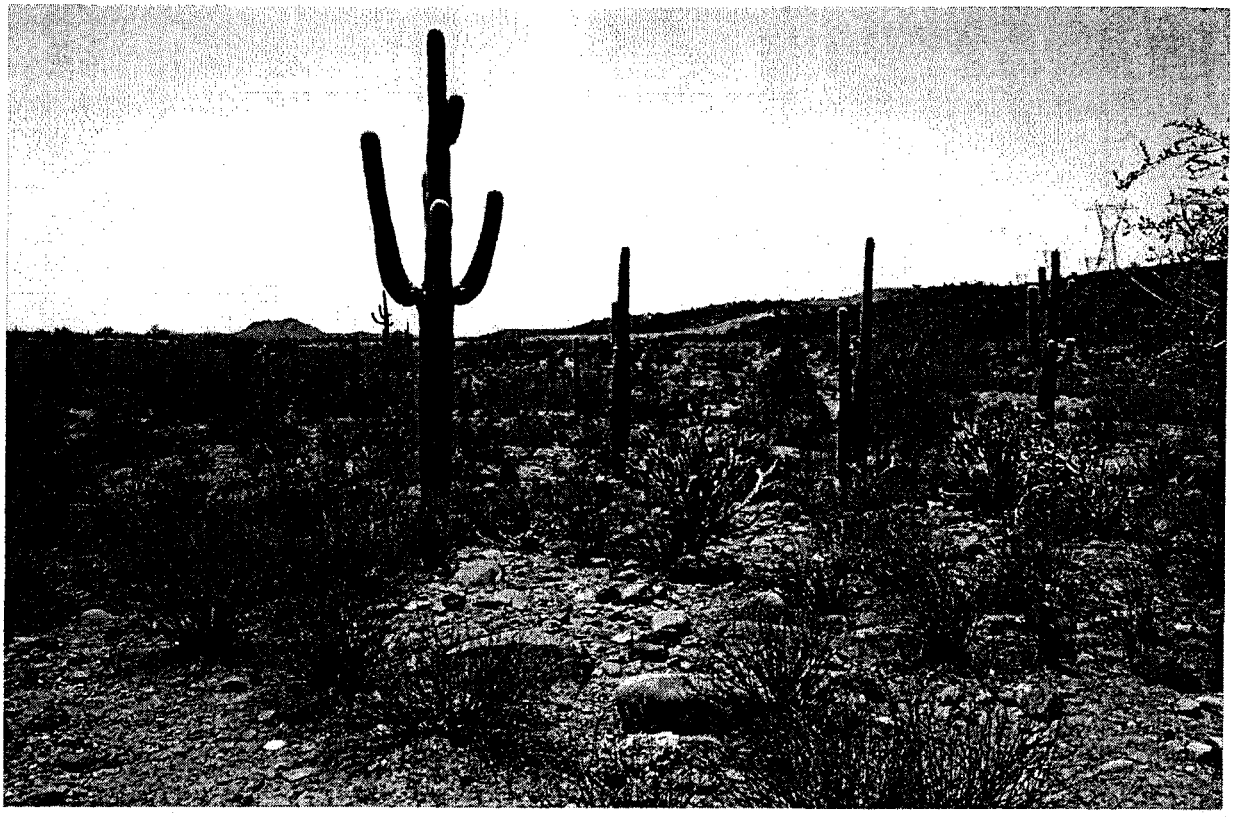
Site Boundary	Existing Transmission Line
Locus Boundary	Contour Line
Cleared Area	Modern Road
Observation Unit (OU)	Site Datum
Centerline	Site Feature
Right-of-Way	

Newly Recorded Site
AZ T:3:274 (ASM)

Figure 11

N W E S

m:/projects/aps/ncp/cec/mxds/site274.mxd



Photograph 13
Overview of AZ T:3:274 (ASM) Locus 1 looking south.

Nine features were observed in Locus 1. Four of these features were identified as flaking stations where the reduction of raw material occurred. One feature is a pot drop, one is a sherd and lithic artifact concentration, and three more are possible agricultural features.

Feature 1

Feature 1 is a flaking station located in the northern portion of Locus 1. Approximately 20 pieces of porphyritic basalt and fine-grained basalt was noted in an area measuring 4 meters by 4 meters in diameter. Total area was 16m2. The Feature 1 assemblage is dominated by primary and secondary flakes and non-diagnostic shatter. Total artifact density is 0.8 artifacts/m2.

Feature 2

Feature 2 is a flaking station located in the southern portion of Locus 2. Approximately 15 flakes of fine-grained basalt were observed in an area measuring 2 meters by 2 meters, with a total area

of 4m2. Only primary and secondary flakes were noted in Feature 2. The total artifact density is .27 artifacts/m2.

Feature 3

Feature 3 is a porphyritic basalt flaking station located in the east-central portion of Locus 2. Approximately 20 primary and secondary flakes were noted in an area measuring 2 meters by 2 meters, with a total area was 4m2. The total artifact density for Feature 3 is .2 artifacts/m2. One multidirectional core was observed in this area.

Feature 4

Feature 4 is a pot drop noted in the east-central portion of Locus 2. Approximately 15 plain ware body sherds and one rim sherd were noted in association with a very slight natural wash feature. The assemblage suggests that one vessel is represented at Feature 3.

Feature 5

Feature 5 is a flaking station located in the eastern portion of Locus 1. Two discrete concentrations of materials were noted in an area measuring 5 meters by 7 meters. One discrete concentration of fine-grained basalt consisting of seven secondary flakes were noted in a 2-meter by 2-meter area. A second discrete concentration of approximately 35 pieces of porphyritic basalt debitage was noted in an adjacent 3-meter by 5-meter area. The artifact density for Feature 5 is 1.2 artifacts/m2. Items observed in this area included two multidirectional cores. Debitage was dominated by primary and secondary flakes and non-diagnostic shatter.

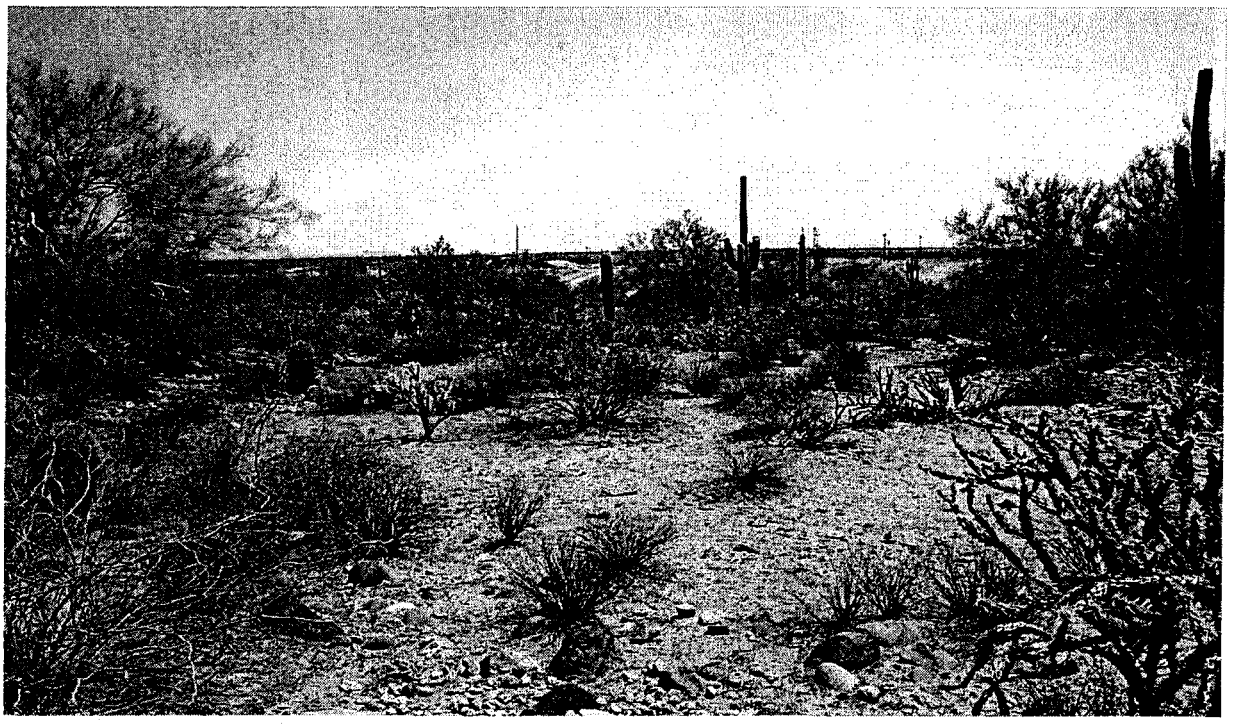
Feature 6

Feature 6 is a cleared area located in the southeastern corner of Locus 1 along the edge of the elevated terrace. This area measured approximately 10 meters (north/south) by 25 meters (east/west) for a total area of 250m2. It is devoid of rocks or desert pavement. Rocks occur along the margin of the cleared area and may represent a clearing episode. While the function of this cleared area is not certain, it may represent an agricultural location. Photograph 14 is an overview of Feature 6.

Feature 7

Feature 7 is a triangular rock feature constructed of native metavolcanic cobbles to a height of one course. This feature measures 1.5 meters (east/west) by 2.5 meters (north/south) and is

placed along the eastern edge of a slight elevation on the Locus 1 terrace. This feature is of unknown function, and may be associated with water retention. Photograph 15 is an overview of Feature 7.



Photograph 14
Overview of AZ T:3:274 (ASM) Locus 1 Feature 6 looking east.

Photograph 15
Overview of AZ T:3:274 (ASM) Locus 1 Feature 7 looking north.

Feature 8

Feature 8 is a cluster of three small rock cairns located in the southwestern portion of Locus 1. These cairns are associated with desert pavement and are constructed of native metavolcanic and granodiorite cobbles to a height of one course.

The first two cairns, field designated as A and B, are situated directly adjacent to each other. The third rock feature, field designated as C, is situated approximately 2 meters to the north of A and B.

Cairn A is oval in shape and measures 91 centimeters by 81 centimeters and is 13 centimeters in height. Cairn B is also oval in shape, and measures 97 centimeters by 62 centimeters. It is also 13 centimeters in height. Cairn C is circular and measures 92 centimeters in diameter and 13 centimeters in height. The exact function of these features is unknown, but may be associated with prehistoric agriculture. Photograph 16 is an overview of Feature 8.

Photograph 16
Overview of AZ T:3:274 (ASM) Locus 1 Feature 8 looking southwest.

Feature 9

Feature 9 is a flaking station located in the eastern portion of the site. Porphyritic basalt reduction was observed here in a concentration measuring 3 meters by 3 meters. Approximately 10 artifacts were noted in this area, all of which were secondary and primary flakes. Feature 9 has an artifact density of 1.1 artifacts/m2.

Observation Units

OU 1

In OU 1, porphyritic basalt non-diagnostic shatter (n=7) was the dominant material type noted. In addition, four porphyritic basalt secondary flakes, two porphyritic basalt tertiary flakes, one fine-grained basalt secondary flake, and one fine-grained basalt scraper plane were also observed.

OU 2

In OU 2, material was observed to be extremely sparse and was limited to two porphyritic basalt secondary flakes, and one piece of rhyolite non-diagnostic shatter.

Locus 2

Locus 2 is located along the edge of a 30-foot-tall cobble cliff overlooking the eastern bank of the Agua Fria River (Photograph 17). Artifacts were noted to be most numerous along the western edge of Locus 2 along the cobble cliff above the Agua Fria, indicating that the site is eroding down the cliff. The integrity of Locus 2 is fair. Dimensions recorded for Locus 2 are approximately 100 meters (north/south) by 18 meters (east/west) for a total site area of 1800m2. Approximately 42 artifacts were observed in this area for a total artifact density of .02/m2.

Materials observed at AZ T:3:274 (ASM) Locus 2 were sparsely and uniformly distributed across the site area. Lithics were the most common artifact type noted. A complete inventory of observed surface artifacts was compiled during recording of the locus.

Table 7 presents the lithic assemblage observed at Locus 2. Three material types were noted to be present in the site assemblage. Porphyritic basalt (n=17) was the dominant material type noted,, followed by fine-grained basalt (n=7), and quartzite (n=3). All of these material types were locally obtainable.

Photograph 17
Overview of AZ T:3:274 (ASM) Locus 2 looking north.

TABLE 7 DEBITAGE INDEX: AZ T:3:274 (ASM) LOCUS 2						
		Stage of Manufacture				
Provenience	**Material**	**Core**	**Primary**	**Secondary**	**Tertiary**	**Total**
General site area	Porphyritic basalt	MD*	1	14	1	**17**
General site area	Fine-grained basalt	MD*	0	6	0	**7**
General site area	Quartzite	0	0	3	0	**3**
TOTAL		**2**	**1**	**23**	**1**	**27**
*Multidirectional						

The debitage index indicates that early- to mid-stage tool production was the primary focus of tool manufacturing activity that took place at the site. Secondary flakes dominated the assemblage (n=23), followed by cores (n=2), with only one primary and tertiary flake occurring. Both of the cores observed were multidirectional.

In addition, three lithic tools were noted at site Locus 2. All of these tools were representative of expedient tool technology, and consisted of a bifacial cobble chopper manufactured from metavolcanic stone, a unifacial porphyritic basalt side scraper, and a porphyritic basalt utilized secondary flake.

Ceramics (n=12) were also observed at site AZ T:3:274 (ASM) Locus 2. Sherds were differentiated on the basis of wall thickness and temper attributes. Examination of these attributes led to the identification of thin-walled (3mm) Gila Plain-Salt variety body sherds (n=7), thick-walled (9mm) Gila Plain-Gila variety body sherds (n=3), and thick-walled (8mm) Gila Plain-Salt variety body sherds with fine-grained sand temper (n=2). The ceramic assemblage noted indicates that at least three vessels are represented at Locus 2.

Evidence of Site Age and Function

No diagnostic artifacts were observed at site AZ T:3:274 (ASM). The site assemblage likely represents activity areas that were utilized during either the Prehistoric or Protohistoric periods. Ceramics noted on site were non-diagnostic plain ware varieties that have a long temporal use span throughout later prehistory into the Protohistoric and Early Historic periods.

The presence of possible agricultural features at AZ T:3:274 (ASM) Locus 1 indicates that this area may have been utilized for prehistoric agricultural pursuits. The site location in an open exposure on a terrace above the Agua Fria River to the west and a well-developed intermittent drainage to the adjacent east is highly desirable for agricultural purposes. Rock features present at the site may be an indication that this area was used for dry farming during Hohokam occupation of the region.

In addition to the rock features, several flaking stations indicate that activities that may be associated with resource procurement.

National Register Assessment

Field observations at AZ T:3:274 (ASM) revealed the potential for buried deposits in association with possible agricultural features observed at the site. For this reason, it is our recommendation that the site is eligible for NRHP listing under Criterion D for its potential to address issues of prehistoric agricultural strategies and resource procurement practiced in the northern Phoenix Basin. This site should be avoided by future construction action in the vicinity. If avoidance is not possible, then we recommend the development of appropriate mitigative measures in consultation with the SHPO and ASLD.

AZ T:7:276 (ASM)

Site AZ T:7:276 (ASM) is a small sherd and lithic scatter located in the APE of the proposed project on lands owned by the ASLD (see Figure 3b). This location is depicted on the Calderwood Butte 7.5-minute USGS topographic quadrangle in the southeast ¼ of the northwest ¼ of Section 30, Township 5 North, Range 1 East. UTM grid coordinates for the site datum are 3734834mN/379416mE.

Environmental Setting

The site is situated in open exposure on a bajada flat approximately ¼ mile to the south of the Hieroglyphic Mountains in the northern Phoenix Basin. The site is situated approximately at an elevation of 1,400 feet above mean sea level.

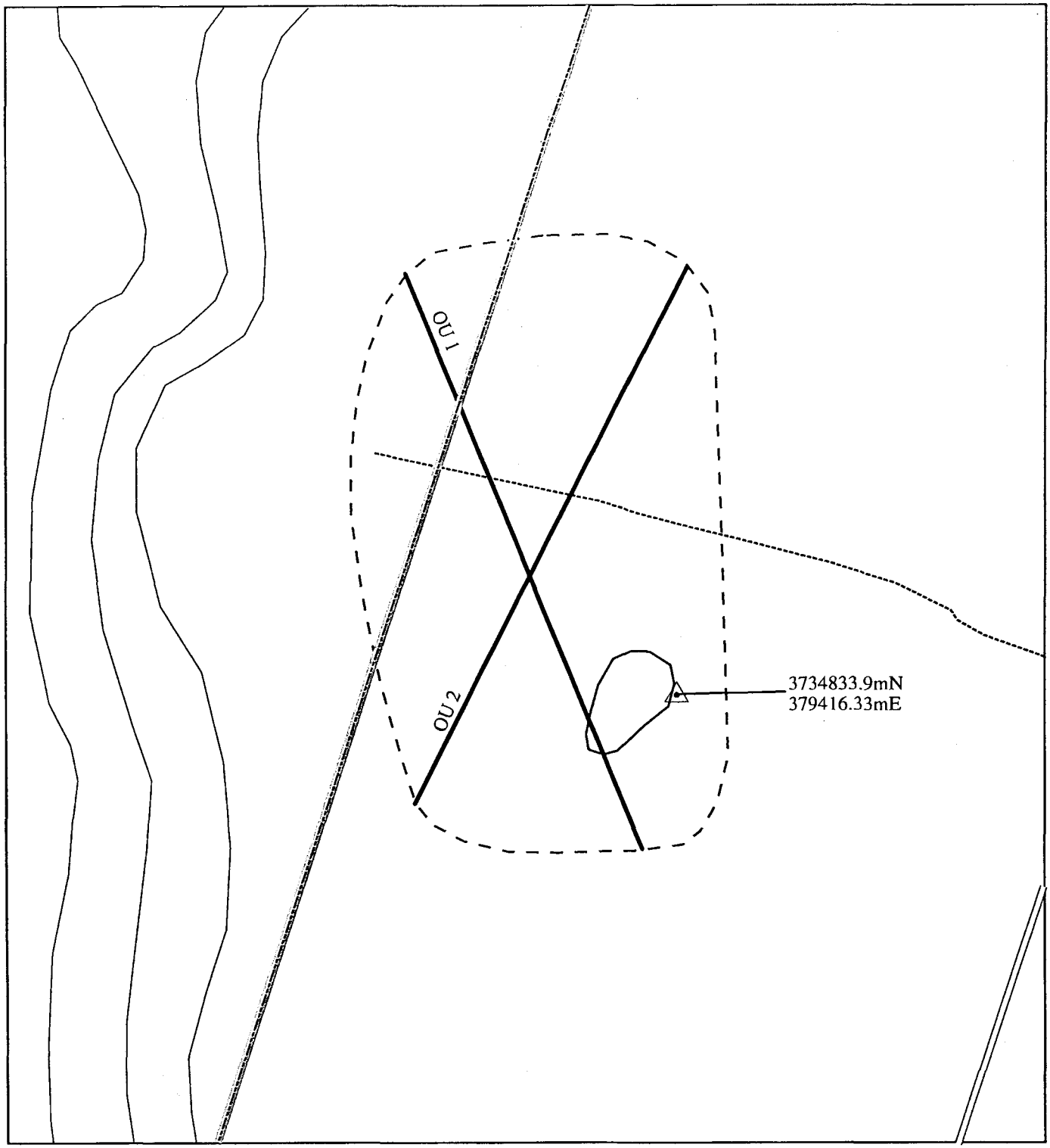
The Phoenix Basin is part of the greater Basin and Range physiographic province. This basin was formed by fault block uplift and metamorphic core uplift (Abbott 2000). Stream sediments and erosional deposits originating from local mountains have accumulated and settled to partially fill the basin floor.

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Brown 1994).

Vegetation on site was dominated by species commonly associated with the Lower Colorado River Valley biotic community. Creosotebush (*Larrea tridentata*), saguaro (*Carnegiea* gigantea), mesquite (*Prosopis* spp.), cat-claw acacia (*Acacia greggii*), gold cholla (*Opuntia echinocarpa*), and paloverde (*Cercidium* spp.) were all abundantly present both on site and in the surrounding area.

Description

Site AZ T:7:276 (ASM) is a moderate density sherd and lithic scatter situated on a low terrace above a well-developed seasonal wash located approximately 25 meters to the west of the site (Figure 12). Tire tracks were observed in the desert pavement in the north of the site, and a two-track road cuts through the northern portion of the site. Artifacts were noted in the tracks in the road, indicating that the site has been impacted by off-road vehicle use. Although the site has been impacted by the road, the majority of it retains its integrity. Photograph 18 is an overview of the site area.



0 5 10 20 Meters

Newly Recorded Site
AZ T:7:276 (ASM)

Figure 12

- - -	Site Boundary		Centerline
----------	Modern Road		Right-of-Way
———	Artifact Concentration	———	Observation Unit (OU)
———	Contour Line	△	Site Datum

N
W E
S

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Photograph 18
Overview of AZ T:7:276 (ASM) looking north.

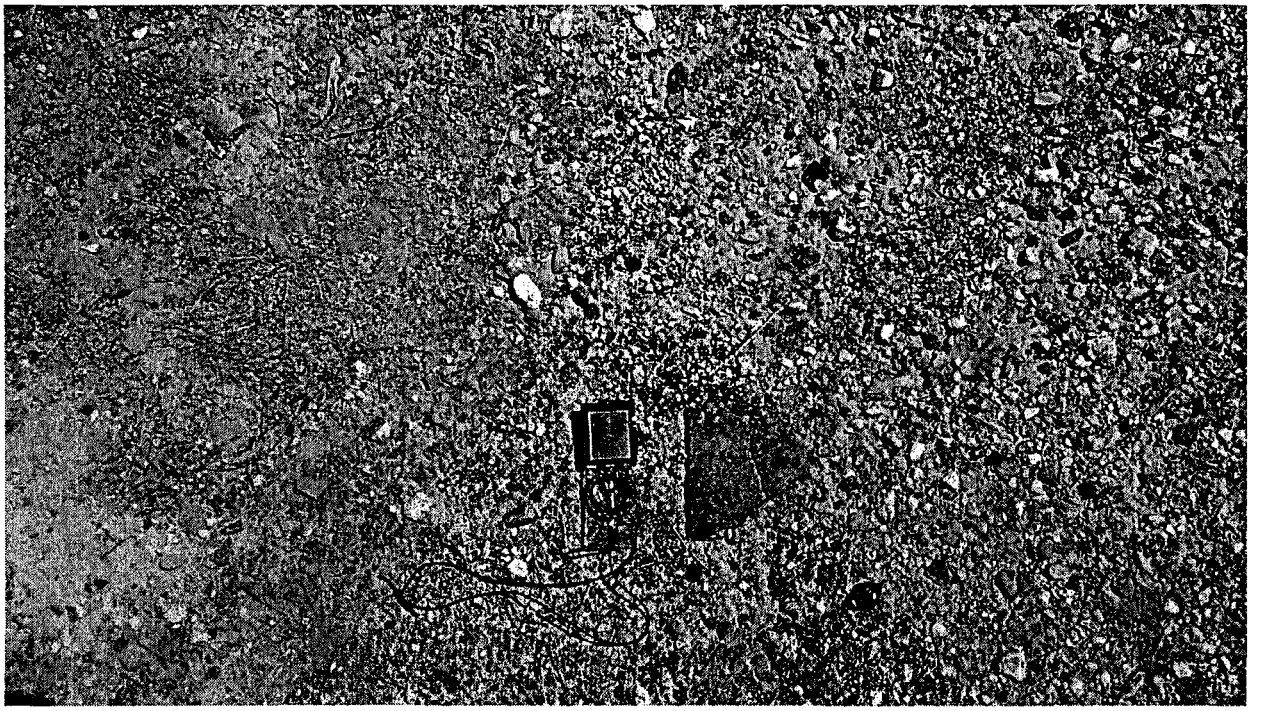
Dimensions of site AZ T:7:276 (ASM) are approximately 36 meters (north/south) by 21 meters (east/west) for a total site area of 756m2. Approximately 61 artifacts were observed in this area for a total artifact density of .08 artifacts/m2.

Materials observed at site AZ T:7:276 (ASM) were sparsely and uniformly distributed across the site area. The majority of artifacts were ceramic plain ware body sherds, many of which are very large in size. A small number of lithic artifacts were also observed.

One ceramic concentration was noted. A complete surface inventory of items within the ceramic concentration and in two OUs set across the site was tabulated during the recording of the site.

Concentration 1

Concentration 1 is a small ceramic concentration measuring approximately 7 meters (north/south) by 3 meters (east/west) for a total area of 21m2. Approximately 29 items were observed in this area for a total artifact density of .72 artifacts/m2. This concentration was observed in and around a very slight natural wash slope. Photograph 19 is an overview of ceramics observed at AZ T:7:276 (ASM).



Photograph 19
Overview of AZ T:7:276 (ASM) ceramics.

The majority of sherds observed in Concentration 1 were of the Gila Plain-Gila variety (n=25). One of the sherds of this type measured approximately 12 centimeters by 8 centimeters in size.

In addition, thin-walled (4mm) Gila Plain-Salt variety body sherds (n=3). The ceramic assemblage noted in Concentration 1 indicates that at least two vessels are represented.

Observational Units

In OU 1, nine thick-walled (1 centimeter) Gila Plain-Gila variety body sherds were observed. In addition, one fine-grained basalt secondary flake and one porphyritic basalt secondary flake were observed.

In OU 2, 19 thick-walled (1 cm) Gila Plain-Gila variety body sherds were observed. One rim sherd of this type was also observed. In addition, a fine-grained basalt secondary flake, a rhyolite secondary flake, and a fine-grained basalt unidirectional core was also observed.

Evidence of Site Age and Function

No diagnostic artifacts were observed at site AZ T:7:276 (ASM). The site assemblage likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. Ceramics noted on site were non-diagnostic plain ware varieties that have a long temporal use span throughout later prehistory into the Protohistoric and Early Historic periods.

The ceramic assemblage noted at the site is very similar to that observed at site AZ T:7:192 (ASM), a large Hohokam habitation and agricultural site located approximately ¼ mile to the south of site AZ T:7:276 (ASM). Due to the proximity and similarity in the ceramic assemblage, it is thus likely that the assemblage present at site AZ T:7:276 (ASM) represents a small activity area associated with the catchment area of site AZ T:7:192 (ASM).

National Register Assessment

Site AZ T:7:276 (ASM) likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. Materials observed are indicative of short-term use of the site as a limited use area where procurement of native resources may have taken place. The paucity of lithic artifacts observed at the site may indicate that resource procurement at the site did not necessitate the manufacture of task-specific tools.

Field observations at AZ T:7:276 (ASM) revealed low possibility of buried deposits at the site. The presence of native desert pavement in formation on the site surface indicates that there is little potential for a subsurface component of the site to exist.

As such the data potential of the site is limited, and has likely been exhausted by surface inventory of the site. Further study of the site is unlikely to yield any new information and no other historic values have been identified to warrant preservation. For this reason, it is our recommendation that the site is ineligible for NRHP listing.

REVISITED SITES

Seven sites, AZ T:3:1 (MNA), AZ T:3:2 (MNA), AZ T:3:264 (ASM), AZ T:7:192 (ASM), AZ T:8:104 (ASU), AZ U:5:72 (ASU), and AZ U:5:73 (ASU) that are situated within or immediately adjacent to the APE were revisited during field survey.

These sites are tabulated in terms of their description and location in Table 8. A more detailed description of each site follows below in text.

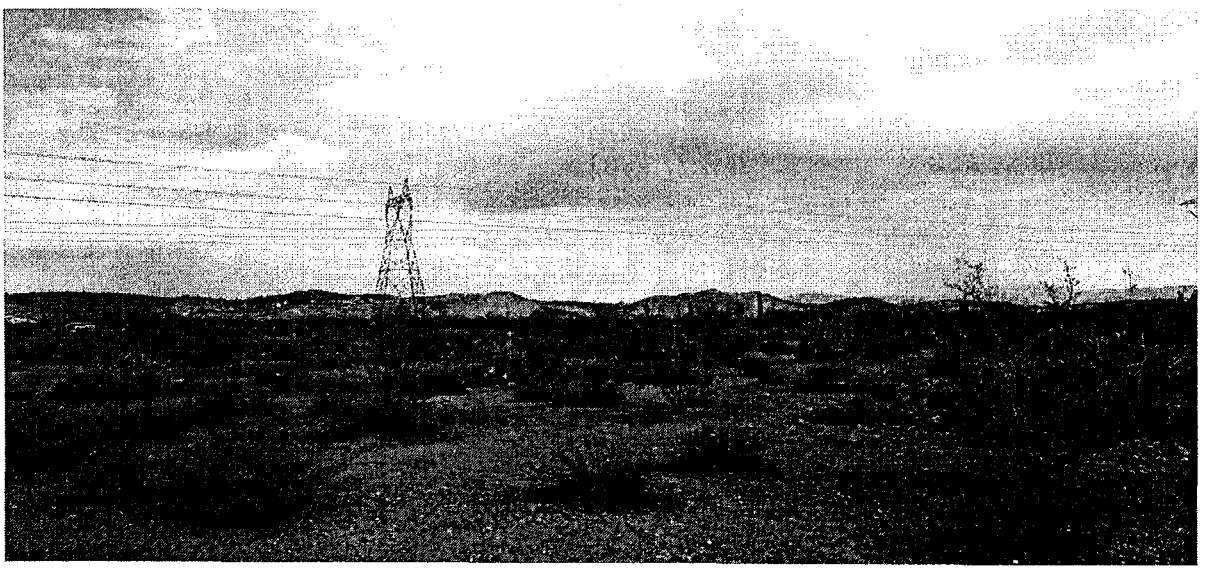
TABLE 8 PREVIOUSLY RECORDED REVISITED SITES					
Site Number	**Quadrangle**	**Jurisdiction**	**Chronology**	**Description**	**Eligibility**
AZ T:3:264 (ASM)	Baldy Mountain	State	Prehistoric	Artifact scatter	Eligible
AZ T:3:2 (MNA)	Baldy Mountain	State	Prehistoric	Artifact scatter	Eligible
AZ T:3:1 (MNA)	Baldy Mountain	State	Prehistoric	Artifact scatter	Eligible
AZ T:7:192 (ASM)	Calderwood Butte	Private, State	Prehistoric	Hohokam habitation	Eligible
AZ T:8:104 (ASU)	Union Hills	State	Prehistoric	Pot drop	Likely destroyed
AZ U:5:72 (ASU)	Curry's Corner	State	Prehistoric	Ceramic scatter	Likely destroyed
AZ U:5:73 (ASU)	Curry's Corner	State	Prehistoric	Artifact scatter	Likely destroyed

AZ T:3:264 (ASM)

Site AZ T:3:264 (ASM) is a multicomponent site consisting of a prehistoric artifact scatter and a historic trash scatter. It is situated in the APE of the proposed project on lands owned by the ASLD. The site is located in the northeast ¼ of the northeast ¼ of Section 8, Township 5 North, Range 1 East, as depicted on the Baldy Mountain 7.5-minute USGS topographic quadrangle. UTM grid coordinates for the site datum are 3739840mN/381897mE.

Environmental Setting

The site is situated on an open exposure on an elevated terrace above the eastern bank of the Agua Fria River in the northern Phoenix Basin region. The site is located in the foothills of the Hieroglyphic Mountains. The site is situated approximately at an elevation of 1,375 feet above mean sea level. Photograph 20 is an overview of the site area.



Photograph 20
Overview of AZ T:3:264 (ASM) looking northwest.

The Phoenix Basin is part of the greater Basin and Range physiographic province. This basin was formed by fault block uplift and metamorphic core uplift (Abbott 2000). Stream sediments and erosional deposits originating from local mountains have accumulated and settled to partially fill the basin floor.

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region in the Lower Colorado River Valley Subdivision of the Sonoran Desertscrub biotic community (Brown 1994).

Vegetation on site was dominated by species commonly associated with the Lower Colorado River Valley biotic community. Creosotebush (*Larrea tridentata*), saguaro (*Carnegiea gigantea*), gold cholla (*Opuntia echinocarpa*), and paloverde (*Cercidium* spp.) were all abundantly present both on site and in the surrounding area.

Description

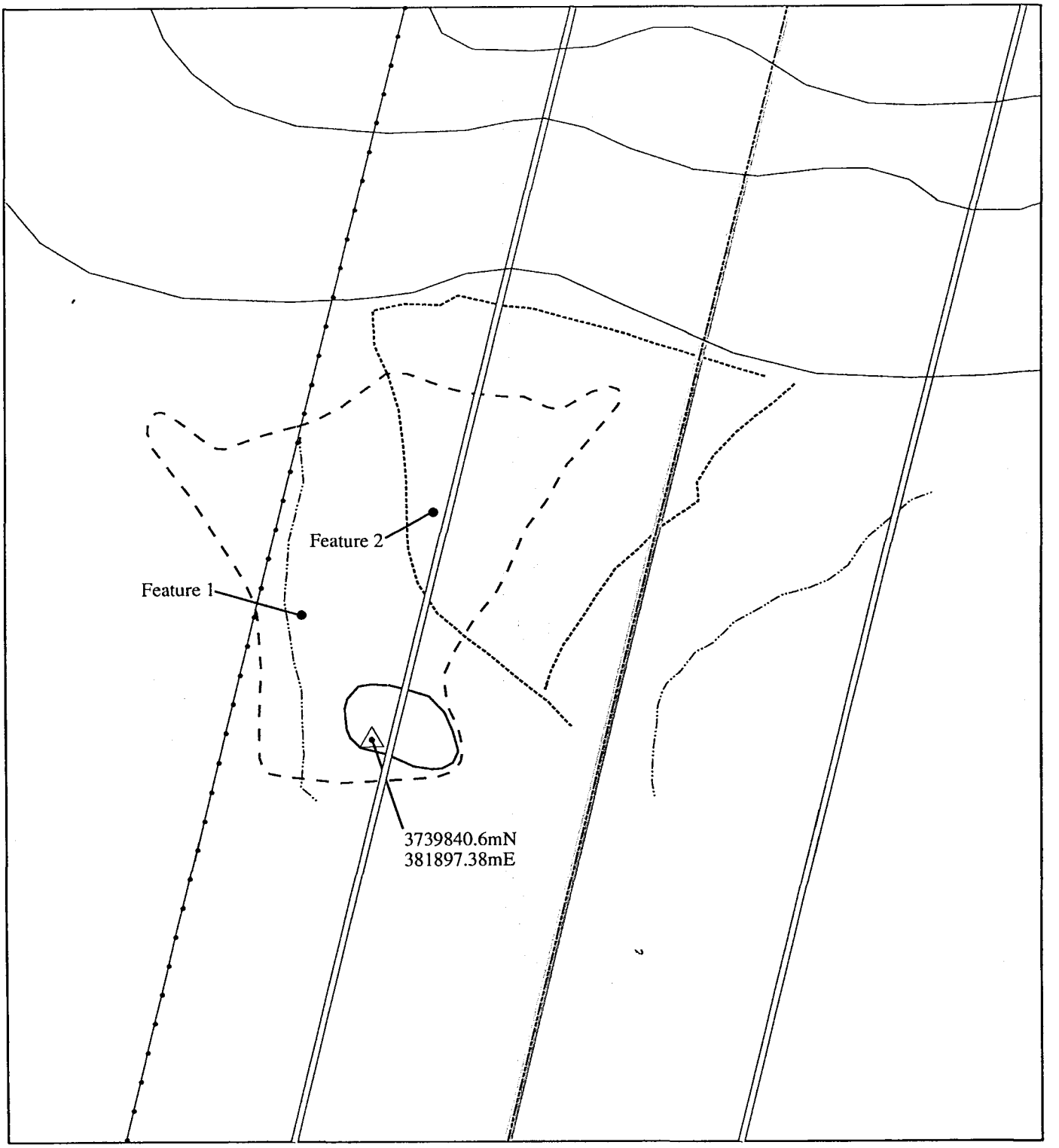
Site AZ T:3:264 (ASM) was first recorded by Gage (2002) as part of the proposed Westwing-Raceway 69/12kV transmission corridor survey (Figure 13). The site was described as a multi-component artifact scatter exhibiting both prehistoric and historic artifacts. Locus 1, located outside of the APE of the current project to the northwest of the existing transmission corridor, consisted of historic materials, while Locus 2, located within the APE of the current project, exhibited the prehistoric materials noted on site. Only Locus 2 was revisited by the current project.

Recording of Locus 2 by Archaeological Consulting Services (ACS) noted 10 prehistoric features and approximately 92 artifacts in an area measuring 120 meters (north/south) by 60 meters (east/west). This site was revisited by Glennda Luhnow and Kim Ryan of EPG on July 18, 2002.

At the time of the site revisit, roads were noted to disturb the site surface at the western, southern and northern site boundaries, as well as in the center of the site. The surface of these roads exhibited deep powder from extensive off-road vehicle use. Site integrity is fair.

Materials noted during the site revisit were sparsely distributed across the site surface. No groundstone artifacts were observed. Lithic and ceramic artifacts were observed to occur at the site in roughly the same density as that observed by ACS. Ceramics noted were both Gila Plain-Salt variety and Gila Plain-Gila variety. Lithic materials were noted to be manufactured from native porphyritic basalt, granodiorite, fine-grained basalt, rhyolite, chalcedony, dacite and schist.

Only two of the 10 features identified by ACS were relocated at the time of the site revisit. Both of these were rock features constructed of uncoursed native cobbles and may have functioned as prehistoric agricultural features.



0 10 20 40 Meters

Previously Recorded/ Revisited Site AZ T:3:264 (ASM)

Figure 13

Site Boundary	Existing Transmission Line
Artifact Concentration	Contour Line
Road	Wash
Centerline	Site Datum
Right-of-Way	Site Feature

N W E S

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Evidence of Site Age and Function

No diagnostic artifacts were observed at site AZ T:3:264 (ASM) to aid in the identification of site function. The general nature of the site assemblage likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. Ceramics noted on site were non-diagnostic plain wares that have a long temporal use span throughout later prehistory into the Protohistoric and Early Historic periods.

Although no diagnostic artifacts were observed, the presence of potential agricultural features associated with site materials may indicate that this location was used for small-scale cultivation by its inhabitants.

National Register Assessment

Site AZ T:3:264 (ASM) likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. The site location in an open exposure on a terrace above the Agua Fria River is highly desirable in terms of agricultural pursuits. Rock features present at the site may be an indication that this area was used for dry farming during Hohokam occupation of the region.

Field observations at AZ T:3:264 (ASM) revealed some potential for buried deposits to occur in association with possible agricultural features at the site. For this reason, it is our recommendation that the site is eligible for NRHP listing under Criterion D. The site demonstrates the potential to provide information regarding the prehistoric/protohistoric subsistence strategies utilized along the Agua Fria.

It is probable that the site can be avoided by spanning. However, if avoidance is not possible, then the potential for intact subsurface site deposits will need to be discussed in terms of future mitigative measures including, but not limited to, monitoring, testing, and data recovery.

AZ T:3:2 (MNA)

Site AZ T:3:2 (MNA) is described as an extensive sherd, groundstone, and lithic scatter situated on a small terrace above the western bank of the Agua Fria River (see Figure 3c). It is situated in the APE of the proposed project on lands owned by the ASLD. The site is located in the northeast ¼ of the southwest ¼ of Section 8, Township 5 North, Range 1 East as depicted on the Baldy Mountain 7.5-minute USGS quadrangle. UTM grid coordinates for the site are 3739198mN/381367mE.

Environmental Setting

The site is situated on a northern exposure of an elevated terrace above the western bank of the Agua Fria River in the northern Phoenix Basin region. The site is located in the foothills of the Hieroglyphic Mountains. The site is situated at an elevation of 1,400 feet above mean sea level. Photograph 21 is an overview of the site area.

The Phoenix Basin is part of the greater Basin and Range physiographic province. This basin was formed by fault block uplift and metamorphic core uplift (Abbott 2000). Stream sediments and erosional deposits originating from local mountains have accumulated and settled to partially fill the basin floor.

Photograph 21
Overview of AZ T:3:2 (MNA) looking west.

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Brown 1994).

Vegetation on site was dominated by species commonly associated with the Lower Colorado River Valley biotic community. Creosotebush (*Larrea tridentata*), saguaro (*Carnegiea gigantea*), gold cholla (*Opuntia echinocarpa*), and paloverde (*Cercidium* spp.) were all abundantly present both on site and in the surrounding area.

Description

Site AZ T:3:2 (MNA) was recorded by E.T. Karlstrom and the Museum of Northern Arizona as an artifact scatter exhibiting groundstone, ceramics and lithics over an area measuring 50 meters in diameter (Figure 14). At the time the site was recorded, Karlstrom noted that the site exhibited signs of pothunting, and that artifacts were evident in the sidewalls of the potholes to a depth of 30 centimeters.

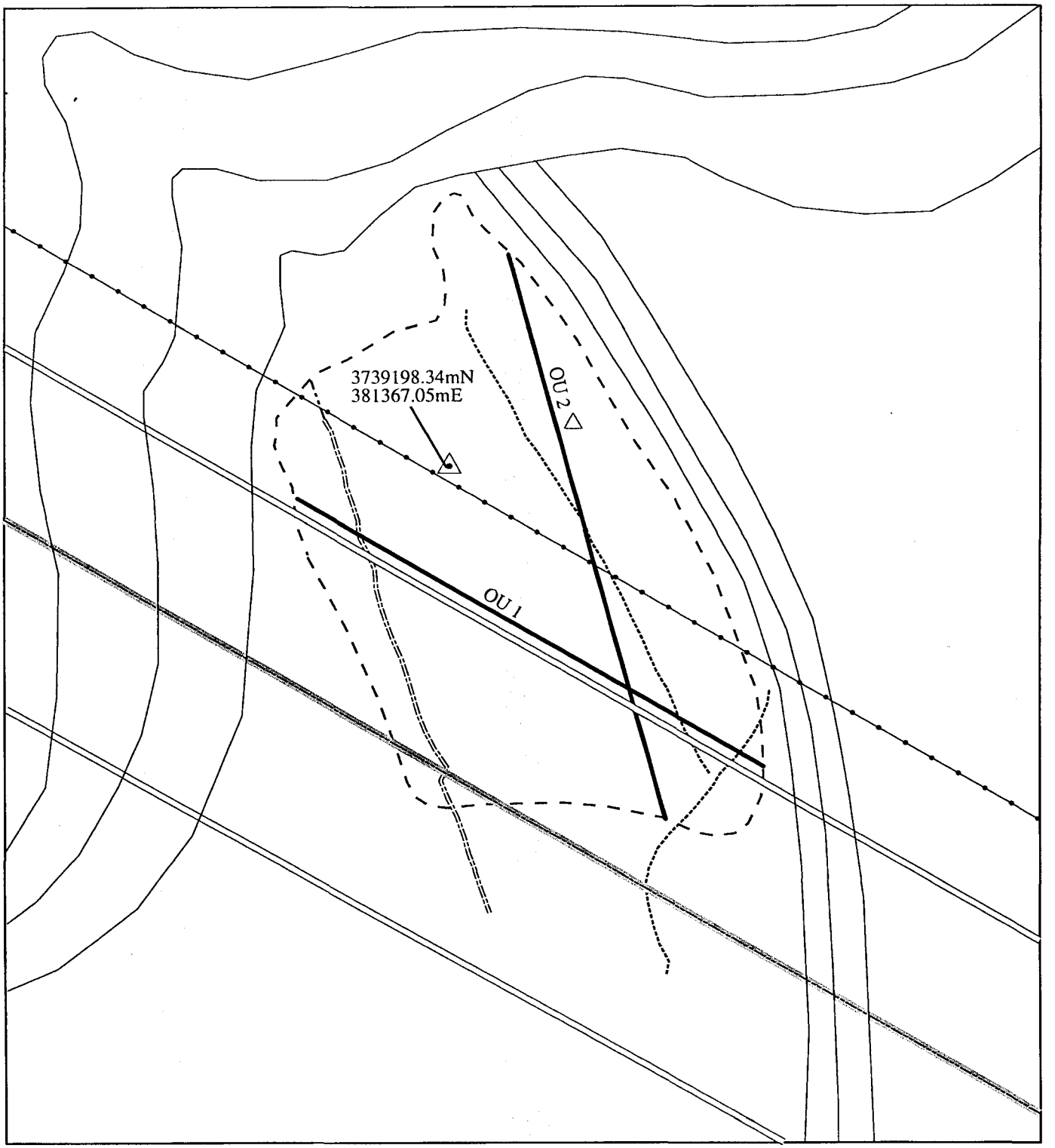
Site AZ T:3:2 (MNA) was revisited on July 18, 2002 by Glennda Luhnow and Kim Ryan. Site boundaries were expanded based upon surface observations to 100 meters (north/south) by 200 meters (east/west). The original site boundaries are within the northwestern quarter of the site as defined by the current survey. The northern and eastern boundaries of the site follow the edge of a steep cobble cliff overlooking the western bank of the Agua Fria River. The western and southern boundaries of the site roughly follow the basal contours of a steep side slope of a foothill of the Hieroglyphic Mountains.

Site disturbances include two roads in the center and eastern portions of the area that bisect the site. Artifacts were observed both in the road and in the adjoining road berms, indicating that construction of the road impacted the site. In addition, the potholes described in the earlier site record were relocated. These are badly eroded and backfilled by aeolian deposition. Closer examination did not reveal any evidence of a subsurface deposit in the sidewalls of these holes. No more recent evidence of illegal excavation was observed on the site at this time.

Site AZ T:3:2 (MNA) was inventoried during the site revisit by two pedestrian OUs. In OU 1, only lithic materials were observed. These consisted of 2 porphyritic basalt multidirectional cores, 1 porphyritic basalt primary flake, 11 porphyritic basalt secondary flakes, 1 quartzite secondary flake, and 1 chert secondary flake.

In OU 2, four Gila Plain-Gila variety body sherds were observed. Lithics observed in OU 2 were dominated by porphyritic basalt secondary flakes (n=16), followed by red chert pressure flakes (n=2), red chert shatter (n=2) and fine-grained basalt secondary flakes (n=3). In addition one each quartzite secondary, white chert secondary, fine-grained basalt tertiary, and rhyolite secondary flakes were observed in OU 2. One tool, a rhyolite flake tool, was also present in OU 2.

Most ceramics noted at site AZ T:3:2 (MNA) were observed in the northwestern portion of the site. Ceramics observed were all plain wares of the Gila Plain-Gila variety and Wingfield Plain.



0 25 50 100 Meters

- - -	Site boundary	•—•—	Existing Transmission Line
▬▬▬	Observation Unit (OU)	═:═:═	Fence
▒▒▒	Centerline	----------	Road
═══	Right-of-Way	◬	Site Datum
———	Contour Line	△	Pothole

Previously Recorded/ Revisited Site AZ T:3:2 (MNA)

Figure 14

W S N E

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Evidence of Site Age and Function

No diagnostic artifacts were observed at site AZ T:3:2 (MNA). The site assemblage likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. Ceramics noted on site were non-diagnostic plain ware varieties that have a long temporal use span throughout later prehistory into the Protohistoric and Early Historic periods.

National Register Assessment

Site AZ T:3:2 (MNA) likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. The site location in northern exposure on a terrace above the western bank of the Agua Fria River is highly desirable in terms of agricultural pursuits.

No features were noted at site AZ T:3:2 (MNA); however, there is a potential for a subsurface deposit to exist at the site as noted by the original site record. For this reason, it is our recommendation that the site is eligible for NRHP listing under Criterion D for its potential to provide information about prehistoric subsistence and land-use strategies practiced along the Agua Fria.

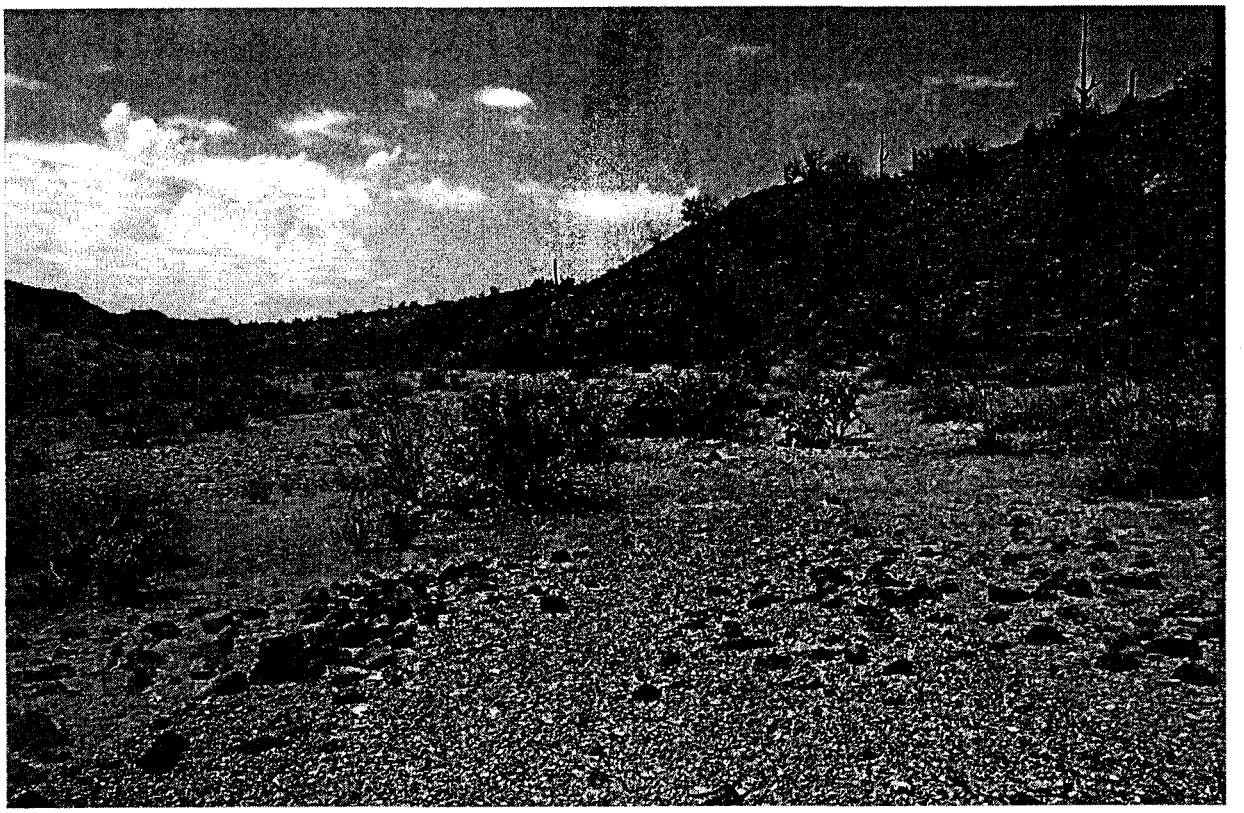
It is likely that site AZ T:3:2 (MNA) can be avoided by spanning. If, however, avoidance is not possible, then the potential for intact subsurface site deposits will need to be discussed in terms of future mitigative measures including, but not limited to, monitoring, testing, and possibly data recovery.

AZ T:3:1 (MNA)

Site AZ T:3:1 (MNA) is described as a small sherd and lithic scatter measuring 20 meters in diameter (Figure 3c). It is situated immediately adjacent to the west outside the APE in the existing transmission corridor on lands owned by the ASLD. This location is depicted on the Baldy Mountain 7.5-minute USGS topographic quadrangle in the southeast ¼ of the southwest ¼ of Section 8, Township 5 North, Range 1 East. UTM grid coordinates for the site datum are 3738923mN/381211mE.

Environmental Setting

The site is situated on a southern exposure on an elevated terrace on the northern bank of an east-west tending seasonal drainage in the northern Phoenix Basin region. The site is located in the foothills of the Hieroglyphic Mountains. The Agua Fria River is located approximately ⅛ mile to the east of the site. The site is situated at an elevation of 1,400 feet above mean sea level. Photograph 22 is an overview of the site area.



Photograph 22
Overview of AZ T:3:1 (MNA) looking west.

The Phoenix Basin is part of the greater Basin and Range physiographic province. This basin was formed by fault block uplift and metamorphic core uplift (Abbott 2000). Stream sediments and erosional deposits originating from local mountains have accumulated and settled to partially fill the basin floor.

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Brown 1994).

Vegetation on site was dominated by species commonly associated with the Lower Colorado River Valley biotic community. Creosotebush (*Larrea tridentata*), saguaro (*Carnegiea* gigantea), gold cholla *(Opuntia echinocarpa*), and paloverde *(Cercidium* spp.) were all abundantly present both on site and in the surrounding area.

Description/Surface Description

Site AZ T:3:1 (MNA) is a high-density sherd and lithic scatter situated on a southern exposure on an elevated terrace above the northern bank of an east-west tending seasonal drainage (Figure 15). The site was recorded by E.T. Karlstrom and the MNA in 1972. Site AZ T:3:1 (MNA) was revisited on July 18, 2002 by Glennda Luhnow and Kim Ryan. No site impacts were noted and overall integrity of the site is above average.

Site dimensions are approximately 25 meters (north/south) by 15 meters (east/west) for a total site area of 375m2. Approximately 55 artifacts were observed in this area for a total density of .15 artifacts/m2. In addition, two potential cultural features were observed at site AZ T:3:1 (MNA). These will be discussed in more detail below.

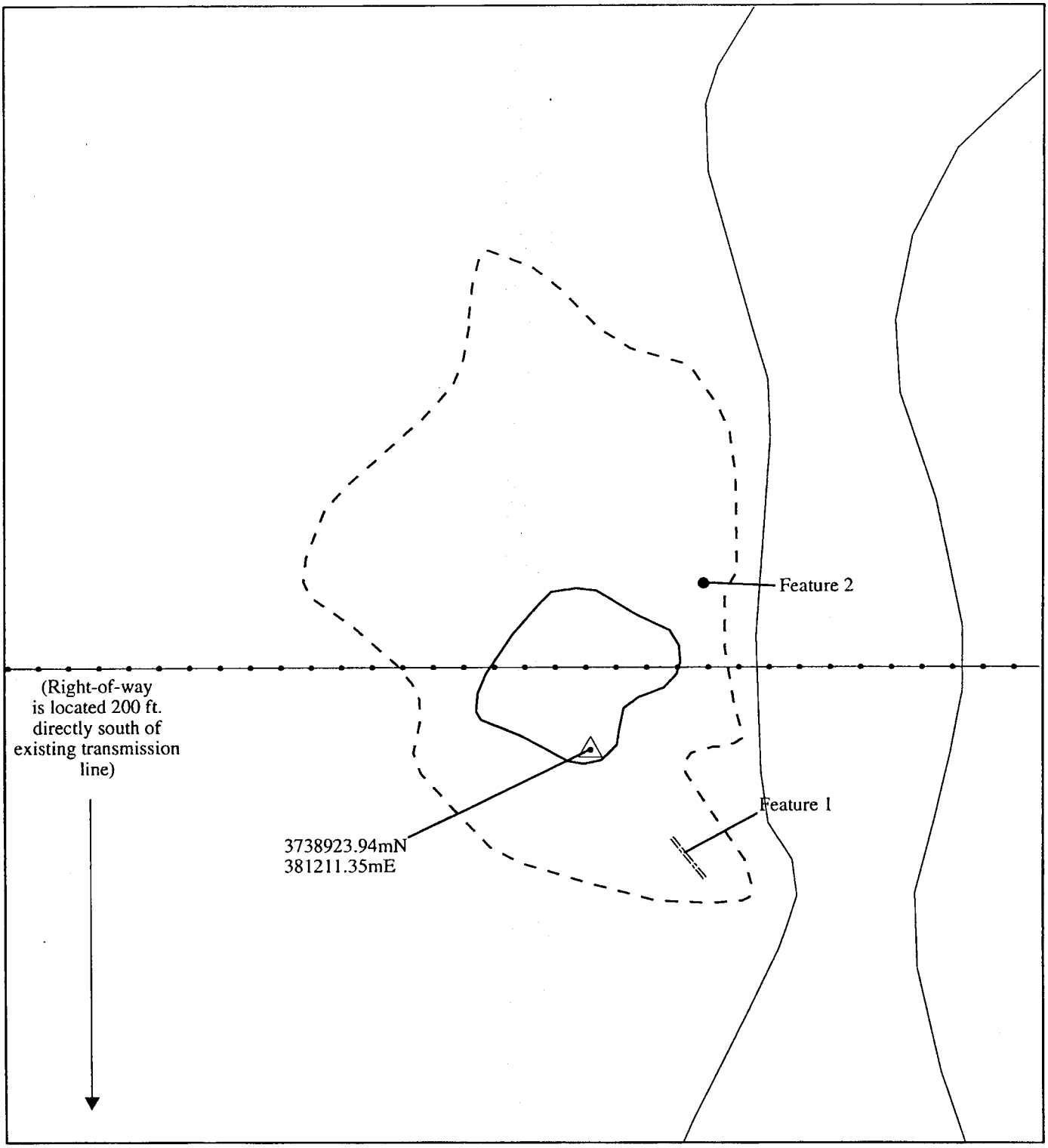
Materials observed at AZ T:3:1 (MNA) were concentrated in a 7-meter (north/south) by 7-meter (east/west) area with other materials radiating out from this concentration in patchy distribution. Two artifact classes, ceramics and lithics, were observed to occur at the site. A complete inventory of observed surface materials was tabulated during recording of the site.

Concentration 1

Concentration 1 measures 7 meters by 7 meters for a total area of 49m2. Approximately 35 ceramic sherds representing at least three vessels were observed in this area for a total artifact density of 0.7 artifacts/m2. Two ceramic types, as differentiated by temper, were present. The first and most numerous were Gila Plain-Gila variety body sherds. Also present were Gila Plain-Salt Variety body sherds. Field observation indicates that Concentration 1 represents a pot drop where at least three vessels were broken, given both temper and wall thickness attributes observed.

The lithic assemblage at site AZ T:3:1 (MNA) was observed to be distributed fairly uniformly across the site area. Six material types, porphyritic basalt, argillite, chert, fine-grained basalt, obsidian, and quartzite, were present at the site. Of these, argillite, chert, and obsidian are exotic materials that are not locally obtainable. Porphyritic basalt, fine-grained basalt, and quartzite are all local materials observed to be present in association with desert pavement in the project area.

Porphyritic basalt (n=4) was the most common material type noted, followed by fine-grained basalt (n=3), argillite (n=3), chert (n=3), quartzite (n=1), and obsidian (n=1). As presented in Table 9 below, local materials tend to occur as mid-to-late stage manufacturing waste, while exotic materials occur only as late stage waste associated with tool rejuvenation activity.



0 5 10 20 Meters

Previously Recorded/ Revisited Site AZ T:3:1 (MNA)

Figure 15

- Site Boundary
- Pot Drop
- Existing Transmission Line
- Contour Line
- Site Feature
- Site Datum
- Site Feature

W S N E

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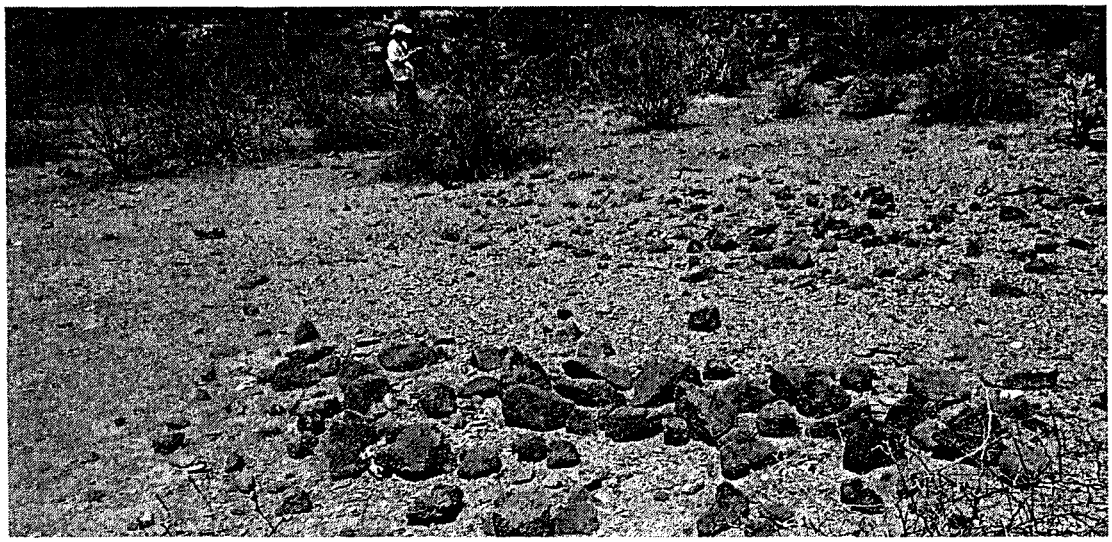
TABLE 9 DEBITAGE INDEX: AZ T:3:1 (MNA)						
	Stage of Manufacture					
Material	Core	Primary	Secondary	Tertiary	Pressure	Total
Porphyritic basalt	0	0	4	0	0	4
Fine-grained basalt	0	0	2	1	0	3
Argillite	0	0	0	3	0	3
Chert	0	0	0	1	2	3
Quartzite	0	0	1	0	0	1
TOTAL	**0**	**0**	**7**	**5**	**2**	**14**

Tools observed on site consisted of a fine-grained basalt unifacial thumbnail scraper with percussion preparation, a fine-grained flake tool uniface, a chert unifacial flake tool, and an obsidian flake tool fragment.

Feature 1

Feature 1 is a linear rock feature measuring 3 meters in length and oriented east-west. It is one course high, three courses deep and is constructed from native vesicular basalt boulders that are available from a steep talus slope to the immediate north of the site. This feature is oriented at a parallel angle to the natural landform and may be a water retention feature constructed for agricultural purposes. Infilling of the base of the feature due to siltation may be an indication of this function. Five Gila Plain body sherds were noted in association with Feature 1. Photograph 23 is an overview of Feature 1.



Photograph 23
Overview of AZ T:3:1 (MNA) Feature 1 looking north.

Feature 2

Feature 2 is a rock semi-circle constructed around a massive vesicular basalt boulder. Several vesicular basalt boulders have been arranged around this boulder to create a basin effect. Surface ash is visible in this basin, and soil within the basin is friable to a depth of six inches. It is possible that this surface ash is modern in origin. The feature measures 2.9 meters (north/south) by 1.5 meters (east/west) and is associated with lithic artifacts. Photograph 24 is an overview of Feature 2.

Photograph 24
Overview of AZ T:3:1 (MNA) Feature 2 looking south.

Evidence of Site Age and Function

No diagnostic artifacts were observed at site AZ T:3:1(MNA). The site assemblage likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. Ceramics noted on site were non-diagnostic plain ware varieties that have a long temporal use span throughout later prehistory into the Protohistoric and Early Historic periods.

The presence of exotic lithics representing late-stage indicates that the people using this location had access to trade materials. The late-stage emphasis of the reduction sequence associated with the exotic materials indicates that these materials were used for formal, rather than expedient, tools. In the project area, expedient tools manufactured from local material are observed to be

associated with the procurement and processing of plant resources. Formal tools manufactured from high-quality exotic materials suggest that these tools served a different function and were associated with activities such as hunting.

Late stage manufacturing debitage indicative of tool rejuvenation may also indicate that these tools enjoyed a longer use-life that those manufactured from local materials as expedient tools. The lack of cores or primary flakes associated with the exotic materials at the site may also be an indication that these materials were obtained in the form of reduced blanks or formal artifacts. The lithic assemblage present at site AZ T:3:1 (MNA) is significantly different that that observed at other sites in the project area and is significant in terms of its implications for trade along the Agua Fria River.

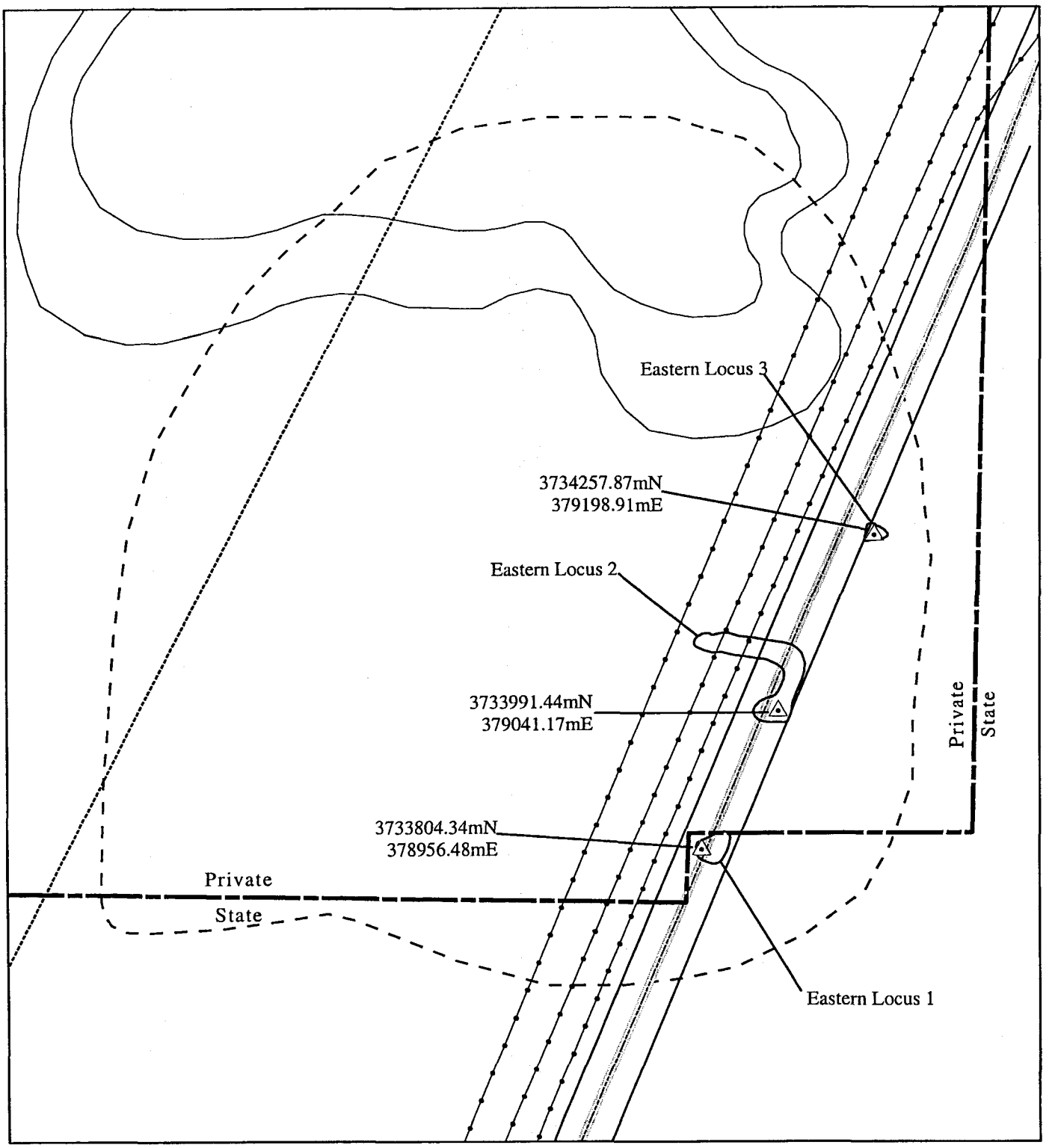
National Register Assessment

Site AZ T:3:1 (MNA) likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. The site location in southern exposure on a terrace above a well-developed intermittent drainage is highly desirable both for hunting and for agricultural pursuits. Two rock features present at the site may be an indication that this area was used for dry farming during Hohokam occupation of the region.

Field observations at AZ T:3:1 (MNA) revealed some indication of buried deposits in association with the two features at the site. It is our recommendation that the site is eligible for NRHP listing under Criterion D for its potential to address issues relating to prehistoric trade along the Agua Fria River as well as lithic technology. Since the site is not located in the APE of the proposed project, it will be avoided. No further consideration of this site is necessary.

AZ T:7:192 (ASM)

Site AZ T:7:192 (ASM) is a very large and extensive Hohokam habitation and agricultural site situated in the APE of the proposed project on privately owned lands and lands owned by the ASLD (see Figure 3b, Figure 16). This location is depicted on the Calderwood Butte 7.5-minute USGS topographic quadrangle in the southeast ½ of Section 25, Township 5 North Range 1 West, and the southwest ¼ of Section 30 and the northwest ¼ of Section 31, Township 5 North, Range 1 West.



0 100 200 400 Meters

Revisited Site
AZ T:7:192 (ASM)

Figure 16

- - -	Site Boundary	•—•—	Existing Transmission Line
———	Locus Boundary	———	Contour Line
═══	Centerline	▬ - ▬	Jurisdiction Boundary
═══	Right-of-Way	△	Site Datum

N W E S

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Site History

Site AZ T:7:192 (ASM) was originally recorded by Aztlan Archaeology in 1999 as part of the proposed Lakeland Village Project. The site boundaries were mapped only in relationship to the survey boundaries of the proposed project. Within those boundaries, site AZ T:7:192 (ASM) is estimated to encompass an area measuring 1,050 meters (north/south) by 950 meters (east/west) for a total area of 997,500m2 (246.5 acres).

An extensive archaeological test program at the site undertaken by Aztlan has recently been completed. The results of this test program, which identified pithouses and dry farming features, indicate that the site is eligible for listing on the NRHP. A data recovery program at site AZ T:7:192 (ASM) is planned in the future (Laurie Slawson 2002).

Subsequent survey of a project corridor to the adjacent east of the Aztlan survey corridor conducted by ACS in 2002 extended the known site boundaries beyond the Aztlan study area to the east. Survey by ACS identified nine features and a low-density artifact scatter consisting of chipped stone and ceramics. The features identified consisted of three flaking stations and six rock concentrations. Based on the subsurface findings recorded by Aztlan, ACS recorded the portion of the site that fell within their survey corridor as eligible for inclusion on the NRHP under Criterion D.

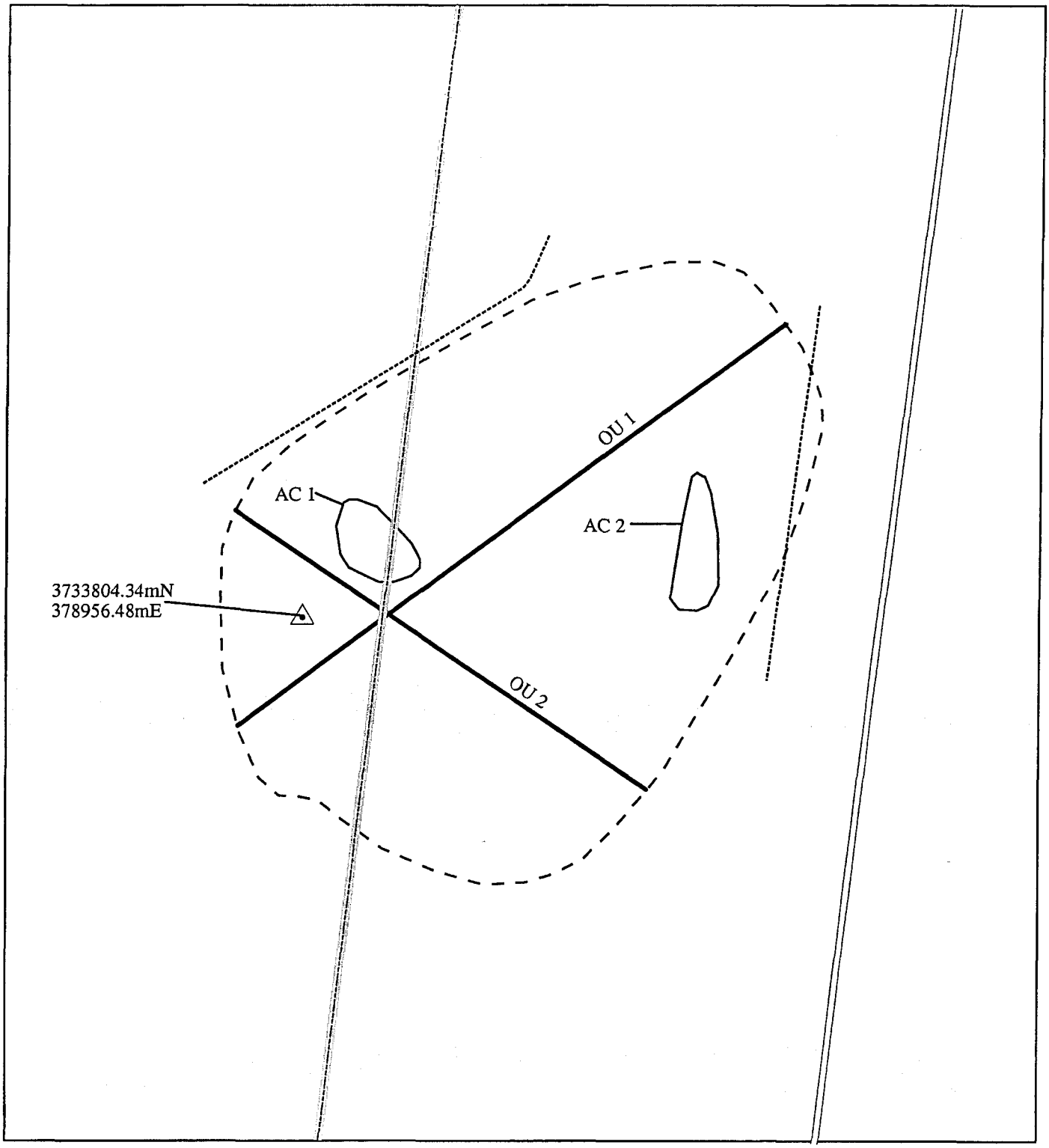
The current survey identified three small, discrete activity loci that fall within the boundaries of site AZ T:7:192 (ASM) as currently defined. These three loci are discussed here individually as eastern activity areas associated with site AZ T:7:192 (ASM).

Eastern Locus 1

Site AZ T:7:192 (ASM) Eastern Locus 1 is a ceramic and lithic scatter situated in the APE of the proposed project on lands owned by the ASLD (see Figure 3c). This location is depicted on the Calderwood Butte 7.5-minute USGS topographic quadrangle in the northwest ¼ of the northwest ¼ of Section 31, Township 5 North, Range 1 East. UTM grid coordinates for the Locus 1 datum are 3733804mN/378956mE (Figure 17).

Environmental Setting

The site is situated in an open exposure on the bajada flat approximately 1 mile to the south of the Hieroglyphic Mountains in the northern Phoenix Basin. The site is situated approximately at an elevation of 1,382 feet above mean sea level. Photograph 25 is an overview of AZ T:7:192 Locus 1.



0 5 10 20 Meters

Previously Recorded Site
AZ T:7:192 (ASM)
Newly Recorded
Eastern Locus 1

Site Boundary
Artifact Concentration (AC)
Observation Unit (OU)
Centerline
Right-of-Way
Road
Site Datum

N W E S

Figure 17

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Photograph 25
Overview of AZ T:7:192 (ASM) Locus 1 looking north.

The Phoenix Basin is part of the greater Basin and Range physiographic province. This basin was formed by fault block uplift and metamorphic core uplift (Abbott 2000). Stream sediments and erosional deposits originating from local mountains have accumulated and settled to partially fill the basin floor.

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Brown 1994).

Vegetation on site was dominated by species commonly associated with the Lower Colorado River Valley biotic community. Creosotebush (*Larrea tridentata*), and gold cholla (*Opuntia echinocarpa*), were abundantly present both on site and in the surrounding area.

Description

Site AZ T:7:192 (ASM) Eastern Locus 1 is a moderate density sherd and lithic scatter situated in an open exposure on the alluvial plain approximately 1 mile to the south of the Hieroglyphic

Mountains in the northern Phoenix Basin. Two small two-track roads are noted in proximity to the site, one occurring at the north site boundary and one crossing through the extreme southern portion of the site. Artifacts are noted in the track of the southern road. This road has impacted a portion of the site.

Site dimensions are 35 meters (north/south) by 33 meters (east/west) for a total site area of 1155m2. A total of 73 artifacts were observed during surface recording for a surface density of .06 artifacts/m2. Artifact density was recorded within each of the two concentrations and is noted below.

Materials observed at site AZ T:7:192 (ASM) Eastern Locus 1 were concentrated in two discrete areas, with other items radiating out from these concentrations in a uniformly sparse distribution. Two artifact classes, ceramics and lithics, were observed on site. Ceramics were the dominant material type noted. A complete surface inventory of items within both concentrations and in two OUs set across the site was compiled during the recording of the site.

Concentration 1

Concentration 1 is a high-density artifact concentration that measures 3 meters (north/south) by 3 meters (east/west) in size for a total area of 9m2. A total of 18 artifacts were identified within this area for an artifact density of .5 artifacts/m2.

The majority of items identified in this area were ceramic sherds, most of which were Gila Plain-Gila variety body sherds (n=15). In addition, a single Gila Plain-Salt variety body sherd was also noted. The ceramic assemblage noted in Concentration 1 indicates that at least two vessels are represented. In addition to the ceramic artifacts noted in Concentration 1, one fine-grained basalt secondary flake was also observed.

Concentration 2

Concentration 2 is a high-density artifact concentration that measures 3 meters (north/south) by 3 meters (east/west) in size for a total area of 9m2. A total of 23 artifacts were noted in this area for an artifact density of .34 artifacts/m2.

The majority of artifacts identified in this area were ceramic sherds, most of which were Gila Plain-Gila variety body sherds (n=17). Additionally, a Gila Plain-Salt variety rim sherd, possibly an olla, was noted. Two body sherds of this vessel type were also present. The ceramic assemblage observed in Concentration 2 indicates that at least two vessels are represented.

In addition, one porphyritic basalt tertiary flake exhibiting one utilized lateral margin was also recorded. A fine-grained basalt unifacial chopper and a fine-grained basalt secondary flake were also present.

Observational Units for Eastern Locus 1

In OU 1, a total of 17 Gila Plain-Gila variety body sherds were observed. In addition, one fine-grained basalt secondary flake, and one porphyritic basalt tertiary flake were also noted.

In OU 2, a total of 15 Gila Plain-Gila variety body sherds were observed. In addition, one fine-grained basalt secondary flake was also noted.

Evidence of Site Age and Function

No diagnostic artifacts were observed at site AZ T:7:192 (ASM) Eastern Locus 1. The site assemblage likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. Ceramics noted on site were non-diagnostic plain ware varieties that have a long temporal use span throughout later prehistory into the Protohistoric and Early Historic periods.

Eastern Locus 2

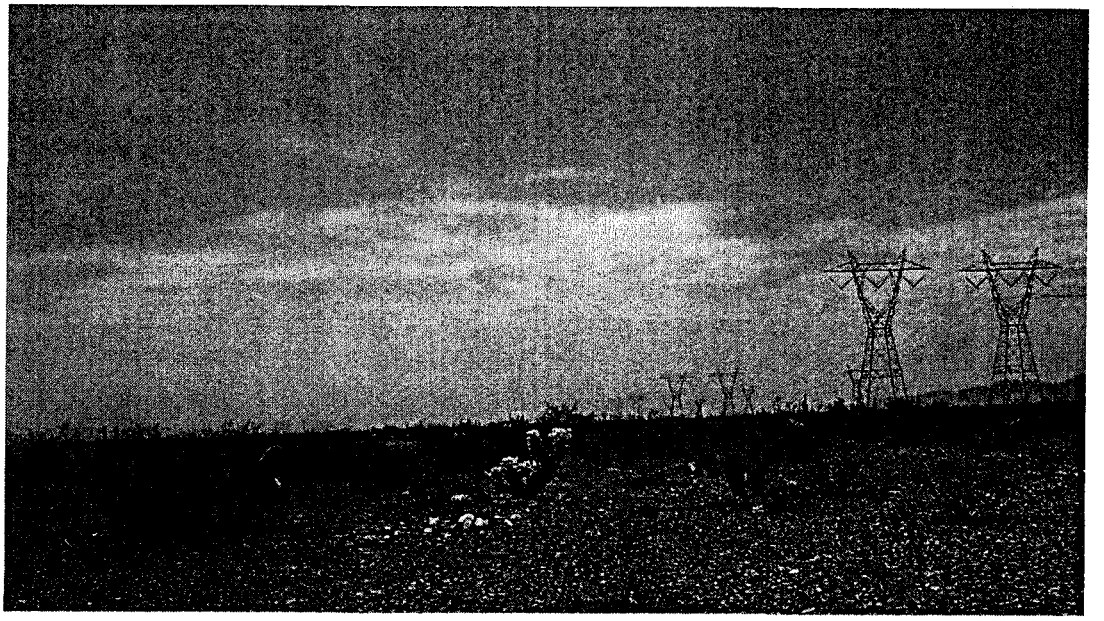
Site AZ T:7:192 (ASM) Eastern Locus 2 is a large sherd and lithic scatter situated in the APE of the proposed project on privately owned land (Figure 3b). This location is depicted on the Calderwood Butte 7.5-minute USGS topographic quadrangle in the southwest ¼ of the southwest ¼ of Section 30, Township 5 North, Range 1 East. UTM grid coordinates for the Eastern Locus 2 datum are 3733991mN/379041mE.

Environmental Setting

The site is situated in open exposure on an alluvial plain approximately in the northern Phoenix Basin region. The foothills of the Hieroglyphic Mountains are located approximately ½ mile to the north. The site is at an elevation of 1,382 feet above mean sea level. Photograph 26 is an overview of AZ T:7:192 (ASM) Locus 2.

The Phoenix Basin is part of the greater Basin and Range physiographic province. This basin was formed by fault block uplift and metamorphic core uplift (Abbott 2000). Stream sediments and erosional deposits originating from local mountains have accumulated and settled to partially fill the basin floor.

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Brown 1994).



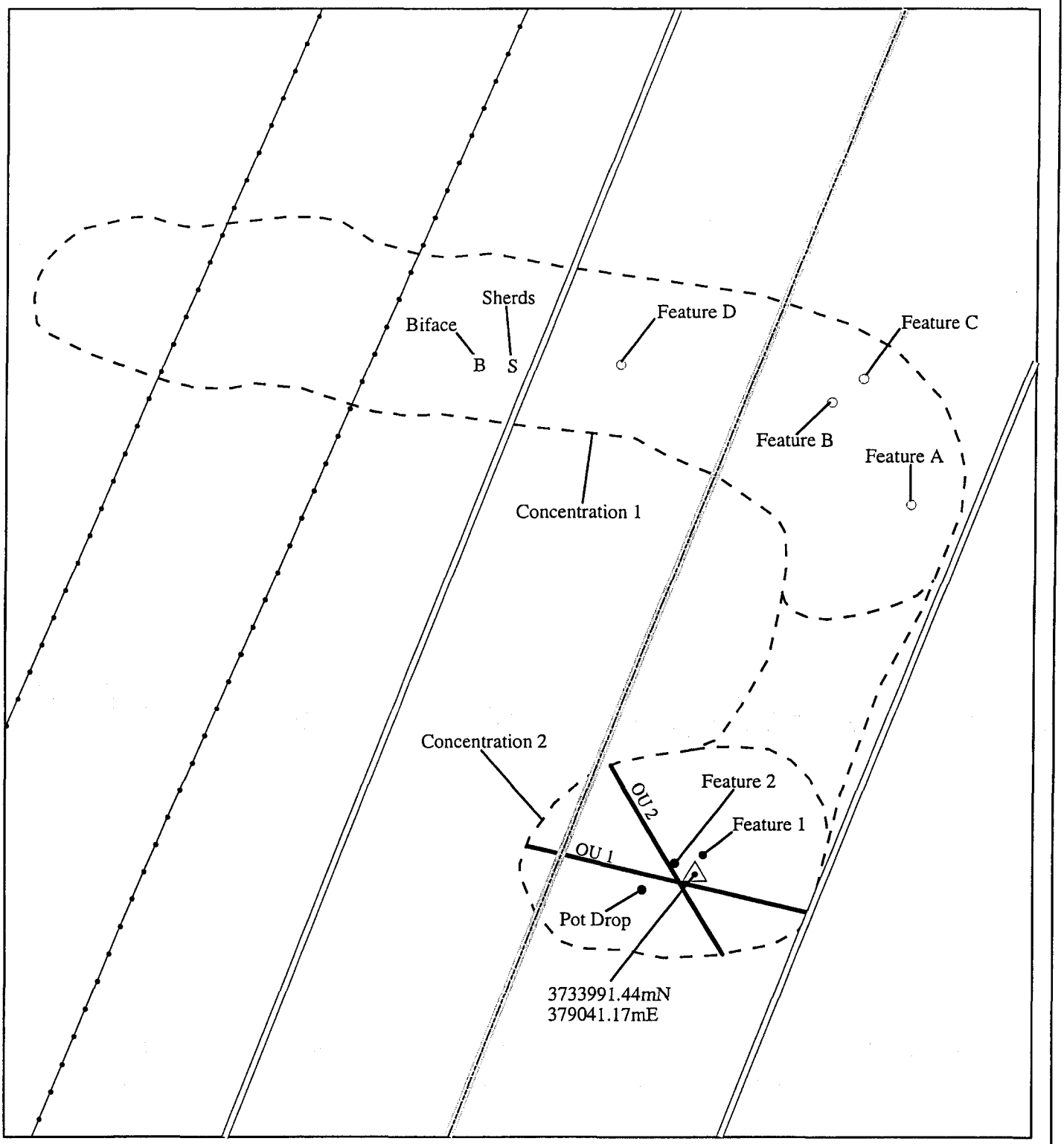
Photograph 26
Overview of AZ T:7:192 (ASM) Locus 2 looking south.

Vegetation on site was dominated by species commonly associated with the Lower Colorado River Valley biotic community. Creosotebush (*Larrea tridentata*), saguaro (*Carnegiea gigantea*), gold cholla (*Opuntia echinocarpa*), and paloverde (*Cercidium* spp.) were all abundantly present both on site and in the surrounding area.

Description

Site AZ T:7:192 (ASM) Eastern Locus 2 is a large sherd and lithic scatter situated in an open exposure on the alluvial plain ½ mile to the south of the Hieroglyphic Mountains (Figure 18). The northwestern portion of the site is bisected by the transmission line access road. Artifacts were noted in the berm of this road, indicating that construction of the road impacted the site. No other evidence of disturbance was noted and overall integrity of the site is good.

Site dimensions are approximately 100 meters (north/south) by 160 meters (east/west) for a total site area of 16000m2. Artifacts observed in this area were concentrated in two discrete concentrations that were connected to the east by a sparse lithic scatter associated with desert pavement.



0 10 20 40 Meters

Previously Recorded Site
AZ T:7:192 (ASM)
Newly Recorded
Eastern Locus 2

Figure 18

Site Boundary	Existing Transmission Line
Observation Unit (OU)	Site Datum
Centerline	Site Feature
Right-of-Way	Feature Concentration

N W E S

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The northernmost concentration, Concentration 1, is associated with desert pavement and measured 40 meters (north/south) by 160 meters (east/west) for a total area of 6400m2. Approximately 75 artifacts were observed in this area for an artifact density of .001 artifacts/m2. The southernmost concentration, Concentration 2, is outside of the limits of desert pavement and measures 30 meters (north/south) by 23 meters (east/west) for a total site area of 690m2. Approximately 25 artifacts were observed in this area for a total artifact density of .035 artifacts/m2.

Two artifact classes, ceramics and lithics, were noted at Eastern Locus 2. A complete inventory of observed surface materials was tabulated during recording of the site (Table 10).

Concentration 1

Concentration 1 is a large (40 meter by 160 meter) sherd and lithic scatter associated with exposed desert pavement in the northern portion of site AZ T:7:192 (ASM) Eastern Locus 2. Artifacts were noted to occur in Concentration 1 in four discrete clusters, with artifacts outside of these clusters occurring in a sparse and uniform distribution across the area. Lithics were the dominant artifact type noted to occur in Locus 1. All four artifact clusters were defined by lithics. A complete tabulation of lithic materials observed at the site is presented in Table 10.

Feature A

Feature A measures 3 meters (north/south) by 5 meters (east/west) for a total area of 15m2. Twelve artifacts were noted to occur in this area for a total artifact density of .8 artifacts/m2. This concentration was defined by lithics.

Debitage observed in Feature A consisted of five material types. Porphyritic basalt was the dominant material type observed, consisting of 1 primary flake and 3 secondary flakes. Quartzite is represented by 2 primary flakes and 1 unifacial chopper. Quartz is represented by 2 secondary flakes, and diorite was represented by 1 primary flake and a tertiary flake. One fine-grained basalt unidirectional core was also observed.

Feature B

Feature B measures 3 meters (north/south) by 3 meters (north/south) for a total area of 9m2. A total of 18 artifacts were observed in this area for a total artifact density of .5 artifacts/m2. Feature B is a fine-grained basalt flaking station, and fine-grained basalt is the dominant material type noted, consisting of 2 primary flakes, 7 secondary flakes, 5 tertiary flakes, and 2 pieces of non-diagnostic shatter. In addition, 1 secondary flake exhibiting pressure flaking one lateral margin was also noted.

TABLE 10 DEBITAGE INDEX: AZ T:7:192 (ASM) EASTERN LOCUS 2						
		Stage of Manufacture				
Provenience	**Material**	**Core**	**Primary**	**Secondary**	**Tertiary**	**Total**
Concentration 1, Feature A	Porphyritic basalt	0	1	3	0	**4**
	Quartzite	0	2	0	0	**2**
	Quartz	0	0	2	0	**2**
	Diorite	0	1	0	1	**2**
	Fine-grained basalt	1	0	0	0	**1**
Concentration 1 Feature B	Fine-grained basalt	0	2	7	5	**14**
	Porphyritic basalt	0	0	1	0	**1**
	Argillite	0	0	1	0	**1**
Concentration 1 Feature C	Fine-grained basalt	0	0	3	0	**3**
	Quartzite	0	1	2	0	**3**
	Porphyritic basalt	0	0	2	0	**2**
Concentration 1, Feature D	Porphyritic basalt	0	0	6	0	**6**
Concentration 1, General area	Fine-grained basalt	0	1	8	1	**9**
	Quartzite	0	0	5	1	**6**
	Porphyritic basalt	0	1	3	0	**4**
	Fine-grained rhyolite	0	0	1	1	**2**
	Chert	0	0	2	0	**2**
	Argillite	0	0	0	1	**1**
	Quartz	0	0	1	0	**1**
	Fine-grained metavolcanic	0	0	1	0	**1**
Concentration 2 Observation Unit 1	Porphyritic basalt	0	0	4	0	**4**
	Quartzite	0	2	0	0	**2**
	Quartz	0	0	1	0	**1**
	Fine-grained basalt	0	1	0	0	**1**
Concentration 2 Observation Unit 2	Porphyritic basalt	0	0	4	0	**4**
	Quartzite	0	0	2	0	**2**
	Fine-grained basalt	UD*	0	1	0	**2**
TOTAL		**2**	**12**	**60**	**10**	**81**
*unidirectional						

One porphyritic basalt secondary flake and one argillite secondary flake was also noted to occur in Feature B. Argillite is an exotic material that is imported from the Prescott area to the north of the site.

Feature C

Feature C measures 1 meter (north/south) by .5 meter (east/west) for a total area of .5m2. Eight artifacts were observed in this area for a total artifact density of .06 artifacts/m2. Three material types were present in Feature C. Three fine-grained basalt secondary flakes, 2 quartzite secondary flakes, 1 quartzite primary flake, and 2 porphyritic basalt secondary flakes were observed in Feature C.

Feature D

Feature D measures 0.5 meter (north/south) by 0.5 meter (east/west) for a total area of 0.25m2. Six artifacts were observed in this area for a total artifact density of .08 artifacts/m2. Feature D is a small porphyritic basalt flaking station consisting of six porphyritic basalt secondary flakes.

In addition to the lithic materials noted in Concentration 1, two ceramic sherds were also observed in the western portion of the site in association with desert pavement just east of the transmission line access road. Both of these body sherds were Gila Plain-Gila variety body sherds.

One percussion-flaked biface was also observed in Concentration 1 in the general area east of the transmission line access road. This biface was manufactured from fine-grained basalt. All tools noted at Concentration 1 were expedient tools manufactured with percussion flaking.

Concentration 2

Concentration 2 is a small (23 meter by 30 meter) sherd and lithic scatter located in the southern portion of site AZ T:7:192 (ASM) Eastern Locus B. Concentration 2 is situated outside of desert pavement, and lithics were the most numerous artifacts observed to be present. Concentration 2 materials were tabulated in two observational transects during surface recording of the site. All surface materials were observed to be restricted in distribution to these OUs. In addition, a ceramic concentration was noted during surface recording of Locus 2.

Observational Unit 1

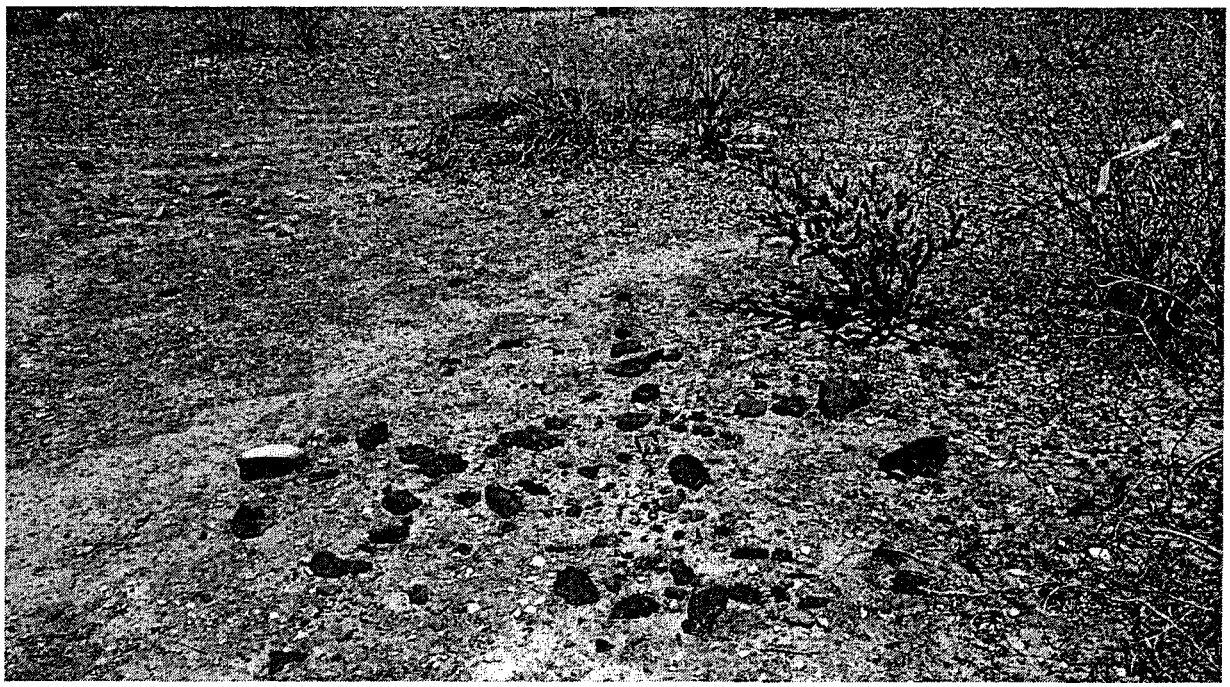
Materials observed in OU 1 consisted solely of lithic artifacts. Four material types, porphyritic basalt, fine-grained basalt, quartzite, and quartz were observed. Of these materials, porphyritic basalt was the most numerous, and consisted of 4 secondary flakes and 2 pieces of non-diagnostic angular shatter. Quartzite is represented by 2 primary flakes. Quartz is represented by 1 secondary flake. One tool, a bifacial chopper with three percussion-flaked lateral margins manufactured from porphyritic basalt was also noted in OU 1.

Observational Unit 2

Materials observed in OU 2 consisted solely of lithic artifacts. Three material types, porphyritic basalt, fine-grained basalt, and quartzite, were noted. Porphyritic basalt was the dominant material type noted in OU 2, consisting of 4 secondary flakes, while quartzite was represented by 1 secondary flake. One fine-grained basalt unidirectional core fragment and 1 secondary flake were also noted in OU 2.

Feature 1

Feature 1 is a concentration of scattered discontiguous vesicular basalt cobbles. There are no other cobbles of this type noted in the surrounding area. Approximately 35 cobbles are present in an area measuring 2 meters (north/south) by 1.5 meters (east/west). There was no evidence of thermal alteration, nor was the presence of scorched earth noted. Feature 1 likely represents a groundstone manufacturing location where vesicular basalt was reduced for the production of processing artifacts such as manos and metates. Photograph 27 is an overview of Feature 1.



Photograph 27
Overview of AZ T:7:192 (ASM) Locus 2 Feature 1 looking north.

Feature 2

Feature 2 is a discrete concentration of native cobbles that is roughly circular in shape. Approximately 35 cobbles are present in an area measuring 2.5 meters in diameter. There was no evidence of thermal alteration, nor was the presence of scorched earth noted. This feature may represent an episode of rock clearing associated with agricultural pursuits, but the exact nature of this feature is unknown at this time. Photograph 28 is an overview of Feature 2.

Photograph 28
Overview of AZ T:7:192 (ASM) Locus 2 Feature 2 looking east.

Ceramic Concentration

One ceramic concentration representing a single-vessel pot drop was noted in Concentration 2. This concentration measured 2 meters (north/south) by 3 meters (east/west) for a total area of 6m2. Six artifacts were noted in this area for a total artifact density of 1 artifact/m2. One large Gila Plain-Gila variety rim sherd and four body sherds were noted in this area. In addition, one fine-grained basalt tested cobble was also noted in this area. Photograph 29 is an overview of the ceramics present at AZ T:7:192 (ASM) Locus 2.

Photograph 29
Overview of AZ T:7:192 (ASM) Locus 2 ceramics.

Evidence of Site Age and Function

No diagnostic artifacts were observed at site AZ T:7:192 (ASM) Eastern Locus 2. The site assemblage likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. Ceramics noted on site were non-diagnostic plain ware varieties that have a long temporal use span throughout later prehistory into the Protohistoric and Early Historic periods.

Eastern Locus 3

Site AZ T:7:192 (ASM) Eastern Locus 3 is a small sherd and lithic scatter situated in an eastern exposure on a low terrace overlooking a small drainage confluence (Figure 3b). The site is within the APE of the proposed project on privately owned lands. This location is depicted on the Calderwood Butte 7.5-minute USGS topographic quadrangle in the southwest ¼ of the southwest ¼ of Section 30, Township 5 North, Range 1 East. UTM grid coordinates for the site datum are 3734257mN/379198mE.

Environmental Setting

The site is located in Maricopa County on lands owned by the ASLD. It is situated in an eastern exposure on an alluvial plain approximately ½ mile to the south of the Hieroglyphic Mountains in the northern Phoenix Basin. The site is situated at an elevation of 1,550 feet above mean sea level. Photograph 30 is an overview of AZ T:7:192 (ASM) Locus 3.

Photograph 30
Overview of AZ T:7:192 (ASM) Locus 3 looking northeast.

The Phoenix Basin is part of the greater Basin and Range physiographic province. This basin was formed by fault block uplift and metamorphic core uplift (Abbott 2000). Stream sediments and erosional deposits originating from local mountains have accumulated and settled to partially fill the basin floor.

The proposed project area is situated within the environmental boundaries of the Sonoran Desert region in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Brown 1994).

Vegetation on site was dominated by species commonly associated with the Lower Colorado River Valley biotic community. Creosotebush (*Larrea tridentata*), saguaro (*Carnegiea* gigantea), mesquite (*Prosopis* spp.), cat-claw acacia (*Acacia greggii*), gold cholla *(Opuntia echinocarpa*), and paloverde *(Cercidium* spp.) were all abundantly present both on site and in the surrounding area.

Description

Site AZ T:7:192 (ASM) Eastern Locus 3 is a moderate density ceramic and lithic scatter situated in an eastern exposure at the confluence of a small east-west tending intermittent drainage with a larger north-south tending intermittent wash (Figure 19). Artifacts were observed to be restricted to the southwestern side bank of this confluence.

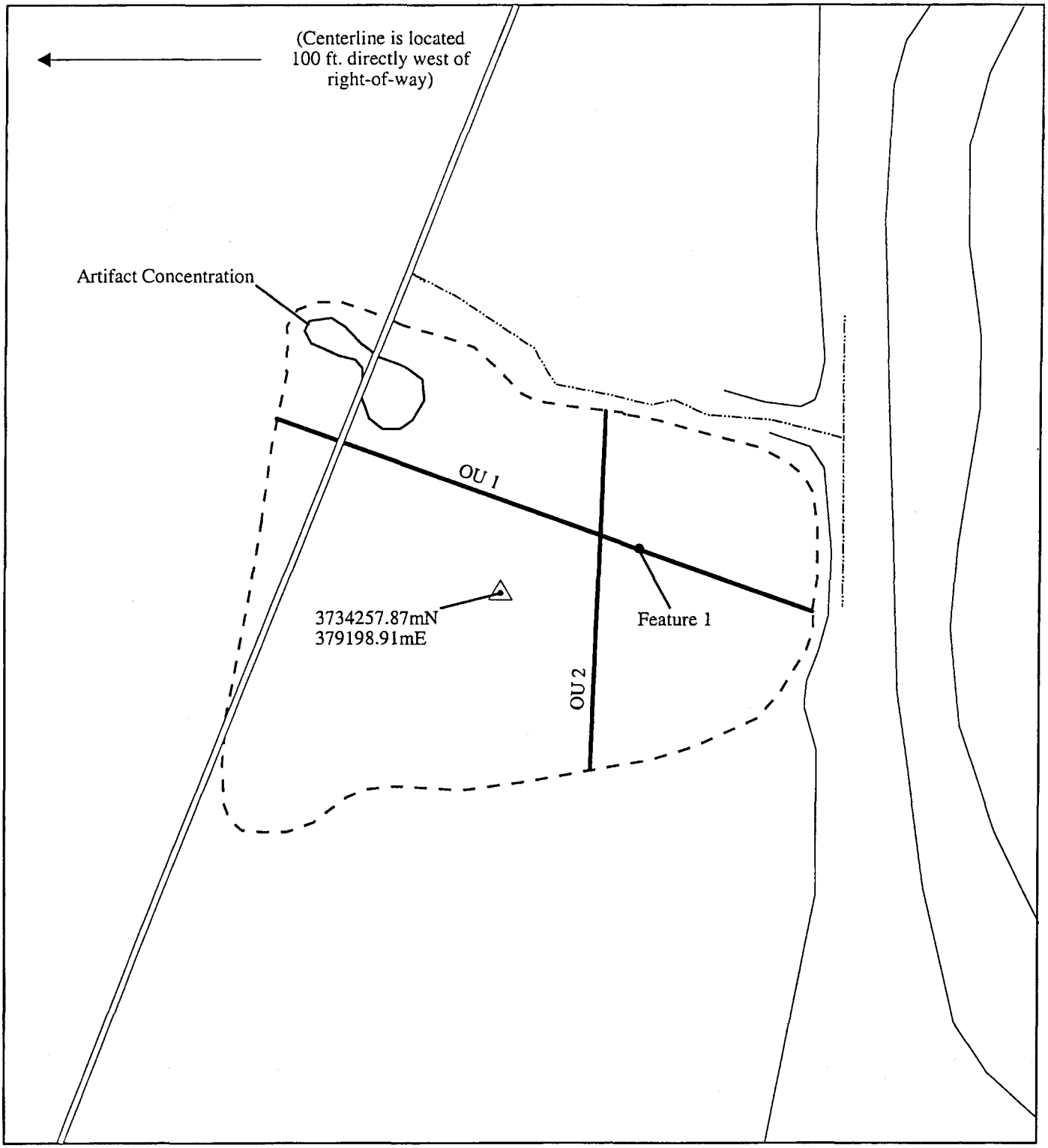
Site dimensions are approximately 28 meters (north/south) by 42 meters (east/west) for a total site area of 1176m2. A total of 25 artifacts were observed in this area for a total artifact density of .02 artifacts/m2.

Materials observed at site AZ T:7:192 (ASM) Eastern Locus 3 were sparsely and uniformly distributed across the site area. The majority of artifacts were ceramic plain ware body sherds, with one small lithic concentration noted in the northwestern corner of the site. A complete surface inventory of items within the lithic concentration and in two OUs set across the site was compiled during the recording of the site.

Concentration 1

Concentration 1 measures 3 meters (north/south) by 5 meters (east/west) for a total area of 15m2. Approximately 12 items were observed within this area for a total artifact density of .8 artifacts/m2.

Concentration 1 is a small flaking station consisting of waste flakes and shatter derived from porphyritic basalt. A tested porphyritic basalt cobble was also noted in this concentration. All of the waste flakes noted were secondary flakes.



0 2.5 5 10 Meters

Previously Recorded Site
AZ T:7:192 (ASM)
Newly Recorded
Eastern Locus 3

Figure 19

- - -	Site Boundary	———	Contour Line
-·-·-	Drainage	▬▬▬	Observation Unit (OU)
———	Artifact Concentration	△	Site Datum
═══	Right-of-Way	●	Rock Feature

N
W E
S

m:/projects/aps/ncp/cec/mxds/siteC.mxd

Observational Units

In OU1, four Gila Plain-Gila variety body sherds were noted. In terms of lithic materials, 2 quartzite secondary flakes, 1 granodiorite secondary flake, and 1 porphyritic basalt secondary flake were observed. In addition, 1 unifacial cobble chopper manufactured from fine-grained basalt was observed. This tool exhibited percussion flaking on one lateral margin.

In OU2, three Gila Plain-Gila variety body sherds were noted. In addition, one porphyritic basalt secondary flake was observed.

Feature 1

Feature 1 is an unusual rock feature of unknown function. This feature consists of three shallow depressions approximately 15 centimeters in depth associated with metavolcanic fist-sized cobbles. Total length of the feature is 3.35 meters (north/south) by 2.9 meters (east/west). None of the rocks in this feature were observed to show any signs of fire alteration, and none of the feature soils were scorched. Only one artifact, a Gila Plain-Gila variety body sherd was observed within the feature itself. Although the exact function of this feature is unclear, it may represent a clearing episode associated with agricultural pursuits. Photograph 31 is an overview of Feature 1.

Photograph 31
Overview of AZ T:7:192 (ASM) Locus 3 Feature 1 looking northeast.

Evidence of Site Age and Function

No diagnostic artifacts were observed at site AZ T:7:192 (ASM) Eastern Locus 3. The site assemblage likely represents a limited activity area that was utilized during either the Prehistoric or Protohistoric periods. Ceramics noted on site were non-diagnostic plain ware varieties that have a long temporal use span throughout later prehistory into the Protohistoric and Early Historic periods.

National Register Assessment

Site AZ T:7:192 (ASM) is a very large and extensive Hohokam habitation and agricultural site. An extensive archaeological test program at the site undertaken by Aztlan Archaeology has identified pithouses and dry farming features. The results of this test program indicates that the site is eligible for listing on the NRHP under Criterion D for its potential to reveal information about prehistoric Hohokam farming practices.

Survey of a project corridor to the adjacent east of the Aztlan survey corridor conducted by ACS in 2002 extended the known site boundaries beyond the Aztlan study area to the east. Based on the subsurface findings recorded by Aztlan, ACS recorded the portion of the site that fell within their survey corridor as eligible for inclusion on the NRHP under Criterion D.

The current survey identified three small, discrete activity loci that fall within the boundaries of site AZ T:7:192 (ASM) as currently defined. These three loci are discussed here individually as eastern activity areas associated with site AZ T:7:192 (ASM). Based on this association, we recommend that site AZ T:7:192 (ASM) is eligible for the NRHP under Criterion D for its potential to yield information on prehistoric subsistence strategies and land-use patterns within the northern Phoenix Basin.

Due to the archaeologically sensitive nature of the area encompassing site AZ T:7:192 (ASM), we recommend avoidance of the three loci by spanning and monitoring during construction within site boundaries.

AZ T:8:104 (ASU)

Site AZ T:8:104 (ASU) is a pot drop previously recorded in the APE of the proposed project on lands owned by the ASLD (see Figure 3h). This location is depicted on the Union Hills 7.5-minute USGS topographic quadrangle in the southeast ¼ of the northwest ¼ of Section 11, Township 4 North, Range 3 East. UTM grid coordinates for the site as determined from the location as originally mapped are 3730300mN/404900mE.

AZ T:8:104 (ASU) was originally recorded during archaeological survey for the El Paso natural gas pipeline corridor (Hackbarth 1985). It was recorded as a small pot drop occurring in a 1-meter by 1-meter area. The site was recommended as not eligible for listing on the NRHP.

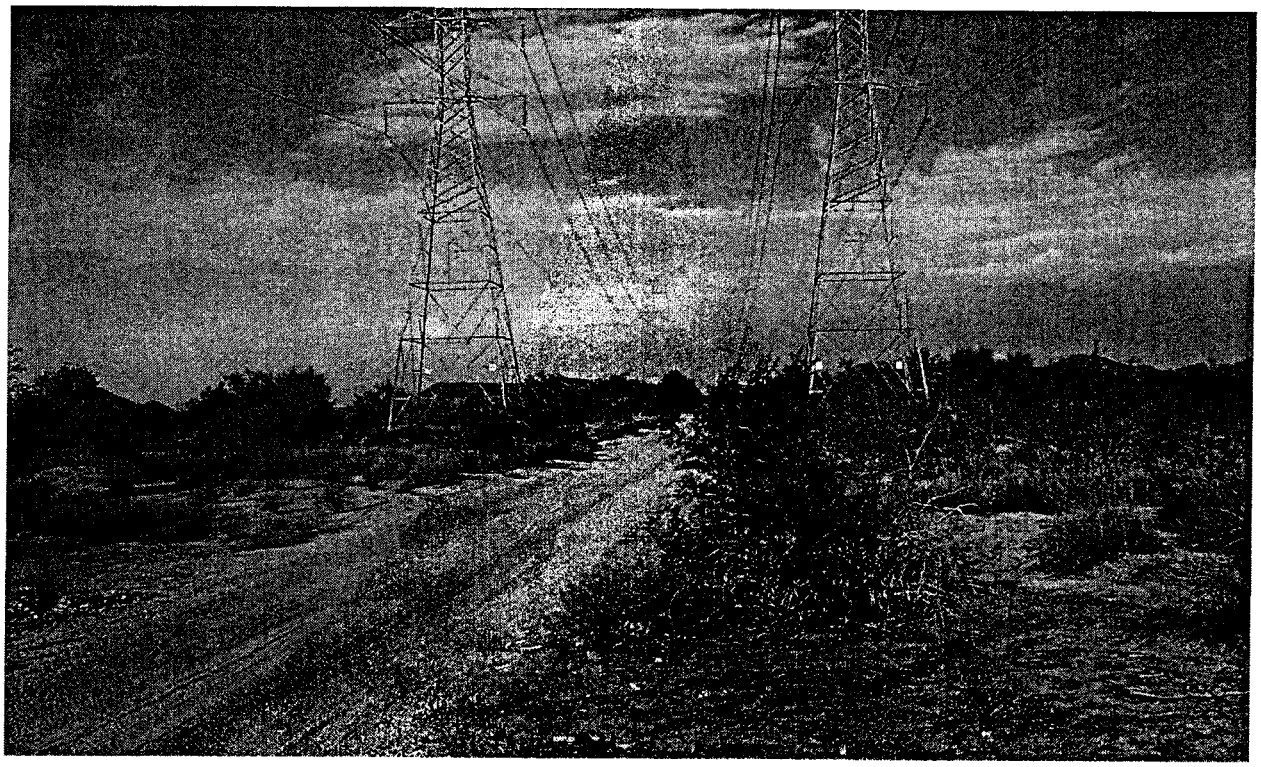
Intensive field survey of the site location as recorded failed to relocate this site. During the relocation efforts, extensive disturbance associated with the existing transmission corridor, natural gas pipeline, access road, and side-slope erosion control were noted. Given the small size of the site and the extent of observed disturbance in the area, it is likely that AZ T:8:104 (ASU) has been destroyed by construction.

AZ U:5:73 (ASU)

Site AZ U:5:73 (ASU) is an artifact scatter previously recorded adjacent to the APE of the proposed project on lands owned by the ASLD (see Figure 3i). This location is depicted on the Curry's Corner 7.5-minute USGS topographic quadrangle in the northeast ¼ of the northeast ¼ of Section 7, Township 4 North, Range 4 East. UTM grid coordinates for the site as determined from the location as originally mapped are 3730180mN/409240mE.

AZ U:5:73 (ASU) was originally recorded by Effland (1984) during the Pinnacle Peak-Lone Peak-Paradise 230kV transmission line survey. It was recorded as a small artifact scatter occurring in a 20-meter by 30-meter area. The site was recommended as not eligible for listing on the NRHP.

Intensive field survey of the site location as recorded failed to relocate this site. Although the area were the site is mapped as occurring is generally in natural landscape, some disturbance associated with the existing transmission corridor, natural gas pipeline, and access road were noted during relocation efforts. It is possible that AZ U:5:73 (ASU) has been destroyed by construction action in the area. Photograph 32 is an overview of the site location as it occurred at the time of field survey.



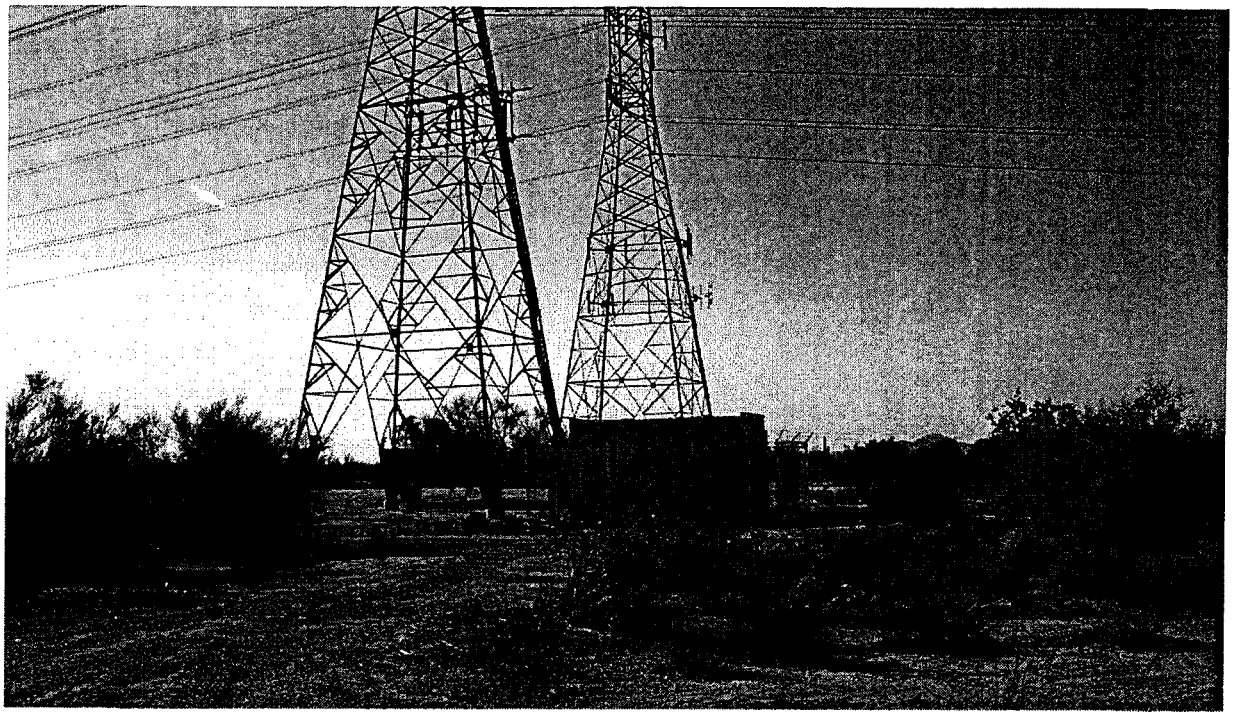
Photograph 32
Overview of AZ U:5:73 (ASU) site location as mapped looking west.

AZ U:5:72 (ASU)

Site AZ U:5:72 (ASU) is a sherd scatter previously recorded adjacent to the APE of the proposed project on lands owned by the ASLD (see Figure 3i). This location is depicted on the Curry's Corner 7.5-minute USGS topographic quadrangle in the southeast ¼ of the northwest ¼ of Section 8, Township 4 North, Range 4 East. UTM grid coordinates for the site as determined from the location as originally mapped are 3730180mN/410000mE.

AZ U:5:72 (ASU) was originally recorded by Effland (1984) during the Pinnacle Peak-Lone Peak-Paradise 230kV transmission line survey. It was recorded as a small sherd scatter occurring in a 5-meter by 5-meter area. The site was recommended as not eligible for listing on the NRHP.

Intensive field survey of the site location as recorded failed to relocate this site. During the relocation efforts, extensive disturbance associated with the existing transmission corridor, natural gas pipeline, equipment shelter, equipment staging area, and access road were noted. Given the small size of the site and the extent of observed disturbance in the area, it is likely that AZ U:5:72 (ASU) has been destroyed by construction. Photograph 33 is an overview of the site location as it occurred at the time of field survey.



Photograph 33
Overview of AZ U:5:72 (ASU) site location as mapped looking south.

MATERIAL DISTRIBUTION

Patterns in the distribution of archaeological material within the proposed project area were observed during field survey. These patterns do not necessarily reflect those distributional patterns as they occur in the greater region outside of the project corridor.
Historic artifacts were restricted in their distribution across the landscape to the eastern and central portions of the project area. Isolated historic artifacts observed during survey were noted to be largely limited to rock cairns, tobacco tins and hole-in-top or matchstick cans. Isolated historic glass fragments were observed only in the extreme eastern portion of the project area or in association with historic sites.

Rock cairns consisting of small, discrete stacks of native metavolcanic cobbles were limited to the central portion of the study area on Biscuit Flat. These small cairns likely are associated with historic ranching activity. Temporal affiliation for these small cairns cannot be determined; however, given their lack of association with temporally diagnostic artifacts.

Patterns were also apparent in the distribution of prehistoric material as it occurred across the landscape. With the exception of ceramics observed at newly recorded site AZ T:8:167 (ASM), prehistoric ceramics were observed to the west of and on the eastern banks of the Agua Fria

River. Ceramics were not noted in association with prehistoric materials outside of this context, indicating that perhaps during later prehistory the Biscuit Flat area was not intensively utilized by native peoples and was a marginal exploitation area.

In terms of lithic distribution, a definite preference for porphyritic basalt was reflected both in site assemblages and isolated artifacts. On Biscuit Flat, fine-grained rhyolite, metaquartzite, and metachalcedony were observed to occur in association. All of these materials were locally available in the form of large, fist-sized native cobbles occurring in washes and on exposed patches of desert pavement.

The source for the metaquartzite and metachalcedony cobbles has been documented at quarry sites in the New River Mountains at sites AZ T:4:372 (ASM), and AZ T:4:176 (ASM). These quarry sites are located approximately 2 miles to the north of the proposed project area. At site AZ T:4:372 (ASM), Ellis et al. (2002) documents the presence of 2,000 to 3,000 lithic waste flakes on the surface of the site.

To the west, exotic materials such as argillite, obsidian, and high-grade fine-grained basalt and chert are observed to occur in greater frequency, especially in conjunction with with ceramics. This serves to illustrate the florescence of active trade that occurred along the Agua Fria.

CONCLUSIONS AND RECOMMENDATIONS

The intensive pedestrian survey in support of the proposed APS North Valley Project identified a total of 89 IOs, 6 newly recorded cultural sites, 7 previously recorded sites and 2 historic structures within the area of potential effect (APE). Newly recorded sites identified by survey are: AZ T:8:166 (ASM), AZ T:8:167 (ASM), AZ T:4:374 (ASM), AZ T:7:276, AZ T:4:375 (ASM), and AZ T:3:274 (ASM). Of these sites, only AZ T:3:274 (ASM) is considered to be eligible for inclusion on the NRHP under Criterion D for its potential to yield information about prehistoric agricultural and land-use strategies along the Agua Fria River. It may be possible to avoid this site by spanning.

Seven sites were identified by class I records review as occurring in the APE of the proposed project. These sites are AZ T:7:192 (ASM), AZ T:3:264 (ASM), AZ T:3:1 (MNA), AZ T:3:2 (MNA), AZ T:8:104 (ASU), AZ U:5:72 (ASU), and AZ U:5:73 (ASU).

Sites AZ T:3:1 (MNA), AZ T:3:2 (MNA), AZ T:3:264 (ASM), and AZ T:7:192 (ASM), are situated either within or immediately adjacent to the APE, and had not been previously evaluated for NRHP eligibility. These sites were revisited and assessed for eligibility during field survey. All of these sites are located in the extreme western portion of the proposed project and are depicted on the Baldy Mountain and Calderwood Butte 7.5-minute USGS topographic quadrangles, and all are considered to be eligible for inclusion on the NRHP under Criterion D for their potential to yield information regarding prehistoric agricultural practices, land-use

strategies, trade, and settlement patterns along the Agua Fria River. It may be possible to avoid these sites by spanning.

Site AZ T:8:104 (ASU) is situated in the APE of the proposed project. It is described as a small sherd concentration. The site had been previously evaluated as not eligible for the NRHP. This site location was revisited but the site could not be relocated. Extensive disturbance in the area for erosion control has likely resulted in the destruction of this site.

Sites AZ U:5:72 (ASU) and AZ U:5:73 (ASU) are situated immediately adjacent to the APE or the proposed project. Both sites are described as small sherd scatters. These sites were previously evaluated as not eligible for the NRHP. These site locations were revisited but the sites could not be relocated. Extensive disturbance of both locations in conjunction with the construction of the existing transmission corridor has likely resulted in the destruction of both of these sites.

The proposed transmission line crosses three areas of archaeological interest: (1) the Calderwood Butte Archaeological District, (2) New River Archaeological District, and (3) Cave Creek Archaeological District. These areas represent zones of high archaeological potential that can be found in many localities across the northern margins of the Phoenix Basin. The New River Archaeological District and the Cave Creek Archaeological District are determined eligible for listing on the NRHP. The Calderwood Butte Archaeological District is on the Arizona Sate Inventory. Transmission corridors are already in place in the viewshed of these districts. The proposed transmission corridor would follow these existing corridors throughout the majority of the project area. Any additional impacts will be reduced because of the proximity to existing structures.

In addition, two historic structures were identified by class I records review and pedestrian survey. These properties are AZ T:4:131 (ASM), the Black Canyon Road, and AZ T:3:55 (ASM), the Beardsley Canal. Both of these are recommended as eligible for inclusion on the NRHP as they occur in the proposed project area. Black Canyon Road has the potential to provide information on early transportation within Maricopa County, whereas the Beardsley Canal has the potential to provide information on early agriculture and development in the West Valley. Based on the size of these sites, however, through careful planning it should be possible to avoid these sites by spanning them.

Due to the large size of site AZ T:7:192 (ASM) and the archaeological sensitivity, it is our recommendation that the three loci identified in the APE be spanned and that an archaeologist be present to monitor construction activities within the site boundaries.

If, however, avoidance of those sites that are recommended as eligible for inclusion on the NRHP is not possible, a mitigation plan should be developed in conjunction with the ASLD and Arizona State Historic Preservation Office (SHPO) and implemented prior to project construction.

If human remains or funerary objects are discovered during construction of the proposed project on state or private lands, all work in the area should cease and the finding reported to the director of the Arizona State Museum in accordance with Arizona Revised Statutes §41-844 and §41-865

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"Managing and conserving natural, cultural, and recreat

EXHIBIT
A-3
admitted

general contents

Arizona State Parks

November 20, 2002

Laurie A. Woodall, Chairperson
Power Plant & Transmission Line Siting Committee
Assistant Attorney General, Environmental Enforcement Section,
Office of the Attorney General
1275 West Washington
Phoenix, Arizona 85007

RE: Proposed North Valley 230kV Transmission Line, Maricopa County, Arizona

Dear Ms. Woodall:

Jane Dee Hull
Governor

State Parks
Board Members

Chair
Suzanne Pfister
Phoenix

Vice-Chair
Joseph H. Holmwood
Mesa

John U. Hays
Yarnell

Elizabeth Stewart
Tempe

William C. Porter
Kingman

Walter D. Armer, Jr.
Benson

Michael E. Anable
State Land
Commissioner

Kenneth E. Travous
Executive Director

Arizona State Parks
1300 W. Washington
Phoenix, AZ 85007

Tel & TTY: 602.542.4174
www.azstateparks.com

800.285.3703 from
(520 & 928) area codes

General Fax:
602.542.4180

Director's Office Fax:
602.542.4188

Thank you for having the committee's applicant (i.e., Arizona Public Services Co.) continue to consult with our office regarding the above-mentioned project's certificate of environmental compatibility. The proposed state plan entails the siting and eventual construction of an approximately 31-mile-long overhead utility line between three existing substations: Westwing, Raceway, and Pinnacle Peak. The project occurs on lands administered by the Arizona State Land Department (ASLD) and private land. Historian Bill Collins and I reviewed the documents submitted and offer the following comments pursuant to the State Historic Preservation Act (i.e., A.R.S. § 41-861 to 41-864) and the committee's factors to be considered (i.e., A.R.S. § 40-360.06.A.5).

The cultural resource survey of the proposed right-of-way corridor identified two historic-period structures, 10 archaeological sites, and 89 isolated artifact and/or feature occurrences (IOs); three previously recorded archaeological sites (i.e., AZ T:8:104 ASU, U:5:72 & 73 ASU) were not reidentified and are presumed destroyed. The report was professionally prepared and thorough. My technical comments on the report are provided on the attached page. Please consider any comments the committee receives from ASLD regarding cultural resource issues as well.

We agree that the Beardsley Canal (AZ T:3:55 ASM) is eligible for inclusion in the State and/or National Registers of Historic Places (SNRHP) under Criterion A (Event) and other criterion may apply as well. We cannot agree with the consultant's eligibility assessment for abandoned segment of historic Black Canyon Road identified as AZ T:4:131 (ASM) at this time. The significance of early automotive roads has not yet been formally evaluated. We suggest treating the road as if it were Register-eligible for purposes of this plan.

We also agree that archaeological sites AZ T:7:192 (ASM), AZ T:3:1 (MNA) and AZ T:3:2 (MNA) are eligible for inclusion in the SNRHP under Criterion D (Information Potential). We agree that Sites AZ T:8:166, T:8:167, T:7:276, and

T:4:375 (ASM) as well as AZ T:8:104, U:5:72, U:5:73 (ASU) are ineligible for inclusion in the SNRHP under any criterion. We agree that the IOs are not eligible under any criterion.

We cannot completely agree with the consultant's eligibility assessment for Sites AZ T:3:274 and AZ T:3:264 (ASM). These sites may indeed be Register-eligible, but the detailed survey-level recording realized their apparent limited information potential. In such situations, we recommend sites as ineligible, because further preservation treatment is unnecessary.

In regards to AZ T:4:374 (ASM), we prefer to view this historic-period trash scatter as a road-related feature (i.e., a component of Black Canyon Road). While this feature may contribute to the road's Register-eligibility status, the detailed survey-level recording realized its apparent limited information potential. No further preservation treatment is warranted for this road component at this time.

We agree in principle that avoidance and preservation-in-place are appropriate treatments for the Register-eligible properties mentioned above. In fact, the transmission line may help protect historic properties by inhibiting other kinds of development within the proposed corridor. No further treatment is need for properties determined as ineligible.

However, the locations of the poles and access roads are unknown at this time, and it is likely that AZ T:7:192 (ASM) cannot be spanned or avoided. Simply avoiding impacting the three identified loci within the site is likely insufficient. When the pole locations, staging areas, and access routes are known for this transmission line segment, we suggest that the portion of site to be impacted be reevaluated and perhaps examined further. For example, the results of the proposed excavation project located adjacent to the project area may provide new information on the distribution and depth of cultural features and deposits within the site.

Based on the above, this office cannot assess the plan's effects at this time, and thus cannot concur with determination of impact at this time. Unless all historic properties can be avoided, a determination of negative impacts is likely.

If archaeological sites cannot be avoided by ground-disturbing activities, data recovery treatment within the portions of the properties directly impacted (and a buffer zone if necessary) is appropriate.

We offer the following conditions for the committee's consideration:

1) The applicant will continue to consult, on the committee's behalf, with the State Historic Preservation Office (SHPO) to reach a determination of impact. If the

result is a determination of negative impact, the applicant will continue to consult with SHPO to resolve the negative impacts.

2) The applicant will avoid and/or minimize impacts to properties considered eligible for inclusion in the State and National Register of Historic Places to the extent possible.

3) If the applicant decides that historic-period structures Beardsley Canal and Black Canyon Road and archaeological Sites AZ T:7:192 (ASM), AZ T:3:1 (MNA) and AZ T:3:2 (MNA) cannot be avoided, then the applicant will plan and implement a mitigation program in consultation with SHPO.

4) After construction, the applicant, in conjunction with the land-managing agency, if any, will allow Arizona Site Stewards, a volunteer-staffed SHPO-sponsored program, to periodically inspect the sites present within the corridor for vandalism or other damage.

5) In consultation with SHPO and the land-managing agency, the applicant will consider and assess potential direct and indirect impacts to eligible properties related to new access roads or any existing access roads that require blading.

6) The applicant will follow any instructions from the Arizona State Land Department regarding the treatment of State Register of Historic Places-eligible properties situated on their land in consultation with SHPO.

We appreciate the committee's cooperation with this office in considering the effects of state plans on cultural resources situated in Arizona. If you have any questions, please contact me at (602) 542-7137.

Sincerely,

Matthew H. Bilsbarrow, RPA
Compliance Specialist/ Archaeologist
Arizona State Historic Preservation Office

cc.
Bill Collins, SHPO
Steve Ross, ASLD; 1616 W Adams St; Phoenix, AZ 85007
Kris Dobschuetz, Manager, EPG; 4350 E Camelback Rd, Ste G-200; Phoenix, AZ 85018

General and Technical Comments on "A Cultural Resources Survey for the North Valley 230kV Transmission Line Project" Environmental Planning Group Cultural Resources Services Technical Paper No. 2002-16. Phoenix.

General Comments

1) Overall the report is professionally prepared and well-written. The photographs and maps were helpful.

Technical Comments

1) This report is the first time our office has seen the term "solarized glass." Is it the same as "sun-colored amethyst glass," a term that is also used in the report, or does it broadly include all types glass that have been affected by exposure to sunlight?

2) The terms "soldier-top cans" and "backing powder," which are used multiple times in the report appear to be typographical errors, and detract from the usefulness of the site descriptions in future research.

3) On page 144, the authorship of "The Stratigraphy and Archaeology of Ventana Cave" is misattributed.

MB

CENTRAL ARIZONA PROJECT

P.O. Box 43020 • Phoenix, Arizona 85080-3020 • 23636 North Seventh Street (85024)
(623) 869-2333 • www.cap-az.com

EXHIBIT
A-4
admitted

November 15, 2002

Mr. Michael L. DeWitt, Project Manager
Transmission & Facility Siting
Arizona Public Service Company
Mail Station 4030
PO Box 53933
Phoenix, AZ 85072-3933

Re: Arizona Public Service Company ("APS")
North Valley Project

Dear Mr. DeWitt:

As a business resident in the North Valley area, CAP attests to the significant growth occurring around us. As the operating entity for the CAP canal running generally west to east through the North Valley area, CAP recognizes APS's need to include CAP land within APS's route selection process. CAP has reviewed the material provided by Environmental Planning Group as received under cover letter from Mr. Paul Trenter dated September 27, 2002. Also, CAP appreciates meeting with you to discuss conceptually the impacts on CAP land and operations of a 230kv power line.

CAP trusts that the route selection process will result in a route beneficial to APS as well as with APS's new neighbors. This trust and our review of the material provided and our discussions lead CAP to prefer no one proposed or alternative route over another.

Thank you for the opportunity to be involved in the route selection process for your North Valley Project.

Very truly yours,

Gary Ijams
Power Programs Manager
Planning and Resources

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

NOV 18 2002

EXHIBIT
A-5
admitted

Ms. Laurie Anne Woodall, Chairman
Arizona Power Plant Line Siting Committee
c/o Attorney General Office
1275 West Washington Street
Phoenix, Arizona 85007-2997

Dear Chairman Woodall:

Western Area Power Administration has reviewed study work on the North Valley 230kV Project with Arizona Public Service as depicted on the attached map. Western finds no negative impact to its system from this project. We have been advised that Docket Number L00000D-02-0120 applies.

Sincerely,

James H. Charters
Planning Manager

Enclosure

cc:
Mr. Cary Deise, Director
Arizona Public Service Company
Power Operations & Transmission Planning
Mail Station: 2259
P.O. Box 53999
Phoenix, Arizona 85072-3999

Mr. Bob Smith, Planning Manager
Arizona Public Service Company
Mail Station: 2259
P.O. Box 53999
Phoenix, Arizona 85072-3999

Mr. Jerry Smith
Arizona Corporation Commission Staff
Utilities Division
1200 West Washington Street
Phoenix, Arizona 85007

EXHIBIT
A-6
admitted

DISCLOSURE STATEMENT
KB HOME
Phoenix

432 N. 44th Street, Suite 200
Phoenix, Arizona 85008
Arizona ROC #'s 099276, 132532

Arizona Westview
Phoenix, Arizona 85027
Maricopa County

ISSUED: 2/4/00
REISSUED: 8/15/00
REISSUED: 1/14/02
REISSUED: 3/18/02
*REISSUED: 9/23/02

KB HOME wants Purchasers to be totally satisfied customers. An important part of Purchaser's satisfaction is in knowing the information reasonably material to a purchase decision. KB HOME offers this basic information statement as a service and protection for the Purchaser.

THIS IS AN IMPORTANT DOCUMENT. KB HOME REQUIRES THAT PURCHASER SIGN THIS STATEMENT UNDER "PURCHASER'S ACKNOWLEDGMENT OF RECEIPT OF DISCLOSURE STATEMENT" AS AN INDICATION THAT PURCHASER HAS RECEIVED AND READ THE ENTIRE DISCLOSURE STATEMENT. THE INFORMATION IN THIS STATEMENT IS CURRENT AS OF THE LATEST DATE LISTED ABOVE AS THE DATE OF ISSUANCE OR REISSUANCE.

KB HOME HAS NO CONTROL OVER MUCH OF THE INFORMATION COVERED IN THIS DISCLOSURE STATEMENT, AND INFORMATION IS SUBJECT TO CHANGE WITHOUT NOTICE. THEREFORE, PURCHASERS ARE ENCOURAGED TO INDEPENDENTLY VERIFY THE INFORMATION CONTAINED HEREIN BY CONTACTING THE INDIVIDUALS, AGENCIES OR FIRMS IDENTIFIED FOR THE MOST UP-TO-DATE INFORMATION. IN ADDITION, AS INDIVIDUAL SENSITIVITIES MAY VARY WITH RESPECT TO CONDITIONS AT OR NEARBY THE COMMUNITY, PROSPECTIVE PURCHASERS ARE URGED TO INVESTIGATE THE AREA SURROUNDING THE COMMUNITY TO APPRECIATE AND/OR ASSESS NEARBY CONDITIONS AND/OR NUISANCES.

To the best of its knowledge, KB HOME Phoenix Inc. (hereinafter referred to as "KB HOME") states that the following information concerning the Community is accurate as of the date of this statement, which is set forth above.

Location: Arizona Westview (the "Community") is located in the City of Phoenix, Maricopa County, Arizona, with the entrance to the Community on the ADOT Frontage Road and Dynamite Boulevard.

Future Development and Home Design Changes: Purchaser is hereby informed that future development of the Community cannot be predicted with accuracy. KB HOME expressly reserves the right to build more or fewer than the number of homes currently planned or to change product lines; including, but not limited to, enlarging or decreasing the size of homes; adding larger, smaller or differently designed models; or changing (partially or in total) total designs and/or materials, at any point during development of this or any KB HOME community. Due to the inability to predict future market conditions with accuracy, KB HOME makes no representation or warranty to Purchaser that the Community will be built as currently planned, or pursuant to any particular buildout schedule. Topographical maps in sales offices, lot plotting maps, maps offered by master developers and other forms showing "complete" community projections do not in any way constitute KB HOME's promise to complete the Community or, if completed, to complete the Community as shown. Further, KB HOME makes no representation or warranty that it will construct or be the builder of all homes in the Community. Indeed, KB HOME reserves the right to sell, at any time, all or any portion of the lots within the Community to any third party, including other developers or builders.

All prices, terms, upgrades, and other concessions offered to other buyers are subject to change without notice at the discretion of KB HOME. KB HOME has the full right, without any obligation whatsoever to the Purchaser, to establish prices for its sales of any houses and properties constructed by or to be constructed by KB HOME in the Community, without regard to the price paid by Purchaser for its property and the home. Purchaser recognizes KB HOME's right to establish such prices include KB HOME's right to offer price reductions, allowances, additional features and any other similar incentives to future purchasers of properties in the Community without any obligation to offer any comparable incentives to the Purchaser.

Adjacent Areas: Currently, the property to the north of the Community contains CAP Canal followed by S-1 Ranch or farm residence. The property located to the west is currently designated R1-6, R1-8, R1-10, and R1-18 (single family residential-AZ Westwood) followed by S-1 Ranch or farm residence. The property located to the south is currently designated S-1 Ranch or farm residence. The property to the east is currently designated I-17/Black Canyon Freeway followed by S-1 Ranch or farm residence and property approved for R1-6 and R1-8, single family residential.

The property located within ¼ mile to the southeast of the Community on the east side of I-17/Black Canyon Freeway has been approved for CP/GCP (Commerce Park, General Commerce Park Option); Hayden Rhodes Aqueduct/CAP Canal, adjacent to the north and approx. ½ mile west; Middle Mountain, approx. 1/4 mile north; Ben Avery Shooting Facility, approx. 3 3/4 miles north; Skunk Creek, approx. ½ mile south and approx. 1/4 mile east; Deems Hills, approx. 1 miles southwest; Deems Hills Recreation Area, approx. 3/4 mile southwest; Skunk Creek Landfill,

approx. 1 3/4 miles south; Adobe Mountain Juvenile Institute, approx. 2 1/4 miles south; APS Biscuit Flat substation on the northern boundary of the Community; CAP water booster station, approximately ½ mile southwest of the Community; Adobe Mountain, approx. 2 1/2 miles south; Adobe Dam, approx. 3 miles south; Adobe Dam Recreation Area, approx. 3 miles south; Adobe Dam Golf Club, approx. 3 ½ miles southwest; Waterworld U.S.A., approx. 3 3/4 miles southwest; Victory Lane Sports Complex, approx. 3 3/4 miles southwest; McGill Ultralight Field, approx. 5 miles southwest; Agua Fria Freeway (Loop 101), approx. 4 3/4 miles south; Scatter Wash, approx. 3 3/4 miles south;Interstate 17 (Black Canyon Freeway), adjacent to the east.

APS has selected a future substation site approximately ¾ mile north of the Community. For further information, contact Mike DeWitt, APS Project Manager, at (602) 493-4446.

APS has proposed future routes for a 230KV-transmission line that may follow the west side of I-17 for approximately 3 ½ miles between Dixileta Drive and Happy Valley Road and/or along the Hayden Rhodes Aqueduct (CAP canal) adjacent to and immediately east and north of the Community. For further information, contact Michael DeWitt, Project Manager, Transmission and Facility Siting, APS, at (602) 493-4446 or visit the project web site at http://siting.apsc.com.

The Arizona Department of Transportation is conducting a corridor improvement study of Interstate 17 from the State Route (SR) 101L interchange to the Black Canyon City interchange. I-17 is adjacent to and immediately east of the Community. Due to the proximity of the Community to I-17, this property may experience noise, dust, and other nuisances associated with any proposed construction and use of the improvements to the freeway anticipated by the study. For further information, contact Tami (Tommy) Wollaston, I-17 Widening Study Project Monitor, ADOT Studies Section, at 602-712-8485 or visit the project web site at: http://www.i17wideningstudy.com.

City of Phoenix is scheduled to begin construction of the North Gateway Waste Water Treatment Plant the Summer of 2002, to be located approximately ¾ mile north of the Community. For further information, contact Jim Shannon, City of Phoenix Project Manager, at (602) 495-5407.

Although this Disclosure Statement describes current adjacent uses, KB HOME strongly recommends that prospective purchasers drive and walk around or otherwise inspect the Community and the surrounding area to familiarize themselves with local conditions such as traffic, noise, prospective future development and other factors prior to consummating their purchase transaction because different conditions may impact the purchasing decision on an individual basis.

The surrounding property is subject to future development and the zoning of the surrounding property is subject to change, and therefore future development cannot be predicted with accuracy and is subject to change. For further information on

possible future developments adjacent or near to the Community within the City of Phoenix, contact David Richert, Planning Director, located at 200 West Washington Street, Phoenix, Arizona, 85003, or (602) 262-7131.

Skunk Creek Landfill: The Community is located approximately 1½ miles north of the Skunk Creek Landfill. The landfill is located at 3165 West Happy Valley Road, Phoenix, Arizona 85027, ¼ mile west of I-17 and Happy Valley Road. The hours of operation are from 5:30 a.m. to 5:00 p.m. Monday through Friday and 8:00 a.m. through 4:00 p.m. on Saturdays, Sundays. Summer hours of operation are from 5:30 a.m. to 5:00 p.m. Monday through Friday and 6:00 a.m. through 3:00 p.m. on Saturdays, Sundays. The landfill is an active landfill that accepts appliances, cardboard, foam rubber, lead acid batteries, mattresses, scrap metal and clean, green and wood material. The landfill does not accept hazardous waste, motor oil, wet paint, or pesticides. More information regarding the landfill may be obtained by calling the City of Phoenix Public Works Department at 101 South Central Avenue, Phoenix, Arizona 85004, or at (602) 256-5600 or City of Phoenix Solid Waste Customer Service at (602) 262-7251.

Noise: Noise may be an issue for some individuals, as a result of the Community's close proximity to the I-17 freeway. Adjacent to the east of the Community is the I-17 Frontage Road, and the I-17 freeway is located adjacent to the east of the Frontage Road. The lots backed to the south side of Dynamite Blvd are more exposed to I-17 than the lots backed to the north side of Dynamite Blvd. Since they are closer to the gap in the wall created by Dynamite Blvd. A retention basin that occupies the northwest corner of the Frontage Road and Dynamite Blvd. buffers the lots (Lot 1-9) to the north of Dynamite Blvd. Tract C, Tract K and Tract L also provide some buffer to lots adjacent to the Frontage Road.

Individuals may have varying sensitivity to noise. Prior to entering into the purchase agreement for the home, Purchaser should visit the Community the particular home site, and its environs at various times of the day to assess his/her own sensitivity to noise levels there.

For further information regarding the noise analysis prepared for the Community, Purchaser is encouraged to contact Robert Esposito at Higgins and Associates, 2740 W. Shannon Court, Chandler, AZ 85224 or (480) 963-7224.

Construction and Sales Activity: KB HOME discloses that certain construction and sales activities may be occurring after occupancy within and in the vicinity of the Community. This may result in some inconvenience to Purchaser, due to increased noise and dust from the construction activities and the operation of the model homes and sales office. Construction hours often begin early (particularly in warmer climates) and sales activity will likely involve significant traffic and visitors, particularly on weekends before the Community is completely sold out.

As a result of the ongoing construction and sales activities, KB HOME also discloses that infrastructure, public and private utilities (water, electrical, cable television, sewers, storm drain, etc.) within the Community and/or servicing of the home may

be temporarily interrupted and/or adversely affected during the build-out of the Community. While KB HOME will use its reasonable efforts to minimize these service interruptions as well as other construction nuisances, traffic, noise, air quality and other environmental conditions within and around the Community, individuals may be impacted and such impact may have an adverse affect on Purchaser's enjoyment of their home from time to time.

Airport and Traffic Noise: The Deer Valley Airport is located approximately 5 miles southeast of the Community at 702 West Deer Valley Road, Phoenix, Arizona 85027. Residents of the Community may see and hear aircraft arriving and departing Deer Valley Airport, which may interfere with certain activities at the site and may be disturbing to certain sensitive individuals.

Deer Valley Airport currently has the following normal hours of operation:

Monday – Sunday	6:00 a.m. to 9:00 p.m. (Tower hours)

Deer Valley Airport can operate 24 hours per day, seven (7) days per week. The above hours of normal operations for the facility are imposed due to fiscal and manpower constraints, as well as being designed to reduce the noise impact of the operations on the surrounding community. Circumstances frequently arise which require the airport to be open beyond those times.
Although the Community lies outside of the 65-decibel noise contour line (65 DNL) for the Deer Valley Airport, flights may produce aircraft noise as a result of flight operation and may be disturbing to certain individuals. Purchasers should be aware that DNL levels compute noise levels on an average noise basis, so peaks may exceed 65 decibels.

Purchasers are urged to visit the Community and their particular home site at different hours of the day to experience the impact of current noise levels.

This information is accurate as of the date of this Disclosure Statement. Use of the airport <u>may</u> change. KB HOME makes no warranty or representation as to the future use of these facilities or future increase or decrease in overflights resulting from a change of use of these facilities. Future uses of the airport is unknown at this time; however, potential uses may include, but are not limited to, conversion into retail and/or industrial facilities, recreational parks, affordable housing, school, jail, and/or residential development. For additional information, prospective purchasers may contact Jack Schelter, interim Deer Valley Airport Manager, at 702 W. Deer Valley Road, Glendale, Arizona, 85027, (623) 869-0975.

Agricultural Operations: The Community is located near an agricultural area. Purchaser acknowledges that the types of agricultural operations are subject to change. Many procedures normal and necessary to the operation of agricultural uses such as field crops, vineyard, orchards, dairy and poultry farms and feed lots result in noise, noxious odors (particularly, fertilizer odor), chemical spraying, dust, irrigation or other potentially detrimental effects to residential use of adjacent properties. Purchaser should carefully investigate in person the potential impact of

such noise, odor, dust, spraying, irrigation or other effects resulting from the nearby agricultural uses, as these conditions may be disturbing to certain individuals.

Heavy Industry/Hazardous Materials: While KB HOME makes every effort to notify Purchaser of the current development status of adjacent properties, surrounding areas are under the control of Maricopa and the City of Phoenix and, further, are regulated by the State of Arizona. KB HOME makes no representation or warranty, whatsoever, regarding the safety of current business activities taking place in close proximity to residential areas, or future development or operation of manufacturing, industrial and/or transportation activities within the area. These uses may involve hazardous materials not normally associated with suburban residential housing development and which could, in some instances, be harmful to residents. Buyers are hereby informed that the Community is located within a diverse area with combined urban, suburban, agricultural and industrial land uses. You are urged to carefully investigate the potential impact of these uses prior to purchasing a home in the Community. For more information, please contact any of the references provided under "Present Use of Adjacent Lands."

****Power Lines/Magnetic Fields Disclosure:*** Several electrical transmission lines are located or proposed in the vicinity of the project site. In the future, high voltage power lines may be constructed along Dynamite Boulevard, Pinnacle Vista Road, 33rd Avenue, 31st Avenue, the CAP Canal northern property line, and/or I-17 Frontage Road. There have been numerous studies as to the effect of residential proximity to high power transmission lines that have concluded that electromagnetic fields transmitted from electric power lines may or may not be cancer causing or hazardous to one's health.

Please note that the size, nature, voltage and location of such power lines are <u>not</u> within KB HOME's control and are subject to change.

Since the mid-1970's, numerous studies have been conducted to determine whether or not there is a link between certain health risks and exposure to electric and/or magnetic radiation. Electromagnetic fields, commonly referred to as EMF's, are produced from or associated with electrical facilities and/or appliances, including without limitation, electrical power lines, electrical substations, microwave ovens, cellular phones and other appliances. To date, there is no conclusive scientific evidence regarding health risks associated with exposure to electric magnetic fields. Indeed, there is a wide split within the scientific community regarding the existence or non-existence of health risks associated with EMF's. Purchasers are hereby advised, however, of a possibility that such risk exists.

As a result, KB HOME hereby discloses that transmission lines <u>may</u> create health risks and may have financial or other adverse impacts on the homes or residents within the Community. In addition, there is a risk that certain pacemaker heart implant devices may not operate properly when in close proximity to certain electric power lines. The susceptibility of different types of pacemaker devices to electro-magnetic interference should be discussed with a physician.

By executing a copy of this Disclosure Statement, Purchaser expressly acknowledges and agrees that KB HOME shall have no responsibility for any costs, expenses, liabilities or obligations of any kind or nature whatsoever arising out of or in any way related to the transmission lines. For further information please contact Arizona Public Service (APS), customer service division at (602) 371-7171 or Salt River Project (SRP), customer service division at (602) 236-8888.

Correctional Facilities: The Adobe Mountain Juvenile Institute, a secure facility for male youth offenders, and the Black Canyon Juvenile Institute, a secure facility for female youth offenders, both operated by the State of Arizona, are located approximately 2½ miles south of the Community. The Adobe Mountain facility currently houses approximately 400 boys in a total of 17 housing units. The Black Canyon facility houses approximately 95 girls in a total of 5 housing units. The size of the correctional facilities and the type of offenders housed at these facilities are subject to change by state or local correction officials. For further information, contact the Adobe Mountain Juvenile Institute at (623) 869-9050, the Black Canyon Juvenile Institute at (623) 780-1303 or the Arizona Department of Juvenile Corrections at (602) 542-3987.

Registered Sex Offender Database: NOTICE: Arizona Revised Statutes §13-3821 through §13-3827 provide for the registry of sex offenders with the sheriff of the county. The Department of Public Safety maintains a sex offender profile and notification database. Public information is available on level two and level three sex offenders (but not level one sex offenders) on the Department's web site. Purchaser is hereby advised to check periodically with state and local governmental agencies and the database to obtain any such registration information. KB HOME is not providing any of this information and does not accept any responsibility for any of this information.

School Information: The Community is serviced by the Deer Valley Unified District located at 20402 North 15th Avenue, Phoenix, Arizona 85027, or (623) 445-5000. Schools in the Deer Valley School District currently operate on a traditional basis. It is our understanding that the following schools presently service the Community:

Deer Valley Unified District:

Stetson Hills School
(Grades K-7 for 2001-2002, Grades K-8 for 2002-2003)
25475 North Stetson Hills Loop Road
Glendale, AZ 85310
(623) 445-5300
Principal - Gregory Patrick

Deer Valley Middle School (Grades 7-8 for 2001-2002)
21100 N. 27th Ave.
Phoenix, AZ 85027
(623) 445-3300
Principal – Jack Dillard

Barry Goldwater High School (Grades 9-12)
2820 West Rose Garden Lane
Phoenix, Arizona 85027
(623) 445-3000
Principal – Carol Patterson

As information can change rapidly, we strongly recommend that Purchasers contact the school district or districts directly for the most up-to-date information regarding placement, scheduling, transportation, etc., at the public schools. Purchaser acknowledges and understands that Seller has no control over which schools the children living in the Community will be attending; the determination is made by the School District(s) and may be changed at any time without prior notification. Any questions relating to schools should be directed to the School District(s).

Public Transportation: As of the date of this disclosure public transportation service is available near this area. There is a bus stop at 31st Avenue at Yorkshire and another at 29th Avenue at Beardsley. This information is subject to change. For exact scheduling costs and further information, please contact Phoenix Public Transit Department at (602) 262-7242 or Valley Metro at (602) 253-5000.

Public Recreation: The local community park currently located near the Community is Deer Valley Park, 2001 West Wahalla Drive, Phoenix, Arizona 85027. This park has a community center, lit basketball courts, an exercise course, grills, picnic area, playground, pool, soccer field, lit softball, lit tennis, lit volleyball (sand and asphalt), and restrooms. Deer Valley Pool is located at 19400 N. 19th Avenue, Phoenix, Arizona 85027, approximately 8 miles southeast of the Community. Deem Hills Recreation Center is a future park site and will be located at 39th Avenue and Pinnacle Vista Road, approximately 5 miles southwest of the Community. This recreation center will have hiking trails. Although these facilities are operational or proposed as of the date of this Disclosure Statement, they are subject to change and closure. For further information on community services and recreation, please contact the Northwest District Office of the City of Phoenix Parks and Recreation Department located at 3901 W. Glendale Ave., or (602) 262-6575.

Shopping Facilities: The following are several neighborhood shopping centers currently located close to the Community. Union Hills Village, which includes a Walgreen's, is located approximately seven miles south of the Community on the northeast corner of 19th Ave. and Union Hills Drive. Union Plaza, which includes a Fry's supermarket, is located approximately seven miles south on the southwest corner of 19th Ave. and Union Hills Drive. Legends Center is located approximately 10 miles south on the northeast corner of 67th Ave. and Beardsley Road and it includes a Safeway supermarket. MetroCenter Mall is located approximately 12 miles south on the southwest corner of Peoria Ave. and Black Canyon Freeway/ I-17. Arrowhead Towne Center is a regional shopping center located approximately 13 miles from the Community on the northwest corner of Bell Road and 75th Ave. Although the shopping facilities described are currently operational, they are subject to closure or other change.

Fire and Police: Fire protection is provided by the City of Phoenix Fire Department. For general information, please contact the City of Phoenix Fire Department at (602) 262-6297. The City of Phoenix Police Department provides police protection. For general information, please contact the City of Phoenix Police Department at (602) 262-7626. For emergency fire or police services please call 911.

Hospital: John C. Lincoln Hospital – Deer Valley is located at 19829 North 27th Avenue, Phoenix, Arizona 85027, or (623) 879-6100, approximately 5 miles southwest of the Community.

KB HOME cannot guarantee the establishment of, the future of or the continuing operation of any of the facilities or services listed in the Schools, Shopping Facilities, Public Recreation, Public Transportation, Hospital Facilities, Fire, Police, Utilities sections, but provides this information as a courtesy to its customers. None of the facilities listed are guaranteed by KB HOME to be completed or operated continually.

Real Estate Taxes and Assessments: Purchaser acknowledges it shall take title to the Property subject to any real property taxes or assessments arising by reason of the inclusion of the Property in any special improvement district and/or local improvement district. Purchaser has satisfied itself with regard to the services performed by, the rules and regulations of, and the taxes, assessments and other fees charged by such districts, if any. Purchaser acknowledges that the Property is and will be subject to all assessments, special assessments and other charges and burdens having been or which may hereafter be imposed upon the Property by reason of the Property's inclusion in such district or another district which is established or may hereafter be established, and expressly agrees to timely pay all such assessments, special assessments and other charges and burdens imposed by such districts, and other taxing, assessing and levying authorities. For further information, Purchaser should contact the applicable district(s) directly.

ALL INFORMATION REGARDING ASSESSMENTS IS BASED UPON INFORMATION PROVIDED BY THE APPROPRIATE GOVERNMENTAL AND QUASI-GOVERNMENTAL AUTHORITIES AND MUST BE INDEPENDENTLY VERIFIED BY PURCHASER.

Real estate taxes for the homes in the Community are determined by multiplying the applicable tax rate by every $100.00 of assessed valuation as determined by the Maricopa County Tax Assessor. For the purchaser of a lot in this Community, the "full cash value and limited value" of the lot will be the valuations, as reflected on the tax roll, determined by the Maricopa County Tax Assessor. Full cash value is used to determine the secondary tax amount and limited value is used to determine the primary tax amount. Each value is multiplied by an assessment ratio of 10% to determine the assessed value. The Maricopa County Treasurer calculates the tax bill by dividing the assessed value by 100, then multiplying by the current applicable tax rate. The tax rate has two parts, primary and secondary. For the year 2001, the primary tax rate for this Community is 7.9448 and the secondary tax rate is 5.2744.

To obtain an estimate of the annual property taxes for a lot, the Maricopa County Assessor's Office suggests that the sale price of the home be used and the primary and secondary tax rates be combined. For example, based on the combined primary and secondary property tax rate of 13.2192 and an average sale price of $118,876, the estimated annual property taxes would be $1,571.45. (property value of the home may be less than the purchase price). Estimated annual property taxes = (10% x Average sale price / 100) x (Primary rate + Secondary rate).

THE TAX RATE IS SUBJECT TO CHANGE AND THEREFORE THE AMOUNT OF TAXES SET FORTH ABOVE ARE APPROXIMATE ONLY AND SUBJECT TO CHANGE.

For further information regarding the taxes, prospective buyers should contact the Maricopa County Treasurer at (602) 506-8511 or the Maricopa County Assessor at (602) 506-3406, 301 West Jefferson, Phoenix, Arizona, 85003.

***Supplemental Tax Bills: Purchaser* acknowledges and understands that the Tax Assessor has the authority to re-assess newly constructed homes after the Purchaser acquires title to the home and that upon such re-assessment, the Tax Assessor may then issue a supplemental tax bill to Purchaser for the tax difference resulting from any re-assessment. Purchaser acknowledges and understands that Seller has no control over the assessment, nor the timing or the amount of any supplemental bill resulting from the re-assessment and Seller accepts no responsibility for adjusted taxes.**

Covenants, Conditions and Restrictions: Many new residential communities are subject to recorded restrictions which are generally designed for the protection of the neighborhood as a whole. The Covenants, Conditions and Restrictions ("CC&Rs") which apply to the Community were recorded October 22, 1999 as 99-0978276, as amended by Amendment recorded January 18, 2000 as 00-0037142, and Second Amendment recorded January 11, 2002 as 2002-0034367A, in the Maricopa County Recorder's Office. It is KB HOME's practice to provide a copy of the CC&Rs to Purchaser for review during escrow. The CC&Rs are also described in Purchaser's title report. If a copy of the CC&Rs has not been provided to you, be sure to request a copy from the sales representative or from escrow sufficiently prior to the close of escrow to make an adequate review. Purchaser is strongly advised to carefully review the recorded CC&Rs for important information affecting the use of Purchaser's property.

During the period that KB HOME is the "Declarant" under the CC&Rs, KB HOME has the right but not the obligation to enforce the CC&Rs.

Design Review Committee: Under the terms of the CC&Rs, the Homeowners Association will establish a Design Review Committee to review plans and specifications for construction of improvements within the Community, including both new home construction and exterior changes or improvements. Section 5.7 of the CC&R's provides that the "design, size, color, location and elevation" of any improvement or landscaping, "and all changes thereto, must be approved by the

Committee prior to installation". Any improvements constructed by Purchaser or on Purchaser's behalf MUST BE PRE-APPROVED by the Design Review Committee and once built, must be maintained by Purchaser. Purchasers are urged to review the criteria set forth in the CC&Rs for Design Review Committee review and approval.

Homeowners Association Dues: When Purchaser purchases a home in the Community, Purchaser automatically becomes a member of the Community's Association ("Association") and as a homeowner/member Purchaser will be required to pay monthly dues to the Association which will be used to operate the Association. Purchaser acknowledges receipt of the articles of incorporation, bylaws, and covenants, conditions and restrictions for the Association and expressly agrees to be subject to and bound by the Association and to pay all fees, charges, surcharges, levies, dues and assessments, in whatsoever nature or form, relating to the Association. Purchaser may obtain information regarding the dues structure by reviewing the above-referenced documentation as well as by contacting the Association.

Purchaser's monthly dues will vary from time to time as the maintenance and operation costs of the Association change and as additional phases are annexed into the Association, as applicable. The amount of $28.00 monthly dues is based on a budget for the Association's operations prepared by City Property Management effective January 1, 2002 (the "Budget"). It is hereby disclosed that such dues amounts and Budget are subject to revision by the Association pursuant to its by-laws. Since facts and circumstances related to the Budget or dues levels may change, KB HOME makes no representation regarding the amount of future assessments. Purchaser is urged to review the Budget in detail and the Final Public Report for the lot to satisfy any questions on the estimate of the monthly assessment.

Model Homes: KB HOME has constructed and decorated model homes to show prospective homebuyers what types of features could be incorporated into the Community's homes and to be helpful in providing homebuyers with possible decorating ideas.

For many reasons, such as the unavailability of materials, design changes, field conditions and other circumstances, changes may be made to the production homes from the plans and specifications used to construct the models. Prospective purchasers are urged to review the plans and specifications described elsewhere in this Disclosure Statement for the most up to date listing of materials. The model home items which have been substituted or are most likely to require substitution are listed within this Disclosure Statement under the heading "Changes in Materials and Specifications." After Purchaser has entered into a contract for the purchase of a home in the Community, changes in materials or specifications may be made without Purchaser's consent provided substantially similar materials are substituted.

Model home displays exhibit certain paint, furnishings, decorations and interior and exterior design features, which are considered "decorator items" and are not

available for purchase. These items are listed under the heading "Model Home Decorator Items" in this Disclosure Statement and are also identified in the model homes themselves in placards listing such items near a model entry or by identification tags.

KB HOME also offers certain upgrades or optional items for purchase for fixed prices prior to the start of construction. These items are listed under the heading "Optional Items" and typically include available flooring upgrades, appliance upgrades, room reconfigurations, and other upgraded features. Once the construction of a home has started, these options or upgrades will no longer be available for purchase. It should be noted that if Purchaser desires to obtain a "decorator" item which does not appear on the list of "Optional Items" below, it cannot be provided by KB HOME even upon the payment of additional charges.

Model Home Decorator Items: A list of model home "Decorator Items" which are not available for purchase will be available for review in each model. Purchasers are urged to review on-site "Decorator" identification for the most up-to-date description. The list of Decorator Items which are anticipated to be in the models but unavailable in production for-sale units is as follows:

1. Backyard landscaping and backyard irrigation systems;
2. Front yard landscaping upgrades;
3. Decorative patios and concrete work including special stoops, porches, model home walk treatments and courtyards;
4. Hardscape items such as: fountains, tile areas, decks;
5. Patio furniture, exterior ceramic pots;
6. Exterior spotlights, extra Sales Office lighting and decorative landscape lighting;
7. Sales Office interior, garage extensions in Sales Office, front doors, and extra windows;
8. Larger than normal furnace and air conditioning units used on model homes with garage offices;
9. Interior paint which is other than off-white including baseboards, window sills, stair rails and door casings;
10. Wall coverings, wall stenciling, murals and window coverings;
11. Mirrors on walls and ceilings other than bathroom vanity;
12. Special effects and built-ins, including chair rails and crown moldings;
13. Furniture, accessories, lamps and track lights;
14. Interior and exterior plants;
15. Included light fixtures hung to swag;
16. Thermostat covers;
17. Automatic front door closures;
18. Solar window tinting on windows and sliding glass doors used to protect furniture and carpets;
19. Locking devices used to permanently close the windows and patio doors in the models;

20. Wood and ceramic tile flooring in those areas not offered as "optional" including exterior tile work;
21. Carpet, vinyl, or ceramic tile that may no longer be available in the KB HOME Studio;
22. Area rugs, carpet borders and inset carpets;
23. Burglar alarm systems;
24. Glass, linen or pantry doors with special lock, switch, and light;
25. Return air vents painted black (inside grate);
26. Gas logs for fireplace; and
27. Texture preparing selective walls to receive wallpaper.

Changes in Materials and Specifications: With the exceptions of landscaping decorator items and option items found in the models and described above, homes in the Community will be similar to the model homes. However, for many reasons, including the length of time which sometimes separates the construction of the model homes and the construction of Purchaser's production home, certain items displayed in the model homes may require substitution. These items may include, but are not limited to:

1. Light fixtures;
2. Kitchen, bath and linen cabinets;
3. Plumbing fixtures;
4. Bathroom vanities;
5. Windows and patio doors;
6. Roof material;
7. Door hardware brands; and
8. Heating and cooling equipment brands.

As of the date of this Disclosure Statement, no changes have been made from items displayed in the model homes.

KB HOME hereby discloses to Purchasers that once the Purchaser enters into a contract for the purchase of a home, changes in materials or specifications can be automatically made without Purchaser's consent provided substantially similar or better quality materials are substituted.

Optional Items: The model homes display certain Optional or Upgrade Items which are available to our customers at an additional fixed charge before the home starts. A sales representative can provide Purchaser with those charges. These Optional or Upgrade Items are identified in the model homes themselves via small placards or stickers or are a list of such items is displayed near the model entrance:

1. Room conversions per plan
2. Mirrored wardrobe doors
3. Air conditioning upgrades
4. Appliance upgrades
5. Spacesaver microwaves
6. Garage door openers

7. Tub enclosures in both baths
8. Extensive selection of upgraded floor coverings
9. Security System prewires
10. Garage service doors
11. Garage door windows
12. Programmable thermostat
13. Upgraded doors
14. Upgraded cabinets
15. Upgraded countertops
16. Upgraded sinks
17. Upgraded faucets
18. Upgraded lights
19. Spas and Pools
20. Music systems, including speakers;
21. Patios and patio covers per plan
22. Stair railing per plan
23. Various electrical options
24. Various plumbing options
25. Tinted windows

The carpeting and pad displayed in the model homes are typically of a higher grade than that included in the flooring which is included in the base price of the Community homes. Most of the carpet, vinyl and ceramic floor treatments found in the models are available through KB HOME Studio located at 1860 W. University Drive, Tempe, AZ, 85281, (480) 858-8960. Some treatments, however, may not be available at time of purchase.

Optional Items and prices are subject to change without notice. KB HOME only agrees to provide those options and prices offered on the date a sales contract is signed by both KB HOME and Purchaser. Purchaser should also note, however, that once the construction process of a home has started, certain options may increase in cost and specific options may not be available for purchase. A sales representative can provide additional information regarding additional costs. Purchaser must be aware that any selections that Purchaser makes are final.

Many of the available Upgrade and Optional Items shown at the models are also on display at the KB HOME Studio located at 1860 W. University Drive, Tempe, AZ, 85281, (480) 858-8960. Purchasers are <u>required</u> to visit the studio to select carpeting, finishes and other materials for their home. Studio representatives will assist Purchasers with their selections and guide them through the pricing and fit with the model selected.

The above-referenced items will be chosen by the Purchaser in KB HOME's Studio after entering into a purchase agreement. Upon KB HOME's receipt of written notification of loan approval from Purchaser's mortgage lender, these items will be released for installation. If Purchaser should cancel the contract to purchase the home after any such items have been ordered the costs of these items will be deducted from the deposit and retained by KB HOME. The balance of Purchaser's

deposit will be treated as governed by the terms of the sales agreement. Purchaser's signature on this Disclosure Statement under "Purchaser's Acknowledgment of Receipt of Disclosure" signifies that the Purchaser understands, agrees, and consents to these terms.

Standard Features: The base price of a home constructed by KB HOME includes the features listed below, plus the standard lot only: Standard carpeting is also included in the purchase price of the home and carpet must be ordered through and installed by KB HOME prior to the close of escrow.

Exterior:

Rear yard fencing with one (1) access gate to front yard
Variety of elevation styles
Enclosed garage
Adobe gray aluminum framed windows
Color-blended tile roof
Tile house numbers
Sectional garage doors

Entry:

Raised panel entry door (paint grade)

Living Areas:

Sliding glass doors to outside
Wall-to-wall carpeting (per plan)
Pre-wired for cable television

Kitchen:

Laminate counter tops
Dining nook (per plan)
Slide-in range/oven
Dishwasher
No wax vinyl floor coverings
Pre-wired for telephone

Bathrooms:

Shower rod in both baths
Medicine cabinet with mirror
Fiberglass shower surrounds in both baths
Counter top length vanity mirrors

Bedrooms:

Master bedroom suite w/ adjoining private bath
Wall-to-wall carpeting

Energy-saving Features:

Dual-pane windows as designated (per plan)
Fully insulated exterior walls and ceilings
Insulated energy-saving hot water heater
Dishwasher with low flow cycles
Honeywell thermostat
Pressure equalizing safety shower valves

Features Also Included:

Direct garage access from living area
Screens on all opening windows and sliding glass doors
Tempered safety glass sliding doors
Decorator light fixtures, door hardware and faucets
Smoke detectors
Textured ceilings

Pricing: By executing the acknowledgment of this Disclosure Statement, Purchasers acknowledge that KB HOME, as Seller, has the full right to establish prices for the sale of properties in the Community (or any other community developed by KB HOME), without regard to the price to be paid by the Purchaser or any other purchasers for any specific lot within the community. Purchaser acknowledges KB HOME's right to have offered or to offer lower prices, price reductions, financing incentives, bought-down interest rates, Studio allowances, new floorplans, additional features, and other similar incentives (collectively, "Incentives") to past or future purchasers of properties in the Community (or any other community developed, constructed or sold by KB HOME) without any obligation to offer any comparable Incentives to the Purchaser. The Purchaser further acknowledges that it has satisfactorily negotiated its purchase price for a particular property (and improvements) within the Community and that Purchaser is fully satisfied with such price and the Incentives received in connection with the negotiation of such price. Other than Purchaser's contracted price, all other prices, terms, upgrades, and other concessions, are subject to change without notice at the discretion of KB HOME, including changes in the model homes offered for sale, specification levels in future homes, etc. Purchaser also acknowledges that Studio coupons, or other incentives distributed by KB HOME at various times as part of mass marketing campaigns, must be presented at the time of purchase or they are invalid and will not be honored.

Availability of Desired Model and/or Elevation: If construction has not begun on a Purchaser's contracted home at the time of entering into the purchase agreement, Purchaser will, depending upon the available lot inventory in the Community, generally be able to select the model (the "Desired Model") and the elevation Purchaser desires (the "Desired Elevation") to be constructed on the lot it has selected <u>subject to the restrictions set forth below and subject to the contents of the Community's "Fit List" identifying the types of models and elevations that KB HOME believes to be suitable for each particular lot then for sale in the Community</u>.

Further, it is important that Purchaser understand, however, that in certain situations (a) KB HOME may not have received, as of the date of Purchaser's execution of the contract, all necessary approvals from the applicable building department or other municipal agency to build the Desired Model and/or the Desired Elevation on the contracted lot and/or (b) it is possible that KB HOME will not be able to obtain a permit, or it will otherwise be impractical, to construct the Purchaser's Desired Model or Desired Elevation on the contracted lot despite the contents of the Fit List. In either of such events, KB HOME shall promptly notify the Purchaser of such event and, not later than ten (10) days after Purchaser's receipt of such notice, Purchaser will be able to elect one of the following options, which will be the Purchaser's sole options in such event:

(a) Select a different Model and/or Elevation for which it is possible and practical to construct on Purchaser's lot and enter into a new contract or contract addendum outlining the revised terms of agreement, or

(b) Elect to have the Desired Model and Desired Elevation constructed on a different Lot within the community on which it is possible and practical to construct Purchaser's Desired Model and Desired Elevation and enter into a new contract or contract addendum outlining the revised terms of agreement.

In the event option (b) is selected, the purchase price may be adjusted to account for differences between the prices of the models or to account for lot location. Such price adjustment will be consistent with KB HOME's general pricing structure within the Community in which the Purchaser's lot is located, but Purchaser shall not be entitled to any other adjustment in price as a penalty against KB HOME or as compensation to Purchaser.

If Purchaser fails to elect one of the above within such ten-day period, Purchaser shall be deemed to have elected to terminate the Sales Agreement, in which event (i) all funds previously deposited shall be returned to Purchaser less any authorized disbursements as provided in the Sales Agreement and (ii) neither party shall have any further obligation under the Sales Agreement.

Construction Schedule and Completion Date: Unless a senior officer of KB HOME has provided a clear written statement that a particular home is available for immediate occupancy, all homes will require substantial construction before they are ready for sale and/or occupancy. Projecting the timing of the completion of construction is difficult and delays in completion are common. KB HOME will use its best efforts to keep Purchaser informed of delays in the construction schedule to assist in scheduling moving and move in dates; <u>however</u>, Purchaser understands and acknowledges that: (a) KB HOME makes no representation as to the actual date of completion of the home, (b) any target completion dates and move in dates provided by sales or construction staff represent estimates only; and (c) are subject to adjustment and change (including any <u>periodic</u> updates). Prospective purchasers are hereby notified that KB HOME will not be responsible for inconvenience, loss or expense (including costs of scheduling movers, storage time, etc.) to the Purchaser resulting from delays in completion of construction of Purchaser's home.

Home Plans and Specifications: Plans and specifications for each home being offered for sale in the Community are available for inspection at the Sales Office during normal business hours. Such specifications include descriptions of the materials and components used in the construction of homes in the Community.

All home plans are owned by KB HOME and are the subject of copyright law protection. KB HOME does not permit its architectural plans to be copied or removed from the Sales Office under any circumstances.

Plans are subject to minor variations including room dimensions and window locations. Items displayed as Standard Items in model homes which have been substituted with substantially similar items are identified in the plans and specifications available for review in the Sales Office. Renderings, topographical maps and floor plans shown in the Sales Office, sales brochures and/or advertising may not be drawn perfectly to scale. Home renderings are intended as an artist's conception only and show non-standard landscaping.

Adjustments: A home is a very unique product engineered with several thousand component parts, many of which are natural materials. All new homes are subject to changes in the first several months as materials dry out and naturally settle. Such settlement occurs in virtually all wood-frame construction. During this process, natural phenomena such as small hairline cracks in wood, concrete brick and stucco, lumber shrinkage, joint separations and slight re-alignments of moldings, trims and door jams may appear in Purchaser's home. In addition, various appliances and operating components of Purchaser's home may also require fine tuning or adjustments after initial move-in. To the extent these types of occurrences are covered by the KB HOME Limited Warranty, they will be responded to by KB HOME upon submission of a written claim in compliance with the procedures outlined in the Warranty. Purchaser is strongly encouraged to review the KB HOME Limited Warranty for precise details regarding coverage and methods of making claims. The Limited Warranty is described elsewhere in this Disclosure Statement and will be provided to the Purchaser for review upon entering into the Purchase Agreement for Purchaser's home.

Square Footage: Advertisements, marketing materials, model numbers or other plan type identification, which contain or refer to square footage measurements of homes are approximate. Different standards of measurements may yield different results. For example, the square footage measurements used by property Tax Assessors, multiple listing services, real estate appraisers and/or brokers in particular communities each could differ from the standards of square footage measurement used by KB HOME. Purchasers should rely upon their own inspection of the model homes, floor plans and other material available in the sales office to determine their satisfaction with the size of the home selected.

Garage Sizes: Typically, the two-car garage size in homes constructed by KB HOME is 20 feet in width by 20 feet in depth. In some instances, where permitted

by applicable municipal zoning ordinances or building codes, two-car garages may have dimensions of less than 20 feet in width or less than 20 feet in depth.

In the event that a two-car garage contains one or more dimensions that are less than either 20 feet in depth or 20 feet in width, certain purchasers may find it difficult to park two vehicles in the applicable garage. As a result, prospective purchasers are urged to review the specific garage sizes with respect to the plan they have selected carefully, including comparisons of that space with the measurements of the width and depth of the automobiles (with doors or trunk open) they plan to park in the garage.

With respect to three-car garages, the garage area for the third car is typically of different dimensions than the two spaces available in the two-car component of the garage. Purchasers are urged to review the plans and specifications and the exact dimensions of the space allotted for the third car to determine if the dimensions of the planned third car garage will "fit" the needs of the prospective purchaser.

KB HOME is not responsible for, or bound by, any statement or agreement by a salesperson or agent relating to the size of garages representing that a prospective purchaser's automobile or automobiles will "fit" in any garage unless such statement or agreement is in writing and is signed by the President or Sales Manager of KB HOME.

Visiting the Home/Community Before Move-In: Purchasers are certainly welcome to visit the Community or their prospective home site after contracting for a home and before moving in. Indeed, Purchasers are urged to familiarize themselves with the Community and surrounding neighborhood before contracting to purchase their home in order to assess potential impacts of noise, traffic, available commercial and recreational amenities and the purchasers' personal sensitivities to such concerns.

During visits to the Community, Purchasers must be aware that Purchaser's lot is located within a construction area of the Community and that such construction sites are potentially dangerous. KB HOME will permit the Purchaser to enter their lot and the construction area surrounding the lot provided that Purchaser is fully aware of the risks of such entry.

First, KB HOME strongly recommends that the Purchaser be accompanied by their Sales Representative, or another representative of KB HOME, on any and all visits to the home. Second, KB HOME further requests that such visits be limited to non-construction hours but during Sales Office hours (generally 4-6 p.m. on weekdays and on weekends). Third, by signing this Disclosure Statement, Purchaser acknowledges that KB HOME has warned Purchaser that such entry is DANGEROUS and POTENTIALLY HAZARDOUS. There are numerous risks of injury to person and property associated with visiting a home or the construction site during construction because of conditions including, without limitation, open trenches, construction traffic, potential falling debris, exposed nails and electrical wiring, incomplete construction and certain other potential hazards. Fourth, by signing this Disclosure Statement, Purchaser agrees that during any site visit it shall

proceed at its own risk and it releases and waives any claims against KB HOME and all of its affiliates, parent and subsidiary companies, officers, directors, employees, attorneys, assigns and any and all other persons or entities that could be potentially liable to Purchaser as a result of any injury which may occur during Purchaser's visit to the lot or to any portion of the Community. Fifth, Purchaser agrees to use due care, including without limitation, the wearing of hard hats and protective footwear.

Orientation Scheduling: It is KB HOME's policy that prior to the time Purchaser has taken title to the home, KB HOME representatives from the Sales, Customer Service, and Construction Departments will have carefully examined the home to insure that it is ready for customer orientation, and subsequent key release and occupancy. Closing and possession of the home shall occur three (3) days after the orientation. The Customer Relations Department will contact Purchaser to schedule the orientation within approximately 30-45 days before escrow on the home is scheduled to close.

Investment: Purchaser acknowledges that it has not relied upon nor has KB HOME made any representation or warranty with respect to any prospective tax benefits of home ownership or price appreciation of Purchaser's new home. Purchaser acknowledges that any current federal income tax law benefits of home ownership are subject to qualification and such laws are subject to repeal, revision or other challenge. Further, KB HOME cannot control the "up" or "down" cycles of the housing markets in which it builds and under no circumstances has it made any representation, warranty or guaranty of price stability or appreciation.

Appliances and Equipment: New homes constructed by KB HOME contain numerous appliances and types of mechanical equipment which, if used improperly, could result in (a) damage to the particular appliance or mechanical equipment or (b) damage or injuries to persons or property. Typically, at the customer orientation, KB HOME personnel will demonstrate the basic operations and safety precautions for such appliances and equipment and homeowners will also be provided with applicable instruction manuals and warranties. Manuals also typically contain safety precautions as well as operating instructions. Be sure to review each instruction manual carefully; however, please note that the manuals cannot cover all possible situations that may arise in the operation of appliances and mechanical equipment. Common sense, caution and care must always be used. Purchasers are notified that appliance manufacturers often include toll free telephone numbers for questions regarding maintenance, or repairs of their appliances. When warranties of at least one year are provided by manufacturers, such warranties supersede and are in lieu of KB HOME's one-year appliance warranties (see KB HOME Limited Warranty for details).

Exterior Colors: In many KB HOME communities, specific exterior colors will be required by cities or master developers for the homes erected on particular lots. In the instances in which color schemes have been pre-selected or the color of Purchaser's home has been pre-determined, such colors may not be changed. Indeed, Purchaser's ability to change the exterior paint color after assuming

ownership of the home closing may be limited by other restrictions such as CC&Rs or design guidelines.

If exterior elevation color selection or other rights to choose the materials or appearance of the home's elevation are permitted as part of a pre-sale process, Purchasers will be informed of applicable color selections.

Colors identified for selection by Purchaser or required for particular lots may vary slightly from the color or materials presented at selection even though KB HOME and its subcontractors will strive to match the color of Purchaser's home on our color chart. KB HOME reserves the right to revise all or part of the designated color schemes at its discretion.

KB HOME disclaims any representation regarding "washability" of any interior or exterior made by its sales representatives or Studio representatives unless in writing signed by an officer of the company.

Tile; Grout Colors: Ceramic tile is subject to cracking, chipping and scratching if heavy or sharp objects are dropped on it or if abrasions occurs. Tile grout has a tendency to crack in corners, especially where it meets a trim surface such as baseboards or sheet rock. This type of cracking can generally be remedied by caulking of tile grout.

KB HOME is not responsible to precisely match any colored grout, sanded or non-sanded, as portrayed in model homes or Studio selection options with respect to interior or exterior tile. All grout is pre-mixed by the manufacturer and blended for color at their factories. Grout colors cannot be guaranteed against impurities in the local waters that are mixed with grout or against drying or against other causes of color variation. These, as well as other factors, can cause grout colors to vary in shade when compared to the color palettes or boards used in the selection process.

Wood Products and Finishes: The homes constructed in the Community may include cabinets, handrails and other features with wood finishes which are stained with a water based product. As the finish matures and depending on the use and the exposure to ultraviolet light, some discoloration may occur.

Additionally, wood colors and textures vary and will receive finishes differently. This can cause variations in final color of the product. As a result, Purchasers are advised that in the months after move-in, they may detect a slight color difference in the woodwork in the new home as compared to the materials which are shown in the models, production homes and/or the Studio, but such discoloration does not identify any defect in the cabinetry products.

Varnished wood surfaces (including cabinetry when applicable and exterior doors) also require ongoing maintenance and care and may, depending on degree of exposure to the sun and other elements, need to be revarnished as frequently as once a year to maintain optimal appearance. Refinishing of exterior doors is the responsibility of homeowners.

Windows: Windows, excluding sliding doors, at the Community may be dual-glazed. Many homeowners have their windows tinted with Mylar or similar film after taking title to the home. Since this film is applied to the glass surface facing the inside of the house, a particular problem may develop that will threaten the integrity of dual-glazed windows and doors. Most failures of dual-glazed units are due to moisture condensation that can be traced to the presence of tinted film on the inside of the glass. The deflection caused by the tinted film creates heat build-up and consequent expansion within the airspace of the dual unit, and destroys the butyl seal. Water vapor can thus be admitted causing condensation between the planes of glass. In addition, cracking of window panes may occur.

Window manufacturers, installers and KB HOME will not be responsible for replacement of dual glazed windows should window tinting be applied. **Purchasers are hereby informed that the use of such window tinting products voids any warranty of dual-glazed windows**.

Excessive condensation -- most likely to occur in wintertime -- should be avoided to lessen the chance of window sill or interior drywall damage. Please see the Condensation and Mold section below for some practical tips on reducing condensation.

Smoke Detectors: Public health and safety law adopted in the State of Arizona requires that all new dwelling units contain an approved smoke detector which sounds an alarm audible in all sleeping areas. These smoke detectors may be battery-powered or hard-wired in the building's primary source of power and must meet the safety standards prescribed by state law.

Smoke detectors will be appropriately installed in Purchaser's home in accordance with this Code provision. Please be aware that it is the Purchaser's obligation (and <u>not</u> the obligation of KB HOME) to regularly test and maintain the lawful, working condition of these smoke detectors in the future and with respect to any future sale of the home to any third party. On most of these smoke detectors (but not all), testing can be done by firmly pressing the light lens located near the center of the cover for a few seconds. If working, the alarm will sound on smoke detectors that operate on the home's electric current. A battery backup is provided so that the detector operates in power outages. On most of these smoke detectors, a chirping noise is sounded if the battery is low. Some smoke detectors operate on battery power only. These batteries must be tested periodically as the batteries will eventually require replacement.

AREA	INSULATION TYPE	PRE-INSTALL THICKNESS	APPROXIMATE R-VALUE
Exterior Living Area Walls	Fiberglass Batts & Stucco Foam Board	3½ " 1"	R-19
Exterior Ceilings	Fiberglass Batts or Blown Fiberglass/Cellulose	10" 8" to 12½ "	R-30 R-30
Walls Between Living Area Common to Garage	Fiberglass Batts	3½ "	R-13

Insulation type in the exterior ceiling areas varies due to accessibility. The thickness of the insulation can vary slightly according to the manufacturer's specifications. R-value claims are those of the manufacturer for the stated thickness of the insulation material.

Water Conservation: State law requires that all new homes constructed in Arizona use toilets which use no more than 1.6 gallons of water per flush and flow restricters in shower heads.

The applicable toilets are designed for normal toilet tissue usage only. Even paper towels, excessive tissue or other foreign matter may cause a stoppage. In the event of stoppage caused by improper use, repair of such stoppage will not be covered by the KB HOME Limited Warranty and in such event the plumbing contractor dispatched by KB HOME will charge for the service call. If evidence indicates improper usage of the toilet and damage to floors, etc. has occurred, the plumbing contractor cannot be held responsible.

Purchasers may detect reduced water pressure from shower heads in situations in which flow restricters have been installed if prior residences were not so equipped.

Condensation and Mold: Governmental agencies may impose energy efficiency requirements in residential construction. While energy efficiency is obviously very important, one of its consequences is that homes are more airtight today than they were before energy efficiency requirements were enacted. Because of the resulting restricted airflow within homes, today's homes are typically subject to increased condensation levels. You may notice condensation around windows, windowsills, window tracks, and sliding glass doors. When possible and feasible in conjunction with outside weather conditions, KB HOME recommends opening windows slightly (considering comfort and security) to increase airflow and to reduce condensation levels. Bathroom and kitchen exhaust fans should be operated when moisture is being generated (showering, boiling liquid, cooking with gas). Windows in bathrooms and adjoining rooms should also be opened, at least partially (considering comfort and security) during hot showers and baths to limit condensation. If you notice excessive condensation in your home, we recommend that it simply be wiped dry with a common absorbent towel as much as on a daily basis. It is important to not leave excessive condensation in place because it can lead to deterioration of wood and drywall surfaces and to mold growth. For this reason, KB HOME also discourages anything other than occasional usage of

humidifiers in the home because regular use of humidifiers can lead to excessive condensation and mold.

Molds are ubiquitous micro-organisms, which constitute approximately twenty-five percent of the biomass on the planet. Mold exists outdoors and indoors and performs ecologically vital functions in eliminating dead and decaying organic material (for example, leaves and compost). To "live", mold requires moisture and food. Some of the common household materials that allow mold growth include food, garbage, clothing, plants, compost, drywall, carpet, insulation, lumber, among other items, provided they remain moist for several days or weeks.

Mold spores easily become suspended in the air and are regularly exchanged between indoor and outdoor environments through the air, by clothing and shoes, and many other items brought into the home. Some molds, in elevated airborne concentrations, may cause allergic or hay fever symptoms in people who are sensitive to mold. In some cases, people who are highly sensitive to mold may have asthmatic or other reactions. Individuals with suppressed immune systems may be at risk for mold infections. Such infections are rare, but may be a significant concern for this highly sensitive group.

Good housekeeping practices (regular vacuuming and other cleaning) should help keep mold levels normal. Bleach solutions and tile cleaners often have ingredients that will eliminate and/or prevent mold growth. Check your local grocery store and review product labels for products that are specifically designed to eliminate mold and mold growth. On hard surfaces, homeowners should wash mold off and completely dry the surfaces.

The best way to prevent uncontrolled indoor mold growth is to control moisture and to promptly eliminate it. When excessive moisture or water accumulates indoors, abnormal mold growth may occur, particularly if the moisture problem remains undiscovered or uncorrected, and materials stay damp for days or weeks. In order to minimize moisture, homeowners should: immediately fix leaky plumbing or other sources of water or moisture; keep air conditioner, refrigerator and dehumidifier drip pans clean and dry; use exhaust fans or open windows slightly (considering comfort and security) in kitchens and bathrooms when showering, cooking or using the dishwasher; vent clothes dryers to the outside; maintain low indoor humidity; and wipe dry condensation or moisture build-up. During your warranty period, please immediately contact KB Home if your home experiences any form of non-homeowner maintenance water intrusion resulting from a problem with any component KB Home installed into your home.

If your home experiences mold after your warranty period, homeowners should take the appropriate steps to clean up the mold and eliminate the source of moisture. Bleach and the other products referenced above may be helpful in controlling mold conditions. Depending on the amount of mold, the materials to which it has attached may need to be removed and replaced. Care should be taken during the removal process to prevent releasing spores beyond the affected area. If mold contamination is extensive or is of concern, homeowners should consult a KB

HOME customer service representative for possible coverage under the KB HOME Limited Warranty and/or referral to a professional mold clean up or restoration company. For more information regarding mold, visit the U.S. Environmental Protection Agency mold web site at www.epa.gov\iaq\pubs\moldresources.html, or the U.S. Centers for Disease Control and Prevention at www.cdc.gov and search for the keyword "mold".

Electrical Outlets in Garage: Applicable building codes adopted in Arizona may require that electrical outlets in garages be provided with ground fault interrupter circuits. Where installed, these circuits are not intended for use with any appliances, especially refrigerators, freezers and aquariums or on any service that an interruption of electrical power would cause a problem. **KB HOME STRONGLY RECOMMENDS THAT PURCHASER NOT USE GARAGE CIRCUITS FOR APPLIANCES OR FOR ANY SERVICE (SUCH AS FREEZERS) THAT WOULD BE HARMED BY AN INTERRUPTION OF ELECTRICAL POWER.** KB HOME cannot be held responsible for the contents of appliances that are damaged because of the ground fault interrupter switches shutting off, nor can we be held responsible for damage to the appliance units themselves. **PLEASE CHECK WITH AN ELECTRICIAN FOR FURTHER INFORMATION.**

Soils Report and Foundations: The suitability of the soil of the lots contained within the Community was tested by Construction Inspection and Testing Company. Purchasers are welcome to and encouraged to contact Scott R. Smith, P.E. at Construction Inspection and Testing Company for information regarding these tests. The firm's telephone number is (602) 861-2002 and their address is 2002 West North Lane Phoenix, AZ, 85021. Purchasers are encouraged to review a copy of their soils report which is available for review in the Sales Office.

Some lots contain filled ground, which varies from lot to lot. These soils have been properly compacted, under the supervision of a state-licensed engineer and a representative of the building inspection department, for the use intended. For further information concerning filled ground and soil conditions, including specific soil information for your lot, contact Mario B. Saldamando, the City Engineer, at (602) 534-3678. The address is 200 West Washington St. Phoenix, AZ 85003. Purchaser may also contact the soils engineer, Scott R. Smith, P.E. at 2002 West North Lane Phoenix, AZ, 85021, or at (602) 861-2002.

KB HOME, in consultation with Construction Inspection and Testing Company, has elected to utilize a single foundation system that meets the requirements for the types of soils conditions encountered. That system is known as a post-tensioned slab and has been designed and will be constructed in accordance with applicable building codes. After the concrete slab has cured, steel cables within the slab are mechanically stretched or tensioned to reinforce the slab. **BECAUSE THESE CABLES ARE UNDER TENSION WITHIN THE SLAB, HOMEOWNERS SHOULD NOT ATTEMPT TO CUT THROUGH THE SLAB FOR ANY REASON. WORK INVOLVING THE FOUNDATION OR SLAB SYSTEM SHOULD ONLY BE PERFORMED BY LICENSED CONTRACTORS WHO HAVE BEEN INFORMED THAT THE SLAB IS POST-TENSIONED AND WHO HAVE IDENTIFIED THE LOCATION OF THE CABLES RUNNING WITHIN THE SLABS. CONTACT SCOTT R. SMITH, CONSTRUCTION**

INSPECTION AND TESTING COMPANY, 2002 W. NORTH LANE PHOENIX, ARIZONA 85201 OR (602) 861-2002 FOR FURTHER INFORMATION.

Radon: The U.S. Environmental Protection Agency, the U.S. Department of Health and Human Services, and the U.S. Public Health Service have expressed concern over the presence of radon gas in homes. Prolonged exposure to high levels of indoor radon or its progeny may affect the health of residents. Although such conditions may exist at the Community, KB HOME has made no investigation to determine whether radon gas is or will be present in the home or affecting the premises, and the Community makes no representation or warranty as to (a) the presence or lack of radon or hazardous environmental conditions nor (b) the effect of radon or any such condition on the Community.

KB HOME recommends that the Purchaser, at his/her sole expense, conduct its own investigation and consult with such experts as the Purchaser deems appropriate in order to determine the level of radon gas in the home. By signing below Purchaser acknowledges that he/she has read the foregoing Disclosure Statement, and hereby releases KB HOME from any and all liability with respect to the above matters.

For further information on radon at the Community, please contact the Environmental Protection Agency at (415) 744-1305 or the Maricopa County Environmental Services Department at (602) 506-6623.

Easements: Purchaser acknowledges that the Property is subject to all easements of public record, including, but not limited to, those shown on the recorded map of the Property and those of an apparent nature, including, but not limited to, easements for telephone, electricity, natural gas, cable television, water, sanitary sewer, storm sewer, drainage and aircraft aviation. Purchaser acknowledges that the cost of maintaining these easements may be the responsibility of Purchaser. The Community contains easements, which have been granted to the City of Phoenix and/or Maricopa County or other interested parties. Easements for open space, landscaping, streetlights, drainage, utilities, odor, avigation, future streets, etc., if any, may have some restricting effect on the use of the Property. Purchaser should ask the title insurance company or the appropriate governmental entity for a map showing easements that may affect the Property. The location of utility structures, vaults, transformers, street lights, pull boxes, fire hydrants, etc., in the Community is controlled by the utility agencies and may be subject to change without prior notice to Purchaser. Easements for the placement and maintenance of utilities, streets, drainage, open space and other purposes are shown on the title report which will be provided to Purchaser during the escrow period and on the Subdivision Map recorded in the Office of the Maricopa County Recorder as Book 516 of Maps, Page 15. Additional easements are created within the CC&Rs. Although the following list identifies significant easements which effect the Community, and the lots affected by such easements, the list of easements and/or the decisions of the particular easement may not be exhaustive and Purchasers are urged to carefully review the title report and/or copies of the easement documentation for fuller understanding.

- 8' Public Utility Easement (P.U.E) on all lots

- 1' Vehicular Non-Access Easement (V.N.A.E) on lots:
  1-9,63-64,83-84,101-102,129-130,176,190,203,205,207-210,252-257
  267,287-288,325-330,334-335,345-355,372-376,395,408-409,424,437-438

- 33'x33' Visibility Triangle on lots:
  10,19-20,30-31,41-42,52-53,73-74,84,
  92-93,110,111,142,143,159,160,175,183-184,191,196-197,202,206,211,
  222-223,234-235,242,243,251,261,262,267,268,298-299,308-309
  318-319,329,331,333,337,340,344,346,356,365,394,401,402,409,
  415- 416,423,432,433,Tract B, C, D, E, F, G, K, L

- 10' Public Sidewalk along Dynamite Boulevard

- 8' Electrical Easement in Tract B

- 8' Communications Easement Per Docket 7939, Page 431 in Tract B

- 15' Electrical Easement Document No. 98-0631329 in Tract C

- Qwest 20' x 10' Easement in Tract A (south of lot 372) and in Tract D (west of lot 252)

Purchaser is urged to request copies of all underlying documents described in the preliminary title report for a better description of applicable easements, which may affect the use of Purchaser's property. A copy of these documents may be obtained from Bob Mendez, Title Officer, First American Title Company, 4801 E. Washington Street, Phoenix, AZ, 85034. The telephone number is (602) 685-7779.

Drainage: Purchaser understands that he/she **has been advised by KB HOME that he/she should not change or interfere with the established drainage pattern(s)** on the lot without consulting a licensed landscape architect or civil engineer. The drainage pattern(s) have been developed to facilitate proper drainage from slopes and yard drainage to the street; **ANY INTERFERENCE** within the drainage pattern(s), as initially constructed, can cause water to become entrapped within the yard area and could cause structural failure.

Please note: The construction of retaining walls, pools, spas, patios, gazebos, curbs, decks, walks or any other landscape amenities can block, alter or modify drainage patterns, thereby requiring corrective measures to be taken to insure proper water flow. Particularly in areas of more sensitive soils, disturbance of constructed drainage courses could materially impact soil content and negatively affect the structural integrity of Purchaser's home. Pooled water, incorrect drainage, leaky irrigation systems, over-watering or other conditions can also lead to groundwater infiltration and must be avoided. Purchaser are hereby strongly advised to consult landscape architects and/or qualified civil engineers or

contractors for advice prior to the installation of patios, hardscape, yard landscaping or any other alteration to the drainage pattern.

The Limited Warranty provided to Purchaser and described in this Disclosure Statement does not cover damage to Purchaser's home, soil, drainage or other improvements resulting from changes made by Purchaser to the grading or drainage systems of the property after the close of escrow. Purchaser's landscaping plans are required to conform with the original drainage plan of the property. Purchasers are hereby advised that changes to grading may also require obtaining a permit from a city, county or other municipal agency.

Site Plan: A site plan showing all lots in the Community is available in the Sales Office for Purchaser's review. It is an artist's conception and is not drawn to scale. This map is meant to give Purchaser a general overview of the development. Grading plans, available at the Sales Office, describe the actual grading and lot information. The site plan may not reflect all easements with accuracy. Actual lot lines are described on the grading plan and recorded tract map, which are available at the Sales Office. The site plan does not constitute a guarantee that the Community will be built out or developed as shown therein.

In addition, at most communities, homeowners will be given (or can be given upon request) an individualized plot plan for their lot showing lot boundaries and easements.

Landscaping: All lots in the Community come with standard pre-designed front yard landscaping. The front yard area up to the front yard return fence is landscaped with gravel, shrubs, and typically one (1) tree. Bubbler irrigation system is provided. KB HOME will determine if underground drainage is necessary depending on individual lot conditions. Landscaping is installed after the final grading is complete and weather permits. Typical landscape plans are available for Purchaser's review in the Community sales office. **LANDSCAPING WILL HAVE BEEN INSTALLED AT THE HOMEOWNER ORIENTATION. KB HOME DOES NOT ACCEPT RESPONSIBILITY FOR THE CARE, MAINTENANCE, OR CONDITION OF THE LANDSCAPING AFTER THE CLOSE OF ESCROW EXCEPT FOR PROBLEMS NOTED AT THE HOMEOWNER ORIENTATION. KB HOME WILL WARRANTY THE LANDSCAPING, WHEN PROPERLY MAINTAINED (I.E. PROPER WATERING AND CUTTING) BY THE PURCHASER, FOR 30 DAYS ON SHRUBS, 90 DAYS ON TREES AND 1 YEAR ON IRRIGATION, AT WHICH POINT THE LANDSCAPING BECOMES PURCHASER'S SOLE RESPONSIBILITY. ANY PROBLEMS ASSOCIATED WITH LANDSCAPING WHICH ARE NOT COMMUNICATED IN WRITING TO KB HOME DURING THIS 30-90 DAY OR 1 YEAR WARRANTY PERIOD ARE NOT COVERED BY THE WARRANTY. THE WARRANTY DOES NOT COVER ANY DAMAGE TO THE CONDITION OF THE LOT OR HOME RESULTING FROM CHANGES MADE BY A HOMEOWNER TO GRADING OR DRAINAGE SYSTEMS OF THE PROPERTY AFTER THE CLOSE OF ESCROW.**

If Purchaser elects to install rear yard landscaping or alter any existing landscaping, Purchaser should be conscious of and sensitive to the changes made to the contour of the land as a result of individual front and rear yard landscaping plans to be sure they conform with the original drainage plan of the project. Purchaser will be

responsible for changes in the contour of the land, which result in drainage problems or any hazards. (Please also see the section elsewhere in this Disclosure entitled "Drainage" for certain issues Purchasers should consider regarding drainage on their property.)

In some instances, Purchasers may be required by applicable covenants, conditions and restrictions to install landscaping in front and/or rear yards within a fixed number of days after closing. Be sure to review CC&Rs.

Questions regarding grading should be referred to the civil engineering firm, RBF Consulting, 16605 N. 28th Avenue, Suite 100, Phoenix, AZ, (602) 467-2200.

Trees and Other Vegetation: KB HOME does not guarantee the preservation of any trees, shrubs, ground cover or other foliage located on Purchaser's lot, in the community or anywhere within the vicinity of the community. KB HOME is not responsible for any immediate or long-term damage to vegetation caused by construction activity. Lot premiums are based on location and size and not pre-existing vegetation. The construction of homes, lots, street and/or utilities may alter the environment of any trees, shrubs or other landscaping.

If a model is purchased, then KB HOME does not guarantee the preservation of any trees, shrubs, ground cover or other foliage located on the lot. All care and maintenance of any such foliage is solely the responsibility of the homeowner. This includes all obligations to water, trim or otherwise maintain foliage.

Views: Specific lot prices and/or lot premiums are assigned by KB HOME and are based on lot location and size and not for any pre-existent view. A view may be negatively impacted by a variety of occurrences including but not limited to the construction of roof tops, buildings, decks, landscaping or other future development. No statements or assurances are made by Seller with respect to the construction and future improvements and landscaping that may have an impact upon the view of the Property. Any view from the Property or surrounding areas, whether developed or undeveloped, is not part of the value of the Property and is not guaranteed. Since KB HOME cannot control future development adjacent to or surrounding the Community, KB HOME cannot guarantee to preserve any potential view now or in the future. KB HOME is not responsible for or bound by any representation regarding views made by a sales representative or agent under any circumstances.

It is Purchaser's responsibility to evaluate the location of the home site and lot within the subdivision and determine the acceptability of the assigned lot premium. KB HOME makes no representation as to the preservation of existing or future views from the project.

Tract Boundary Fence or Wall: In some instances, walls or fences will be constructed or may be already in existence along all or a portion of the perimeter of a tract in compliance with local regulations and requirements. Many times, these tract boundary fences or walls are set back onto homeowners lots (inside lot lines)

at certain distances or intervals to create a more aesthetic community. As a result, lots which are bordered by this type of fence or wall may be subject to an easement and extend to the other side of the boundary structure. Purchasers of homes along the perimeter of the tract, should refer to the subdivision map or plot plan to determine the precise location of any tract boundary fence or wall, and the actual lot lines of Purchaser's lot. An individualized plot plan will be provided to Purchaser upon purchasing a home in the Community and is also available in the Sales Office for inspection.

Retaining Walls: Some lots in the Community may require retaining walls, generally built of wood, block, or concrete as recommended by a civil engineer and approved by the City of Phoenix. The specifications for building these walls and their placement is determined by a civil engineer, the City of Phoenix, and existing lot conditions. Retaining walls may be located on or adjacent to the property line. If the retaining wall is along a street or public right-of-way, the retaining wall is inside the property line and consequently the homeowner's responsibility to maintain. If the retaining wall is located between adjacent property owners, the responsibility to repair and maintain the retaining wall is the joint responsibility of the adjacent homeowners. As site conditions vary, walls shown on current grading plans may be added or deleted. Presence or absence of a retaining wall does not affect the purchase price of the home.

Purchasers of lots with retaining walls should note that vehicles should be kept at least six feet (6') from the retaining wall. Dirt behind the wall may settle or erode and create indentures in the ground at the top of the wall and should be maintained by the homeowner as eroded areas are not warranted.

Fencing: The lots in the Community have standard rear yard fencing. If Purchaser's lot is adjacent to a lot which has existing rear or side yard fence, KB HOME will not install a new fence on Purchaser's lot. If the standard fencing is adjacent to street or public right-of-way, the homeowner shall be responsible to maintain the fence. If the fence is located on or adjacent to the property line between lots belonging to adjacent private property owners, then the property owners shall be jointly responsible to repair and maintain the fence. Such fences cannot be removed or modified without agreement between such owners. Fences may not be located on the lot lines and Purchaser should refer to the plot map provided to Purchaser at point of sale or available in the Sales Office for actual lot lines.

Utilities: New gas, electric, sewer, water, garbage, telephone and cable hook-up fees are paid by Purchaser. For information please contact:

Arizona Public Service (APS) (provides electricity)
P.O. Box 53933, Mail Station 4618
Phoenix, AZ 85072
(602) 371-7171
Lot purchaser's cost to receive service is a deposit of $200.00, if required and service charge of $25.00 plus tax.

Southwest Gas Corporation (provides gas)
10851 North Black Canyon Highway, P.O. Box 52075
Phoenix, AZ 85072-2075
(602) 861-1999
Lot purchaser's cost to receive service is approximately a minimum $65.00 refundable deposit, if required and service charge of $30.00 plus tax.

City of Phoenix (provides water, sewer, and refuse service)
305 West Washington Street, Phoenix, Arizona, 85003
(602) 262-6251
Lot purchaser's cost to receive water, sewer, and refuse services is a $27.26 activation fee. Cost to purchaser for water, sewer, and refuse service is approximately $35.46 plus water consumption cost per month.

Cox Communications (provides cable television)
17602 North Black Canyon Highway, Phoenix, Arizona, 85053
(602) 277-1000
Lot purchaser's cost for service is a $37.44 new connection fee.

Qwest Communications (provides telephone)
P.O. Box 29060, Phoenix, Arizona, 85038
(800) 244-1111
Lot purchaser's cost for service is a $35.00 minimum installation fee and refundable deposit may be required.

The information above regarding utilities is current as of the date of this Disclosure Statement, but is subject to change. KB HOME neither guarantees the establishment or the continued provision of such utilities, nor the quality of service delivered or providers of such utilities. Arrangements for service installation and repairs are the sole responsibility of Purchaser.

Mineral/Water Rights: Purchaser may not own the mineral, oil and gas rights under Purchaser's land. The owner of these subsurface mineral rights, and the overlying and other water rights, will not have a right to surface entry from Purchaser's property. The reservation of these rights is shown on the legal description of the Community in the overall preliminary title report, which is available for review in the Sales Office.

Your title report and underlying title exceptions will provide a fuller description of the limitations, if any, on your mineral, oil and/or water rights.

Street and Parking Areas: All streets within the subdivision are public and will become the property of the City of Phoenix, which will be responsible for their repair and maintenance. Questions regarding public streets and/or parking should be directed to Thomas Callow, the City of Phoenix Street Transportation Department Director, located at 200 West Washington Street, Phoenix, Arizona 85003, or at (602) 262-6136.

Cluster Mailboxes: The U.S. Postmaster may require the use of cluster mailboxes for efficiency of mail service. If installed, the Postmaster determines the location and grouping of these mailboxes and the commencement of mail delivery service. If Purchaser has any questions, please call the United States Postal Service at (800) 275-8777.

Lender-of-Choice: One of the services provided for KB HOME customers is assistance in arranging a loan to purchase through KB Home Mortgage Company, subject to necessary qualifications by Purchaser. There is no obligation on Purchaser's part whatsoever to use the lending services of KB Home Mortgage Company. Purchaser may select any lending institution of his/her choice for the purpose of securing mortgage financing and are not limited to KB Home Mortgage Company.

Although Purchaser is not required to use the services of KB Home Mortgage Company, prior to entering into a contract to purchase a home from KB HOME, Purchaser may be required to provide the basic information as required on the form of the KB Home Mortgage Company loan application and permit a credit report to be obtained by KB HOME in order to pre-qualify Purchaser as a legitimate prospective purchaser. The credit report fee is not refundable after entering into a purchase contract with KB HOME.

Insurance Requirements including Flood Insurance: For loans made through KB Home Mortgage Company (and indeed nearly all residential property lenders), it is required that hazard insurance and other property coverage benefiting the Purchaser and/or the lender be in effect at the time of closing. If Purchaser has not made independent arrangements in a reasonable time before title is to be transferred, Purchaser has authorized KB Home Mortgage Company to place the required insurance on the property through an authorized agent of Kaufman and Broad Insurance Agency, Inc. Further information can be obtained by contacting Frank Ehman, Sales Agent, or Marka Mandernacht, Senior Sales Agent, Kaufman and Broad Insurance Agency, Inc., 21650 Oxnard Street, 3rd Floor, Woodland Hills, California, 91367, or 800-446-3371.

In addition, if the home is located in an area designated by the Federal Emergency Management Agency ("FEMA") as a "Special Flood Hazard Area", then a flood insurance policy will also be required to be in effect at the close of escrow. If a lot is so designated, Purchaser will be informed of its Special Flood Hazard Area status by KB HOME. Title reports should be reviewed carefully for these references as well.

Limited Warranty: As a new homebuyer, Purchaser will be protected by the KB HOME Limited Warranty Agreement (the "Warranty").

Purchaser may obtain a copy of the Warranty from the sales representative at any time. Purchaser will also be asked to review, sign and accept the Warranty at the time he/she enters into an agreement to purchase.

Please read the Warranty carefully. It is the only warranty given by KB HOME in connection with Purchaser's new home. The Warranty describes KB HOME's repair and warranty obligations and the procedures for making warranty claims and settling disputes.

Although Purchaser should refer to the Warranty for specific details of coverage, some of the basic terms are as follows:

- The structural integrity of the new home is warranted for ten years.
- The "Major Components" of the home are covered for two years and appliances are covered for one year.
- Certain types of damage are not covered by the Warranty and these exclusions should be reviewed carefully in Section D of the Warranty.
- Procedures for making claims are covered in detail in Sections C and E of the Warranty. Homeowners may fax written claims to (602) 220-4895 or call the Customer Service Department at (602) 306-1000.
- The resolving of Warranty disputes is covered in Section E of the Warranty. Please review the Negotiation and Arbitration sections carefully.

Lot Transfer Fee: Purchaser is advised that a $250.00 transfer fee will be charged in the event that Purchaser transfers from one subdivision to another subdivision or from one lot to another lot within the same subdivision.

Notification of Deposit Forfeiture: When Purchaser enters into a purchase agreement to purchase a home from KB HOME, Purchaser must deposit a specific amount of earnest money. That deposit holds the home for purchase until all of the necessary paperwork can be processed and the transaction is recorded.

There are circumstances where cancellation of the purchase agreement results in the forfeiture of the earnest money deposit. Purchaser should review the purchase agreement and discuss this issue with the salesperson at the time of purchase. **The terms of the Purchase Agreement will control Deposit Forfeiture and/or Liquidated Damages issues.** The purpose of this **Notification of Deposit Forfeiture** is limited to give Purchaser notice of the narrower issue of the impact of a cancellation.

Statements and Agreements by Salesperson: KB HOME is not responsible for, or bound by, any statement or agreement by a salesperson or agent unless such statement or agreement is in writing and is signed by the President or Sales Manager of KB HOME. If any salesperson has made a representation to Purchaser, Purchaser must put it in writing in the space provided below. Inserting the word

"none" in the space below or leaving the space below blank means that Purchaser has not relied upon any verbal representation from KB HOME.

Salesperson's representations to Purchaser: (If none, so state and initial)

_____

_____

_____

_____

Purchaser's Initials: _____

Purchaser's Initials: _____

Purchaser's Acknowledgment of Receipt of Disclosure Statement: I acknowledge that I have received and read this Disclosure Statement. I also realize that it contains important information affecting my rights and obligations and I have familiarized myself with its contents.

Dated this _____ day of _____, 200__

Purchaser: _____

Purchaser: _____

Plan: _____

Tract:/Plat: _____ Lot Number: _____

Community: _____

Property Address: _____

_____

_____

EXHIBIT
A-7
admitted

STATE OF ARIZONA
DEPARTMENT OF REAL ESTATE

SUBDIVISION PUBLIC REPORT

FOR

I-17 AND DYNAMITE

aka ARIZONA WESTVIEW (Lots 1-129, 143-210, 347-364, 373-432)

and

ARIZONA WESTWOOD or ARIZONA WESTLAND (130-142, 211-346, 364-372, 433-438)

Registration No. DM00-021749

SUBDIVIDER

KB HOME Sales-Phoenix Inc.
an Arizona corporation
432 North 44th Street, Suite 115
Phoenix, Arizona 85008

March 17, 2000

Effective Date

Fourth Amendment September 25, 2002

PROPERTY REPORT DISCLAIMER

This report is NOT A RECOMMENDATION NOR AN ENDORSEMENT by the State of Arizona of this land but is provided for informational purposes ONLY. The report reflects information provided by the subdivider and obtained by the Department in its review process in accordance with the provisions of Title 32, Chapter 20, Article 4, of the Arizona Revised Statutes, as amended. **NOTE** that not all of the information in this report has been verified by the Department; certain information has been accepted by the Department as true and accurate based on attestation of the subdivider and/or the subdivider's agents. You should verify all facts before signing any documents. The Department has not passed upon the quality or quantity of any improvement or structure and does not assume responsibility in either event.

PHOENIX OFFICE:
2910 N. 44th Street
First Floor
Phoenix, Arizona 85018
(602) 468-1414 ext. 400

TUCSON OFFICE:
400 West Congress
Suite 523
Tucson, Arizona 85701
(520) 628-6940

THE ARIZONA DEPARTMENT OF REAL ESTATE

REQUIRES THAT:

1. You BE GIVEN this public report;

2. YOU SIGN A RECEIPT indicating that you received this report;

RECOMMENDS:

1. You DO NOT SIGN ANY AGREEMENT before you have read this report;

2. You see the EXACT PROPERTY you are interested in BEFORE SIGNING any document for lease or purchase.

ARIZONA LAW STATES:

1. THE SALE OR LEASE OF SUBDIVIDED LANDS PRIOR TO ISSUANCE OF THIS REPORT OR FAILURE TO DELIVER THIS REPORT TO YOU SHALL RENDER THE SALE OR LEASE RESCINDABLE BY YOU. ACTION TO RESCIND MUST BE BROUGHT WITHIN 3 YEARS FROM DATE OF EXECUTION OF PURCHASE AGREEMENT.

2. CONTRACTS OR AGREEMENTS FOR THE PURCHASE OF AN UNIMPROVED LOT (WITHOUT A BUILDING)* MAY BE RESCINDED BY YOU WITHOUT CAUSE BY SENDING OR DELIVERING WRITTEN NOTICE OF RESCISSION BY MIDNIGHT OF THE SEVENTH CALENDAR DAY FOLLOWING THE SIGNING.

3. IF YOU HAVE SIGNED A PURCHASE AGREEMENT FOR THE PURCHASE OF AN UNIMPROVED LOT (WITHOUT A BUILDING)* PRIOR TO INSPECTING THE LOT, YOU HAVE SIX MONTHS TO INSPECT AND UPON INSPECTION MAY RESCIND THE PURCHASE AGREEMENT.

* A contract or agreement for purchase of a lot which includes a building or obligates the seller to complete construction of a building within two years from the contract date does not constitute the purchase of an unimproved lot. Therefore, if your purchase includes a lot and a building or a building to be built, you are not entitled to the rescission rights described in paragraphs 2 and 3.

GENERAL

This report includes: Lots 1 through 438, inclusive.

The subdivision will be developed in the following phases:

Phase One:	Lots 373 through 378, inclusive and 433 through 438, inclusive;
Phase Two:	Lots 346 through 372, inclusive and 379 through 432, inclusive;
Phase Three:	Lots 1 through 110, inclusive and 262 through 267, inclusive;
Phase Four:	Lots 111 through 261, inclusive, 342 and 343; and
Phase Five:	Lots 268 through 341, inclusive, 344 and 345.

The map of this subdivision: is recorded in Book 516 of Maps, Page 15, records of Maricopa County, State of Arizona.

The subdivision is approximately 114 acres in size. It has been divided into 438 Lots and Tracts A through H and J through L. Lot boundaries will be staked at the corners and radii.

Prospective purchasers are hereby advised that the recorded plat for this Subdivision contains the following Dedication and Notes, in part:

"DEDICATION
Tracts A, B, C, D, E, F, G, H, J, K & L are to be conveyed to the 'I-17 and Dynamite Homeowners Association' for landscaping and maintenance purposes. A public drainage easement is hereby dedicated to the public over Tract A, B, C, D, E, F, G, H and J.

NOTES

1. No structure of any kind shall be constructed or any vegetation planted or allowed to grow within any drainage easement area which would impede the flow of water over, under or through the easement area. The City of Phoenix may, if it so desires, construct and/or maintain drainage facilities on or under the land in the easement area.

2. Additional lot requirements (i.e. setbacks, wall elevations, details) are located on the approved subdivision setback exhibit.

3. An association, including all property owners in the development, will be formed and have responsibility for maintaining all common areas to be noted as 'Tracts' or 'Easements', including landscape areas and drainage facilities in accordance with approved plans.

4. Development and use of this site will conform to all applicable codes and ordinances.

5. This project is located in the City of Phoenix water service area and has been designated as having an assured water supply.

6. Construction within public utility easements shall be limited to utilities and wood, wire or removable section type fencing. It shall be further understood that the City of Phoenix shall not be required to replace any obstructions or planting that must be removed during course of maintenance, construction or reconstruction of City utilities.

7. All new or relocated utilities will be placed underground.

8. Structures and landscaping within a triangle measuring 33' x 33' along the property lines at the street intersection will be maintained at a maximum of 3'.

9. A minimum 20' setback (18' if vertically open garage doors are provided) will be provided from back of sidewalk to face of garage door.

10. Owners of property adjacent to the public right-of-way will have the responsibility for maintaining all landscaping within the right-of-way in accordance with approved plans.

11. Lots 347, 366-373 and 434-438 will be limited to one story dwellings.

12. The initial tier lots adjacent to the I-17 Freeway right-of-way (as indicated on the plan) shall be designed to incorporate noise mitigation measures such as limiting number of openings, use of heavy massing materials, double-pane windows, staggered wall studs, solid or insulated doors or other noise attenuation measures as determined to be appropriate by the site development manager during the review of the home construction plans."

YOU ARE ADVISED TO OBTAIN A COPY OF THE RECORDED MAP AND CORRECTION DOCUMENTS, IF ANY, AND NOTE ALL EASEMENTS, RESTRICTIONS AND STATEMENTS CONTAINED THEREIN.

SPECIAL NOTE:

PURCHASERS ARE ADVISED THAT THE RECORDED DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR THIS SUBDIVISION PROVIDES FOR A DESIGN REVIEW COMMITTEE.

SUBDIVISION LOCATION

Location: Northeast corner of 35th Avenue and Dynamite Boulevard, City of Phoenix, Maricopa County, State of Arizona.

SUBDIVISION CHARACTERISTICS

Topography: Land is level.

Flooding and Drainage: Subdivider is unaware of any known flooding or drainage problems. Kenneth M. Tarr, P.E. of Robert Bein, William Frost & Associates, in his letter dated November 17, 1999, has cited, in part:

"Pursuant to the requirements of the Subdivision Questionnaire, this letter will describe drainage conditions for the plat at I-17 & Dynamite Boulevard.

This letter also serves to certify that the proposed building envelopes at I-17 & Dynamite Boulevard are not located within a 100-year flood plain nor is the property subject to flooding during a 100-year event.

According to Map No. 04013C1185 F and 04013C1205 E of the National Flood Insurance Rate Map for Maricopa County, Arizona, the site has a Zone X designation. Zone X is the designation of areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

Subdivision drainage design was in accordance with requirements of the City of Phoenix. All lots in the I-17 & Dynamite Boulevard have been designed to drain to the front and into the streets. The streets can handle a 10-year storm between the curbs and finish floors are set to be above the 100-year storm event. The retention basins on this site have been designed to take the 100-year 2 hour storm."

Soils: Subdivider advises the subdivision lots are subject to expansive soils. Scott R. Smith, P.E., of Construction Inspection & Testing Co., in his letter dated November 9, 1999, has cited, in part:

"EXECUTIVE SUMMARY
The purpose of this soil investigation report is to present general information concerning the engineering characteristics of the soil and to submit recommendations for the design of foundations and site preparation in accordance with FHA/Maricopa County requirements for the proposed development located west of I-17 and Dynamite Road in Phoenix, Arizona.

It is understood that the proposed development will consist of one and/or two level single family residences of masonry and/or wood and/or steel frame construction imposing relatively light foundation loads. Basements are not proposed. Maximum structure loads on the order of 2.5 KIPS per lineal foot are anticipated and the grading will consist of moderate cuts and fills to obtain finish grade elevations.

The site encompasses approximately 113 acres of relatively flat, undeveloped, cleared desert land. Vegetation consists of a light to moderate growth of weeds and brush.

All lots are subject to expansive soil conditions. Specialized treatment of existing soils within the foundation areas is required. Fill material will require limited compaction. Post-tensioned floor/foundation systems or conventional floor/foundation with reinforced footings 2.0 feet in depth are recommended.

Total and differential settlements from assumed loads will be within generally accepted tolerance provided that grading operations are performed as specified and no major changes in moisture content of foundation bearing soils occur and that positive drainage away from structures is maintained.

During and after construction of building, structural foundation/floor slab bearing soils should not be exposed to moisture infiltration or moisture content fluctuations. Proper drainage of surface water and roof runoff water away from the structures should be provided during construction as well as throughout their life. In no case should long-term ponding be allowed near structures. Proper designing and placement of yard vegetation and irrigation systems should be used so that structural foundation/floor slab bearing soils are not exposed to moisture infiltration or moisture content fluctuations.

Based on the findings presented in this report, the site is considered suitable for single family residences imposing relatively light foundation loads provided floor/foundation systems are properly designed for expansive soil conditions, limited compaction for fill material is used and foundation bearing soils are not exposed to moisture infiltration or moisture content fluctuation."

Adjacent Lands and Vicinity: Zoning for the adjacent lands are: North – CAP Canal followed by S-1 Ranch or farm residence; South – S-1 Ranch or farm residence; East – Interstate 17/Black Canyon Freeway; West – S-1 Ranch or farm residence.

Hayden Rhodes Aqueduct/CAP Canal, adjacent to the north and approximately ½ mile west; Middle Mountain, approximately ¼ mile north; Ben Avery Shooting Facility, approximately 3 ¾ miles north; Skunk Creek, approximately ½ mile south and approximately ¼ mile east; Deems Hills, approximately 1 mile southwest; Deems Hills Recreation Area, approximately ¾ mile southwest; Skunk Creek Landfill, approximately 1 ¾ miles south; Adobe Mountain Juvenile Institute, approximately 2 ¼ miles south;

Black Canyon Juvenile Institute, approximately 2 ¼ miles south; APS substation on the northern boundary of the Community; City of Phoenix water booster station, approximately ½ mile southwest of the Community; Adobe Mountain, approximately 2 ½ miles south; Adobe Dam, approximately 3 miles south; Adobe Dam Recreation Area, approximately 3 miles south; Adobe Dam Golf Club, approximately 3 ½ miles southwest; Waterworld U.S.A., approximately 3 ¾ miles southwest; Victory Lane Sports Complex, approximately 3 ¾ miles southwest; McGill Ultralight Field, approximately 5 miles southwest; Agua Fria Freeway (Loop 101), approximately 4 ¾ miles south; Scatter Wash, approximately 3 ¾ miles south; Union Hills, approximately 1 ½ miles east; Cave Creek, approximately 4 1/ 2 miles east; Pyramid Peak, approximately 2 ½ miles west; East Wing Mountain, approximately 4 miles west; Interstate 17 (Black Canyon Freeway), adjacent to the east; proposed APS substation, approximately ¾ mile north of the community; proposed North Gateway Waste Water Treatment Plant, approximately ¾ mile north of the community; property located within approximately ¼ mile to the southeast of the Community on the east side of I-17/Black Canyon Freeway has been approved for CP/GCP (Commerce Park/General Commerce Park Option).

The Arizona Department of Transportation is conducting a corridor improvement study to widen Interstate 17 from the State Route (SR) 101L interchange to the Black Canyon City interchange. Due to the proximity of the Community to I-17, this property may experience noise, dust, and other nuisances associated with any proposed construction and use of the improvements to the freeway anticipated by the study.

Subdivider advises unusual safety factors within or near the subdivision include, but are not limited to, Ben Avery Shooting Facility, approximately 3 ¾ miles north; Hayden Rhodes Aqueduct/CAP Canal, adjacent to the north and approximately ½ mile west; Skunk Creek, approximately ½ mile south and approximately ¼ mile east; and Interstate 17 (Black Canyon Freeway), adjacent to the east.

In the future, high voltage power lines may be constructed along Dynamite Boulevard, Pinnacle Vista Road, 33rd Avenue, 31st Avenue, Hayden Rhodes Aqueduct/CAP Canal and/or I-17 or I-17 Frontage Road. Possible APS power line easement that will contain 69KV power lines behind the following lots: 121-130 and 278-293 along the Hayden Rhodes Aqueduct/CAP Canal. Please note that the size, nature, voltage and location of such power lines are <u>not</u> within KB HOME's control and are subject to change.

AIRPORTS

Airport: Deer Valley Airport, approximately 5 ½ miles southeast; Pleasant Valley Airport, approximately 10 ½ miles northwest.

The development is located outside of the 65 DNL (yearly day-night average sound level) noise boundaries for both airports.

UTILITIES

Electricity: Arizona Public Service, (602) 371-7171. Costs to purchasers to receive this service is a deposit of $200.00, if required and a service charge of $25.00 plus tax.

Street Lights: Street lights will be available. The City of Phoenix will provide the electricity, with purchasers cost collected through their property taxes.

Telephone: Qwest, (800) 244-1111. Costs to purchasers to receive this service is a minimum deposit of $110.00, if required, and a minimum hook-up fee of $35.00.

NOTE: IT IS POSSIBLE THAT YOU MAY NOT HAVE TELEPHONE SERVICE AT THE TIME OF CLOSING. PURCHASER IS ADVISED TO CONTACT THEIR SERVICE PROVIDER TO DETERMINE THE STATUS OF TELEPHONE SERVICE. YOU MAY ALSO WANT TO CONSIDER TEMPORARY ALTERNATIVES, I.E., A CELLULAR TELEPHONE.

Natural Gas: Southwest Gas Corporation, (602) 861-1999. Costs to purchasers to receive this service is a minimum refundable deposit of $65.00, if required, and a service charge of $30.00 plus tax.

Water: City of Phoenix, (602) 262-6251. Costs to purchasers to receive this service is a hook-up charge of $27.26.

Sewage Disposal: City of Phoenix, (602) 262-6251, with costs to purchasers of $11.10 per month, included in the water service bill.

THE ABOVE COSTS ARE SUBJECT TO CHANGE BY SERVICE PROVIDERS. YOU SHOULD CONTACT THE ABOVE PROVIDERS REGARDING EXTENSION RULES AND REGULATIONS, SERVICE CONNECTIONS AND COSTS INVOLVED.

STREETS, ROADS AND DRAINAGE

Access to the Subdivision: The asphalt paved public streets have been completed to the minimum standards of the City of Phoenix and have been accepted by the City for maintenance. Costs to purchasers for maintenance are included in the property taxes.

Access within the Subdivision: The asphalt paved public streets have been completed to the minimum standards of the City of Phoenix and have been accepted by the City for maintenance. Costs to purchasers for maintenance are included in the property taxes.

Flood and Drainage: The typical street drainage is maintained by the City of Phoenix and the drainage easements are maintained by the Homeowners' Association. Costs to purchasers for maintenance are included in both the property taxes and Homeowners' Association fees.

COMMON, COMMUNITY AND RECREATIONAL FACILITIES

Within the Subdivision: The landscaping, tot lots, ramadas, grills and tables are maintained by the Homeowners' Association. Costs to purchasers for maintenance are included in the Homeowners' Association fees.

ASSURANCES FOR COMPLETION

Assurances for Completion of Subdivision Facilities: All subdivision improvements are complete.

Assurances for Maintenance of Subdivision Facilities: The recorded Declaration of Covenants, Conditions and Restrictions for this Subdivision provides for the Homeowners' Association to maintain all common areas.

LOCAL SERVICES AND FACILITIES

Schools: Stetson Hills School (Grades K-7 for 2001-2002, Grades K-8 for 2002-2003), 25475 North Stetson Hills Loop Road, approximately 4 miles south; Deer Valley Middle School (Grades 7 & 8 for 2001-2002), 21100 North 27th Avenue, approximately 4 miles south; Barry Goldwater High School (Grades 9-12), 2820 West Rose Garden Lane, approximately 4 ¼ miles south.

NOTE: School assignments are subject to change. Prospective purchasers should contact the Deer Valley Unified School District No. 97 at (623) 581-7700 for verification of schools.

Transportation provided by school buses.

SCHOOL FACILITIES AND BUS SERVICE MAY CHANGE. YOU SHOULD CONTACT THE LOCAL SCHOOL BOARD REGARDING THE CURRENT LOCATION OF SCHOOLS AND BUS SERVICE.

Shopping Facilities: Located at northwest corner of 43rd Avenue and Union Hills Drive, approximately 8 miles southwest.

Public Transportation: None available.

Medical Facilities: John C. Lincoln Hospital-Deer Valley, 19829 North 27th Avenue, approximately 5 miles south.

Fire Protection: City of Phoenix Fire Department, with costs to purchasers included in the property taxes.

Ambulance Service: Ambulance service is available by dialing 911.

Police Services: City of Phoenix Police Department.

Garbage Services: City of Phoenix, (602) 262-6251, with costs to purchasers of $19.20 per month to be included in the water/sewer bill.

LOCATIONS AND COSTS OF THE ABOVE SERVICES AND FACILITIES MAY CHANGE. YOU SHOULD VERIFY THEIR CURRENT LOCATIONS AND COSTS PRIOR TO PURCHASE.

SUBDIVISION USE AND RESTRICTIONS

Use: This offering is for Improved Lot (with dwelling).
Zoning: Single family residential.

Conditions, Reservations and Restrictions: As stated in the recorded Declaration of Covenants, Conditions and Restrictions and as stated in the Articles of Incorporation and Bylaws of the Community Association.

THE MINERAL RIGHTS TO ALL LOTS IN THIS SUBDIVISION WILL NOT BELONG TO THE PURCHASERS OF THESE LOTS. THE EXERCISE OF THE RIGHT TO EXTRACT THESE MINERALS COULD AFFECT THE USE, ENJOYMENT AND VALUE OF YOUR LOT.

Restrictions and Other Matters of Record: Conditions, reservations and restrictions that may run with the land including City or County zoning restrictions should be investigated by you. Copies of those items which are recorded may be inspected at the Office of the Maricopa County Recorder. Information about zoning may be obtained at the Office of the City of Phoenix Planning and Zoning Department. Restrictions are recorded as cited in the following title exceptions and per the subdivision plat.

TITLE

Title to this subdivision is vested in KB Home Phoenix, Inc, an Arizona corporation who acquired title as KAUFMAN AND BROAD OF ARIZONA, INC., an Arizona corporation.

Subdivider's interest in this subdivision is evidenced by Memorandum of Construction & Sales Agreement recorded November 12, 1999, in 99-1034942.

Subdivider's only interest in the Subdivision is a right to purchase Lots pursuant to the described Construction & Sales Agreement. Purchaser's have no assurance that Subdivider will purchase or build homes on all the Subdivision Lots.

Title is subject, among other things, to all taxes, assessments, covenants, conditions, restrictions, limitations, reservations, rights, obligations, powers, easements, rights of way, liens, and charges of record. **YOU SHOULD INVESTIGATE THE TITLE AND SATISFY YOURSELF AS TO WHAT EFFECT, IF ANY, THESE MATTERS MAY HAVE ON THE USE OF THE LAND**. Title exceptions affecting the condition of title are listed in the Preliminary Title Report dated January 15, 2002, issued by FIRST AMERICAN TITLE INSURANCE COMPANY. **You should obtain a title report and determine the effect of the listed exceptions.**

EXCEPTIONS: SEE EXHIBIT "A" ATTACHED

METHOD OF SALE OR LEASE

Sales: Your vested interest/ownership in the property will be evidenced by the Subdivider delivering a recorded Deed to you and by your signing a Promissory Note and Mortgage or Deed of Trust for the unpaid balance. You should read these documents before signing them.

Cash sales are permitted.

PROSPECTIVE PURCHASERS ARE ADVISED THAT EARNEST MONEY DEPOSITS, DOWN PAYMENTS AND OTHER ADVANCED MONEY WILL NOT BE PLACED IN A NEUTRAL ESCROW. THIS MONEY WILL BE PAID DIRECTLY TO THE SELLER AND MAY BE USED BY THE SELLER. THIS MEANS THE PURCHASER ASSUMES A RISK OF LOSING THE MONEY IF THE SELLER IS UNABLE OR UNWILLING TO PERFORM UNDER THE TERMS OF THE PURCHASE CONTRACT.

Use and Occupancy: Lot Purchaser will be permitted to use and occupy his Lot upon close of escrow, recordation of Deed and completion of construction.

THE PURCHASE CONTRACT IS A BINDING AGREEMENT. CONTRARY TO THE TERMS AND PROVISIONS OF THE CONTRACT, YOU MAY HAVE ADDITIONAL RIGHTS, REMEDIES AND WARRANTIES PROVIDED BY LAW. READ THOROUGHLY BEFORE SIGNING. IF NOT UNDERSTOOD, SEEK COMPETENT ADVICE PRIOR TO COMMITMENT TO PURCHASE.

TAXES AND ASSESSMENTS

Real Property Taxes: The combined primary and secondary property tax rate for this subdivision for the year 2001 is $13.2192 per $100.00 assessed valuation. The estimated property tax for an improved lot (lot with dwelling), based on the above tax rate and average sales price of $118,876.00 (Arizona Westview) is $1,571.45; and $147,497.00 (Arizona Westwood), is $1,949.79; and $206,900.00 (Arizona Westland) is $2,735.05.

Special District Tax or Assessments: In addition to levying Annual Assessments, the Board may levy a Special Assessment, but only for the purpose of defraying, in whole or in part, the cost of any construction, reconstruction, repair or replacement of a Capital Improvement owned by the Association or for defraying other extraordinary expenses, provided, however, that such Special Assessment must be approved by at least two-thirds (2/3rds) of the votes of each class of Members voting in Person or by proxy at a meeting of the Association duly called for such purpose. Special Assessments shall be assessed uniformly among the Owners. Special Assessments shall not be subject to the Maximum Annual Assessment limitation set for in Section 8.6 of the recorded Declaration of Covenants, Conditions and Restrictions.

AMOUNT OF TAXES AND ASSESSMENTS SET FORTH ABOVE ARE APPROXIMATE ONLY AND SUBJECT TO CHANGE.

PROPERTY OWNERS ASSOCIATIONS

Name and Assessments: I-17 and Dynamite Homeowners Association, with monthly assessments of $28.00.

Control of Association: The Class B Membership (Declarant) shall automatically cease and be converted to a Class A Membership (Owners) upon the happening of the first of the following events:

(a) the date which is 120 days after the date on which the total votes of the Class A Members entitled to vote equals the total votes of the Class B Membership;

(b) the date which is twenty (20) years after the date this Declaration is Recorded; or

(c) the date on which Declarant relinquishes the Class B Membership by notifying the Class A Members in writing.

Title to Common Areas: Title to common areas will be transferred to the Association upon completion of the improvements thereon.

Membership: All Lot Purchasers will be members of the Association.

PAYMENTS TO PROPERTY OWNERS ASSOCIATIONS ARE SUBJECT TO CHANGE IN ACCORDANCE WITH RECORDED RESTRICTIONS. SAID ASSOCIATION MAY ALSO IMPOSE SPECIAL ASSESSMENTS.

YOU ARE ADVISED TO READ THE RECORDED DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS, ARTICLES OF INCORPORATION AND BYLAWS FOR THIS SUBDIVISION TO DETERMINE THE RIGHTS OF LOT OWNERS TO PARTICIPATE IN THE CONTROL OF THE PROPERTY OWNERS' ASSOCIATION AND TO DETERMINE THE RIGHTS, DUTIES AND LIMITATIONS OF OWNERS IN AND TO USE OF THEIR LOT. FURTHER, YOU SHOULD DETERMINE FOR YOURSELF IF SUBDIVIDER'S ARRANGEMENTS AND PLANS FOR THE PAYMENT OF ASSESSMENTS ON UNSOLD LOTS WILL BE SUFFICIENT TO FULFILL THE NEEDS, DEMANDS AND FINANCIAL OBLIGATIONS OF THE ASSOCIATION, AS SET FORTH IN THE DECLARATION AND BYLAWS.

BJS/jmb

EXHIBIT "A"

1. Taxes for the full year of 2002. (The first half is due October 1, 2002 and is delinquent November 1, 2002. The second half is due March 1, 2003 and is delinquent May 1, 2003.)

2.

3. Any charge upon said land by reason of its inclusion in I-17 AND DYNAMITE HOMEOWNERS ASSOCIATION.

4. Reservations contained in the Patent from the United States of America, reading as follows:

   Subject to any vested and accrued water rights for mining, agricultural, manufacturing or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledged by the local customs, laws and decisions of courts; and there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States of America.

   (Lots 18, 39, 40, 46, 48, 49, 56, 57, 61, 66, 75 through 81, 83 through 91, 94 through 109, 111 through 131, 133 through 136, 138 through 197, 201 through 210, 212 through 221, 224 through 233, 255, 264, 265, 266, and 268 through 345)

5. Reservations contained in the Patent from the United States of America, reading as follows:

   Subject to any vested and accrued water rights for mining, agricultural, manufacturing or other purposes, and rights to ditches and reservoirs used in connection with such water rights as may be recognized and acknowledged by the local customs, laws and decisions of courts, and also subject to the right of the proprietor of a vein or lode to extract and remove his ore therefrom, should the same be found to penetrate or intersect the premises hereby granted, as provided by law, and there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States of America.

   (Lots 380, 381, and 424 through 438)

6. Water rights, claims or title to water, whether or not the matters excepted are shown by the public records.

7. Easements, restrictions, reservations, conditions and set-back lines as set forth on the plat recorded in Book 516 of Maps, Page 15 and thereafter Affidavit of Correction recorded as 01-924170, of Official Records, but deleting any covenant,

condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status or national origin to the extent such covenants, conditions or restrictions violate 42 USC 3604(c).

8. All matters as set forth in the Covenants, Conditions and Restrictions in instrument recorded October 22, 1999, in 99-978276 of Official Records and Amendment recorded January 18, 2000 in 2000-037142, of Official Records, and amended as 2002-34367A, of Official Records, but deleting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status or national origin to the extent such covenants, conditions or restrictions violate 42 USC 3604(c).

9. The right of the State of Arizona to prohibit, limit, control or restrict access to the Black Canyon Highway and the reservation of access to the outer service way all as set forth in instrument recorded April 12, 1963, in Docket 4537, Page 371.

10. Memorandum of Option Agreement by and between KB HOME Phoenix Inc., an Arizona corporation formerly known as KAUFMAN AND BROAD OF ARIZONA, INC., an Arizona corporation and KB HOME Sales - Phoenix Inc., an Arizona corporation formerly known as KAUFMAN AND BROAD HOME SALES OF ARIZONA, INC., an Arizona corporation, dated October 15, 1999, recorded November 12, 1999, in 99-1034942, Official Records.

11. The terms, conditions and provisions contained in the document entitled "CITY OF PHOENIX DEVELOPMENT AGREEMENT CONSTRUCTION OF DEEMS HILL BOOSTER PUMP STATION" recorded December 14, 2000 as 00-0955461 of Official Records.

(Out on sale to individual purchaser)

EXHIBIT
A-9
admitted

NORTH VALLEY 230KV FACILITY SITING PROJECT
ROUTE TOUR ITINERARY

January 27, 2003

The following itinerary describes the APS Proposed and Alternative 230kV transmission line routes as they originate at the Westwing Substation, proceed east to interconnect at the Raceway and proposed Avery and Misty Willow substations, and terminate at the Pinnacle Peak Substation.

Note: If weather conditions or access prevents traveling the CAP Canal, this portion of the route tour may be omitted (Point of Interest #7).

Start of Tour
APS Paradise Valley Office
4612 East Bell Road
Phoenix, Arizona
Phone: (602) 708-2242 (Mike Dewitt)

The route tour will begin at 9:30 a.m. at the APS Paradise Valley Office on Bell Road, west of Tatum Boulevard in Phoenix, Arizona. Enter the east side of the complex from Bell Road and park. Follow directional signs from the parking lot to a meeting room. A pilot car will lead the route tour.

Point of Interest #1
WESTWING SUBSTATION AREA

From the APS Paradise Valley Office, go east on Bell Road to Tatum Boulevard. Go north on Tatum Boulevard to Loop 101. Go west on Loop 101 for approximately 15 miles to exit 15 at Union Hills Road. Go west on Union Hills Road to 99th Avenue. Go north on 99th Avenue. Continue north on 99th Avenue as it turns to Lake Pleasant Road. Go north on Lake Pleasant Road to Jomax Road. Go west on Jomax Road. The Westwing Substation can be viewed to the west. The Proposed and Alternative route alignments can be viewed following the Westwing transmission corridor on the east side of the existing structures as the corridor leaves the Westwing Substation. Continue west along Jomax Road to 107th Avenue (dirt road). Go south on 107th Avenue for approximately 1 mile to Hatfield Road. Go west on Hatfield Road through the Agua Fria River to Point of Interest #1 at the Westwing Substation. The Westwing Substation can be viewed from Point of Interest #1.

Point of Interest #2
THE BEARDSLEY CANAL AND THE WESTWING TRANSMISSION CORRIDOR

From Point of Interest #1, drive west around the south side of the Westwing Substation and north on the dirt road along the east side of a barbed-wire fence. At the end of the dirt road, go east along the paved road to the Beardsley Canal. Follow the road along the Beardsley Canal to Point of Interest #2 at the Westwing transmission corridor. The Proposed and Alternative route alignments can be viewed to the north and south along the east side of the existing structures.

Point of Interest #3
LAKE PLEASANT ROAD AND THE DOVE VALLEY ROAD ALIGNMENT

From Point of Interest #2, return to the Westwing Substation and go east along Hatfield Road to 107th Avenue. Go north on 107th Avenue to Jomax Road. Go east on Jomax Road to Lake Pleasant Road. Go north on Lake Pleasant Road approximately 2.7 miles to Point of Interest #3 at Lake Pleasant Road and the Dove Valley Road alignment. Along Lake Pleasant Road, the Westwing transmission corridor is visible approximately 2.5 miles to the west. From Point of Interest #3 the Proposed Route can be viewed from the Westwing transmission corridor along the Dove Valley Road alignment toward the proposed Avery Substation.

Point of Interest #4
RACEWAY SUBSTATION

From Point of Interest #3, continue north along Lake Pleasant Road to the Old Carefree Highway. Turn west on the Old Carefree Highway towards the Turf Soaring School, Canyon Raceway, and Cowtown. Follow the Old Carefree Highway west across the Waddell Canal. The Westwing transmission corridor is visible to the west. Go right immediately after the Beardsley Canal on the APS Raceway Substation Fire Access Road. Continue along this road to Point of Interest #4 at Raceway Substation. The Raceway Substation can be viewed from Point of Interest #4.

Point of Interest #5
DOVE VALLEY ROAD ALIGNMENT SOUTH OF STATE ROUTE 74/CAREFREE HIGHWAY

From Point of Interest #4, go east to the APS Raceway Substation Fire Access Road, over to the Old Carefree Highway. Go east along the Old Carefree Highway to Lake Pleasant Road. Go north on Lake Pleasant Road for approximately 0.4 mile to the State Route 74/Carefree Highway intersection. Go east on State Route 74/Carefree Highway across New River for approximately 2.1 miles to a cattle guard. Go south on a dirt road immediately after the cattle guard through a barbed-wire gate. Continue south along the east side of the fence for approximately 1 mile to Point of Interest #5 at the Dove Valley Road alignment. The Proposed Route can be viewed east and west along this alignment.

Rest Stop (Optional)
BEN AVERY REGIONAL PARK

An optional rest stop may be taken between Point of Interest #5 and Point of Interest #6 if needed. From Point of Interest #5, go north to the State Route 74/Carefree Highway. Go east on State Route 74/Carefree Highway towards I-17. Approximately ¼ mile west of I-17, turn north into the Ben Avery Regional Park. Restroom facilities are found within the park.

From Ben Avery Regional Park, go east on State Route 74/Carefree Highway to I-17. Go north on I-17 to exit 225 at Pioneer Road. Go west on Pioneer Road. Follow Pioneer Road as it goes west and turns north along the existing 69kV self-weathering corten steel poles. Go north along Pioneer Road to Point of Interest #6, at the Joy Ranch Road alignment where Pioneer Road turns to the west along the existing 69kV galvanized steel poles. Alternative Route 3 can be viewed west along the Joy Ranch Road alignment parallel to the 69kV galvanized steel poles. To the south, 69kV self-weathering corten poles are along I-17. The 69kV poles currently on the west side of I-17 would be removed and the circuits would be underbuilt on the proposed 230kV structures.

Go to Point of Interest #7 to continue the tour.

Point of Interest #6
I-17 AND THE JOY RANCH ROAD ALIGNMENT

From Point of Interest #5, go north to the State Route 74/Carefree Highway. Go east on State Route 74/Carefree Highway to I-17. Go north on I-17 to exit 225 at Pioneer Road. Go west on Pioneer Road. Follow Pioneer Road as it goes west and turns north along the existing 69kV self-weathering corten steel poles. Go north along Pioneer Road to Point of Interest #6, at the Joy Ranch Road alignment where Pioneer Road turns to the west along the existing 69kV galvanized steel poles. Alternative Route 3 can be viewed west along the Joy Ranch Road alignment parallel to the 69kV galvanized steel poles. To the south, 69kV self-weathering corten poles are along I-17. The 69kV poles currently on the west side of I-17 would be removed and the circuits would be underbuilt on the proposed 230kV structures.

Point of Interest #7
CAP ACCESS ROAD AND THE PYRAMID HEIGHTS DEVELOPMENT

From Point of Interest #6, drive south and east on Pioneer Road to I-17. Go south on I-17 to State Route 74/Carefree Highway. Go west on State Route 74/Carefree Highway to Lake Pleasant Road. Go south on Lake Pleasant Road for approximately 1.71 miles to the CAP canal. Go east/southeast along the south access road of the canal to Point of Interest #7 at the Pyramid Heights Development. Alternative Route 4 can be viewed along the north side of the CAP canal.

Go east along the CAP access road. Residential areas including the KB Homes development can be viewed south of the CAP Canal. At the 35th Avenue alignment an existing 69kV line can be

viewed to the south. This alignment is a potential ingress/egress road alternative for the residential development south of the CAP and west of I-17.

Point of Interest #8
NORTHERN END OF I-17 WEST FRONTAGE ROAD

From Point of Interest #7, continue east along the CAP access road to the I-17 west frontage road. Go north on the I-17 west frontage road to Point of Interest #8 at the northern end of the I-17 frontage road. The Proposed and Alternative routes can be viewed north along the west side of I-17. Approximately ½ mile north of Point of Interest #8, where the existing 69kV line crosses I-17, the Proposed and Alternative routes turn from I-17 to the northwest.

Point of Interest #9
I-17 WEST FRONTAGE ROAD AND THE BISCUIT FLAT SUBSTATION

From Point of Interest #8, go south along the I-17 west frontage road to Point of Interest #9 at the Biscuit Flat Substation. Biscuit Flat is a 69/12kV substation. No interconnection will be made to this substation. The Proposed Route can be viewed south along the frontage road from this location. The Proposed and Alternative routes can be viewed north along the west side of I-17 past the Biscuit Flat Substation to the proposed Avery Substation. Alternative routes 1, 2, and 4 would cross I-17 to the east at this point. Alternative Route 4 can be viewed west along the CAP at this location.

Point of Interest #10
I-17 WEST FRONTAGE ROAD AND DYNAMITE BOULEVARD

From Point of Interest #9, go south along the I-17 west frontage road to Dynamite Boulevard. Go west on Dynamite Boulevard to Point of Interest #10 under the 69kV transmission lines at the I-17 west frontage road and Dynamite Boulevard. The Proposed Route can be viewed to the north and south. The existing 69kV poles would be removed and the circuits would be underbuilt on the proposed 230kVstructures.

Rest Stop (Optional)
GAS STATION

An optional rest stop may be taken between Point of Interest #10 and Point of Interest #11 if needed. From Point of Interest #10, drive south on the I-17 west frontage road to Happy Valley Road. Go west on Happy Valley Road for approximately 1 mile to the gas station on the south side of the road.

The Proposed Route will follow the frontage road to the south side of Skunk Creek. The Route will then follow the south side of Skunk Creek to approximately the 29th Avenue alignment. The

Skunk Creek Landfill can be seen to the west of the frontage road. The Proposed Route will go south along the east side of the Skunk Creek Landfill to the Happy Valley transmission corridor.

From the gas station, go east across I-17 on Happy Valley Road to the turnabout. The Vestar property can be viewed southeast of I-17 and Happy Valley Road along the Happy Valley transmission corridor. Go north on the I-17 east frontage road. The east frontage road is the turn with the "Dead End" sign before the I-17 on-ramp. Go north on the frontage road to a gravel road immediately south of the USAA parking garage to Point of Interest #11. The USAA development is planned for an area north of Happy Valley Road and east of I-17. Alternative Route 1 can be viewed from the Happy Valley transmission corridor north along the east side of I-17 and west of the USAA development.

Go to Point of Interest #12 to continue the tour.

Point of Interest #11
I-17 EAST FRONTAGE ROAD AND USAA PARKING GARAGE

From Point of Interest #10, drive south on the I-17 west frontage road to Happy Valley Road. The Proposed Route will follow the frontage road to the south side of Skunk Creek. The Route will then follow the south side of Skunk Creek to approximately the 29th Avenue alignment. The Skunk Creek Landfill can be seen to the west of the frontage road. The Proposed Route will go south along the east side of the Skunk Creek Landfill to the Happy Valley transmission corridor. Go east across I-17 on Happy Valley Road to the turnabout. The Vestar property can be viewed southeast of I-17 and Happy Valley Road along the Happy Valley transmission corridor. Go north on the I-17 east frontage road. The east frontage road is the turn with the "Dead End" sign before the I-17 on-ramp. Go north on the frontage road to a gravel road immediately south of the USAA parking garage to Point of Interest #11. The USAA development is planned for an area north of Happy Valley Road and east of I-17. Alternative Route 1 can be viewed from the Happy Valley transmission corridor north along the east side of I-17 and west of the USAA development.

Point of Interest #12
I-17 EAST FRONTAGE ROAD AND CAP

From Point of Interest #11, go north along the I-17 east frontage road to Point of Interest #12 at the north side of the CAP. Alternative Route 1 can be viewed south along the I-17 east frontage road and crossing I-17 from the west. Alternative routes 2 and 4 can be viewed along the CAP and crossing I-17. Alternative Route 4 can be viewed west along the north side of the CAP.

Point of Interest #13
CAP AND HAPPY VALLEY ROAD

From Point of Interest #12, follow the pilot car southeast along the north side of the CAP. Alternative routes 2 and 4 (located on the north side of the CAP fence line) can be viewed along the CAP from I-17 to the Happy Valley transmission corridor. Follow the CAP to Point of Interest #13 at the CAP and Happy Valley Road. The proposed Misty Willow Substation can be viewed south of the Happy Valley transmission corridor and west of the CAP. The Proposed and Alternative routes can be viewed to the east and west on the north side of the Happy Valley transmission corridor.

Point of Interest #14
CAVE CREEK ROAD AND HAPPY VALLEY TRANSMISSION CORRIDOR

From Point of Interest #13, go east on Happy Valley Road. Follow Happy Valley Road as it curves south and turns into 7th Street. Go south on 7th Street under the Happy Valley transmission corridor to Deer Valley Road. Go east on Deer Valley Road and follow it as it curves to the north and east to Cave Creek Road. Go north on Cave Creek Road to Point of Interest #14 at the Happy Valley transmission corridor. The Proposed and Alternative routes can be viewed to the east and west along the north side of the corridor.

Point of Interest #15
PINNACLE PEAK SUBSTATION

From Point of Interest #14, go south on Cave Creek Road to Pinnacle Peak Road. Go east on Pinnacle Peak Road to Point of Interest #15 at the Pinnacle Peak Substation. The Pinnacle Peak Substation can be viewed from Point of Interest #15.

The Proposed and Alternative routes can be viewed from the Pinnacle Peak Substation following the north side of the two 230kV lines along the Happy Valley Road transmission corridor (approximately ¼ mile south of the Happy Valley Road alignment). The route tour ends at the Pinnacle Peak Substation on the north side of Pinnacle Peak Road, approximately 1 mile west of Scottsdale Road.

OVERSIZED MAP

APS

-North Valley 230kV Facility Siting Project
Route Tour Map

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
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